INTERACTIONAL METADISCOURSE MARKERS IN APPLIED LINGUISTICS RESEARCH ARTICLES: A CROSS-CULTURAL AND CROSS-SECTIONAL ANALYSIS

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Fulfillment of the Requirements for the Degree of
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ABSTRACT

Title of Dissertation	Interactional Metadiscourse Markers in Applied Linguistics Research Articles: A Cross-cultural and Cross-sectional Analysis
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This study examines how interactional metadiscourse markers, written by native and non-native English writers in English applied linguistics research articles, are cross-culturally and cross-sectionally used. The selection of five leading journals, Journal of Second Language Writing, Language Learning, English for Specific Purposes, Studies in Second Language Acquisition and Reading and Writing, was based on SCImago Journal Rank 2014. A total number of 60 research articles were randomly selected. The model of analysis was suggested by Hyland's (2005a) interactional metadiscourse markers which are hedges, boosters, attitude markers, self-mentions and engagement markers. The findings revealed that interactional metadiscourse markers had been higher in research articles written by native English than non-native English writers. The highest incidence had been reported in hedges followed by boosters, self-mentions, attitude markers, and engagement markers, respectively. Unlike other four elements, self-mentions had been higher in research articles written by non-native English than native English writers. In addition, significant differences cross-culturally existed in the use of hedges, attitude markers, and engagement markers. Furthermore, significant differences cross-sectionally existed in the use of boosters and self-mentions written by native English writers, and in the use of hedges, boosters, attitude markers, and engagement markers written by non-native English writers. For main functions of each interactional metadiscourse marker, hedges had performed as objective presentations of the writers. Boosters had

been used as a conviction when the writers had been equipped with plausible evidence. Also, attitude makers had been employed to convey the writers' evaluations. Fourth, self-mentions had been used to emphasize the writers' ownership of the text. Finally, engagement markers had performed as tools to assist the writers to engage and to invite their readers to participate in the text. These cross-cultural and cross-sectional similarities and differences reveal the fact both NE and NNE researchers have been affected by their national and professional-academic culture significantly.

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ABBREVIATIONS

Abbreviations	Equivalence
NE	Native English
NNE	Non-native English
I	Introduction
M	Method
R	Results
D	Discussion
H	Hedges
B	Boosters
A	Attitude markers
S	Self-mentions
E	Engagement markers
Adj	Adjective
Adv	Adverb
M	Modal verb
N	Noun
V	Verb
FPP	First person pronoun
T	Term
RP	Reader pronoun
ID	Imperative directive
RQ	Rhetorical question

CHAPTER 1

INTRODUCTION

Research writing is one of the foundational cornerstones of scholastic production. Since research is considered to be an inseparable part of knowledge distribution, research writers put forth their ideas to instill within their readers their findings and their individuality which cannot be found in general writing or in classroom writing tasks (Cargill & O'Connor, 2013). Also, Social Science research writers are required to reach the expectations of their audiences with respect to how their ideas are demonstrated. Therefore, it has been claimed that research writing, as well as Social Science research, is unique in the sense that writers do not portray their thoughts in a straight line. Instead, they express written language through academic discourse, and this is considered significant in a research article rather than just giving plain information (Atkinson, 1996; Connor, 1984).

A study of Atkinson (1996), regarding the rhetorical text analysis of academic journals from 1675 to 1975, revealed a dramatic change concerning the use of rhetorical choices which has evolved over that time period. Connor (1984) also concurred that the writing requirements for academic publications are controlled by an intellectual body. Therefore, composing research articles does not simply mean stating the empirical findings. Instead, researchers should embed their experiences, facts, opinions, and justifications in order to prove to the readers that the study contributes to the field and should be published. For this reason, large numbers of studies have been established to investigate the influence of the writer-reader relationship in academic research writing (e.g., Atkinson, 1996, 2004; Connor, 1996, 2002; Crismore, 1983; Hunston & Thompson, 2000; Hyland & Tse, 2004; Hyland, 2005a; Hyland, 2005b; Kaplan, 1966; Vande Kopple, 1985, 2002).

In order to convey the intellectual meaning through the written form of communication, metadiscourse markers are claimed as a requisite device (e.g., Hyland, 2000; Hyland & Tse, 2004; Hyland, 2005a). Because the theory of

metadiscourse is a filter to sort the writers' ideas before these ideas are passed on to the readers, metadiscourse can be compared to a compass which guides the audiences towards accurate sentiment. For these reasons, metadiscourse models have been proposed to elucidate the systematized functions and forms. For example, Vande Kopple (1985) proposed a metadiscourse model with two main elements, namely “textual” and “interpersonal. Subsequent to that, Crismore, et al. (1993) developed the model with an rearrangement of the textual metadiscourse. The category was further separated into two sub-categories of “textual” and “interpretive” markers because their functions are dissimilar. Nevertheless, the metadiscourse model proposed by Hyland (2005a) has gained much recognition, and several social science studies have borrowed Hyland's (2005a) metadiscourse markers as a model to analyze language and rhetorical devices (e.g., Andresenko, 2015, Getkham, 2011; Lee, 2011; Mur-Duenas, 2010; Salek, 2014). The macro category of metadiscourse markers is divided to interactive and interactional resources. The former sub-category is used to guide the readers along the text, while the latter performs to show the writer’s existence and to negotiate with the readers. According to Hyland (2005a), interactional metadiscourse markers are more personal to the readers in terms of showing the writer-reader relationship in the writing. Writers have to opt for rhetorical devices to convey their ideas as well as to invite the readers to take part in the textual meaning. Hence, the interactional metadiscourse model, proposed by Hyland (2005a), has been applied to the current study of culture and language in English applied linguistics research articles written by native and non-native English writers.

Through the aspect of the research genre, even though it is considered as a proficient presentation of the writer, the cultural phenomena are vividly reflected (Hamilton, 2000) in linguistic patterns and rhetorical tools, as well as through syntactic devices. By examining metadiscourse markers through the lens of culture, the writing gap between native and non-native English researchers would be constricted since having a better understanding of these devices could facilitate the non-native English writer’s rhetorical choices. Moreover, with respect to making reliable claims by the authors, metadiscourse markers could assist them in establishing a greater degree of intimacy with their readers (Blagojevic, 2009; Burneikaite, 2009; Crismore, et al., 1993). The perspective of cross-cultural

differences in academic writing has, therefore, been proposed in order to compare and contrast the use of linguistic tools in English applied linguistics research writing with the expectations of narrowing the gap of cultural diversity in Social Science research articles, as well as broadening the intellectual aspects of scholars across cultures.

The revision of the interactional metadiscourse markers with respect to cross-cultural investigations revealed that the frequency of use of these rhetorical devices had been dissimilar. For instance, the interactional metadiscourse features had been used more frequently by the native than by the non-native English writers. This means that a higher degree of concern about the readers' interpretation has been considered to greater extent by the native English writers (Zarei & Mansoori, 2011). In addition, among other markers, hedges and boosters were reported to have been significantly used (Abdi, 2011; Abdi, Tavangar Rizi, & Tavakoli, 2010). As such, writers are prone to express their detachment and commitment dramatically among other features. As a result, a review of the literature, related to the objectives of this investigation, has been carried out in which the interactional metadiscourse markers have mainly been emphasized. From the revision, it is found that the use of interactional metadiscourse markers has been employed differently from one cultural group to another. Therefore, there might be some underlying aspect attached to these dissimilarities in the use of interactional metadiscourse markers in English applied linguistics research articles. In order to shed light on the use of metadiscourse markers in academic and research writing, an investigation should, therefore, be developed to explore the cross-cultural perspectives in the use of metadiscourse, particularly with respect to interactional metadiscourse markers.

1.1 Background of the Study

The researcher’s experiences of reading and writing English as a non-native English user and teaching non-native English students have offered her the opportunities to notice significant obstacles to the processes of understanding and being capable of organizing ideas in English into written text. The starting point for this investigation was when the researcher was working as a university lecturer of English in Thailand and discovered that a large number of university students were

failing to create communicable English texts. To illustrate, the fundamental structure of subject-verb agreement has to be revisited occasionally for students who are not from foreign language department or from the international school. In addition, even when these writers were capable of composing a written English text, the problem about writing research content seemed to evolve even more when the writers had not been aware of just how essential the use of metadiscourse markers was to their writing. According to Jones (2011), the transference of the metadiscourse conventions from the original language into English is commonly set aside. Apart from that, many NNE students do not achieve success in the areas of relating their ideas and making connections with the readers even when their lexical and grammatical problems have been solved. Because NNE writers, who are the primary focus of this investigation, might have problems expressing their ideas in research texts written in English. Accordingly, when it comes to research writing, NNE writers might find difficulty in advancing authorial stance and in covering rhetorical distinctiveness within their text.

Metadiscourse markers have greatly influenced research writing (Hyland, 2010). Regardless the results of the investigation, a writer's performance in portraying their claims affects the communicative quality of their writing. Hyland (2004) states that writing successful research articles requires authors to have the ability to accomplish the following: 1) to manage a level of individuality, 2) to offer readers unanimity, 3) to evaluate their text, and 4) to recognize other points of view. Due to this fact, metadiscourse can be used to produce influential writing by establishing more than the simple transmission of ideas in a written text. Instead, both interactive and interactional metadiscourse markers are regarded as social elements which are used by the writers in order to interact with their readers. Readers are allowed to pursue the designation of ideational meanings, as well as to provide different ways when presenting and realizing information (Hyland & Tse, 2004; Hyland, 2004; Hyland, 2005a, 2005b).

Apart from metadiscourse and its application to the research writing, the device can be used to explore the essence of language and culture. Before indicating the aspect of culture, the differences in the language, used by native and non-native English writers, should be mentioned. Having the ability to indicate the rhetorical differences between languages was the trigger that started this investigation. In

writing research, native and non-native English writers have demonstrated differences in their writing. For instance, Rahimpour and Faghih (2009) revealed that a greater number of native English writers had used interactional metadiscourse markers in their writing as compared to Iranian writers. Meanwhile, Vassileva (2001) went into greater detail when exploring interactional metadiscourse markers and found that Bulgarians had used more boosters than the native English writers. From these differences, an inconsistency in the findings can be implied. Therefore, further explorations should be undertaken in the area of metadiscourse investigation.

The value gained through the distinctive view of language and culture is not only specified when the achievement of communication occurs. Rather, according to Johnstone (1986, p. 171), "studies of cross-cultural communication arise from observations of cross-cultural miscommunication". This means that any attempts to convey thought and to overcome the boundary of culture can possibly be obscured. Moreover, such cultural misinterpretation through communication should not be viewed as a simple language blunder, but as an intriguing starting point for investigation. Therefore, such similarities and differences should be indicated in order to initiate stages for cross-cultural communication. Suppose that the imperfections in writing research articles are due to diverse rhetorical conventions, then the present research study has focused upon the conventions that are associated with interactional metadiscourse markers between native and non-native English researchers. Given the notion that metadiscourse, which helps to develop successful communication, is an influential component in the development of a text, the problems of comprehension and expression among academic English language users can be, at least, partly solved if the cultural differences in the usages of metadiscourse are examined.

1.2 Statement of the Problem

As previously mentioned, the current investigation has placed an emphasis on interactional metadiscourse markers in native and non-native English research articles for the purpose of shedding light on academic writers from these two cultures when: 1) they seek to interrelate and initiate contact with their audiences through an academic text and 2) the different conventions, utilized by scholars, affect the use of

the markers by convincing their readers to bring forth the writers' ideas both in the form of conformity and conflict. The categorization of interactional markers metadiscourse, which is applicable to two groups of research articles, is stated in this study in order to address the existing issues related to academic writing and interactional metadiscourse typologies. One of the issues in metadiscourse investigations is the interrelating functions of some typologies because if the border line is not sufficiently specific, one can fall into more than one category. Therefore, the categorization advocated in this study acknowledges these problems and offers an explicit definition of each of the elements. Accordingly, the proposed categorization is valid for the full corpus of native and non-native English research articles. Moreover, the investigation of engagement markers, one of five interactional metadiscourse markers, seems inadequate to explain the involvement of the writer-reader relationship and to elaborate that into the influence of culture because the studies have been solely restricted to English-Spanish and English-Japanese investigations (Lee, 2011; Lafuente-Millan, 2014).

Consequently, this study can help to increase the analysis of all markers, including engagement markers, which have only been examined in a limited manner. More importantly, the related literature has revealed that inconsistencies can occur in the findings when evaluations of the five interactional metadiscourse markers are counted. Accordingly, this corpus-based analysis takes this into consideration.

1.3 Significance of the Study

For research writing, the author aims to present scientific claims based upon investigations specifically performed for the study. Such claims have to be presented in a manner so as to gain broad acceptance in the scholarly community (Atkinson, 1996; Connor, 1984). A rhetorical text analysis by Atkinson (1996) significantly demonstrated the dramatic evolution of research writing which means that the practice of research writing has been developed to serve the requirements of the world of academia. Moreover, the study pointed out that research writing is dissimilar to general writing both in the form of class task and academic essay. Therefore, in order

to evaluate the intellectual body of such writing, the purpose of research writing is distinctive and traceable (Connor, 1984).

Academic research articles and metadiscourse markers have been diachronically investigated from various angles. According to Hyland (2005a), the notion of metadiscourse markers in academic text is mainly divided into interactive and interactional aspects ranging from composition, reading, genre, and rhetoric, etc. Surprisingly, interactional metadiscourse markers, which have been claimed as a vital tool to portray the writers' persona in the text, have been only partially examined. The majority of the studies have placed emphasis on a combination of interactive and interactional metadiscourse markers which have given a broad picture of the rhetorical tools used in comparative studies (e.g., Abdi, 2009; Kim & Lim, 2013; Rahimpour & Faghih, 2009). Furthermore, it can be said that the field of applied linguistics has only been partially examined for two reasons: a) the investigations are so varied ranging from medical research articles (Ghadyani & Tahririan, 2014; Dahl, 2004) to engineering research (Zarei & Mansoori, 2007), and b) the summaries of the findings can only specify diminutive aspects. The essential interactional marker which is claimed as a "more personal" way of writing (Hyland, 2005a) is also insufficient to specifically elucidate in applied linguistics. These interactional metadiscourse markers, which are used to reflect the relationship, may also be tools that can reveal the significance of culture. Yet, they can be dramatically concealed within the text.

Moreover, there have been very few investigations that have explored the cross-sectional usage of interactional metadiscourse features in relation to culture and to language. The greatest number of studies have been conducted by using abstracts (Mur-Duenas 2011; Gillaerts & Vande Velde, 2010) in order to discuss sections (Behnam, Naeimi, & Davishzade, 2012). However, in relation to interactional metadiscourse markers and the cross-sectional analysis of native and non-native English authors, very few investigations have performed analyses using the entire research articles. By combining the cultural exploration and cross-sectional exploration, a better comparison could be made which would bring about insights regarding these linguistics devices and their usage. The current investigation has been conducted to indicate the distinctive interactional metadiscourse markers and the

functions of each element, as well as the similarities and differences of their cross-cultural and cross-sectional aspects.

To warrant a comprehensive investigation in the field of applied linguistics, more insightful studies should be conducted. From this perspective, the current investigation has aimed at shedding more light on the topic and addressing the lacuna. The results can offer an understanding to both native and non-native English speakers, writers, and scholars, as well as to graduate and undergraduate student researchers. Furthermore, the results can assist teachers who are involved in the field of language education and applied linguistics. Regarding the elements of interactional metadiscourse markers, the study of these devices may assist in conveying a greater comprehension of the remarkable issue of culture and may enhance the quality of academic writing internationally. As a consequence, different constructions of knowledge can be improved to receive a broader acceptance by assisting non-native writers to identify appropriate patterns.

From the perspectives of native and non-native English writers in research writing, the related investigations have revealed significant differences with respect to the written English used in research. These dissimilarities have also been reported as the cause of problems for non-native English writers in conveying their initial thoughts about their research claims. Given that non-native English writers are required to publish in English, their native culture could possibly interfere with the platforms of English used in their research writing (Ahmad, 1997; Kourilova, 1998; Mirahayuni, 2002; Vasconcelos, 2007). Moreover, some models of research writing, proposed to researchers, are not accommodating for non-native English writers and for novice researchers. Interestingly, Flowerdew (1999) pointed out the importance of cultural study with respect to research writing and stated that in international English publications, non-native English authors should be encouraged to explore their cultural backgrounds, to examine their choices of linguistic devices, and to compare and contrast their writings to the writings of native English writers.

More importantly, based on the background of the study, the researcher expects to gain empirical findings, as well as to further comprehension in writing English research articles in order that language blunders can be, at least, partially solved. If the similarities and differences in the use of interactional metadiscourse

markers are evident from this investigation, the researcher, as a teacher of English in foreign language classrooms, would be able to address the necessity of developing the use of rhetorical devices. Furthermore, the students can be assisted and introduced to interactional metadiscourse markers from the initial stage so that their English research writing would not be problematic when they are required to relate to the readers from the text.

In summary, because interactional metadiscourse markers can further help to express the writers' personality, this study has significance. These devices, therefore, can be specified as tools that can be utilized to explore cultural differences among native and non-native English writers. By looking more closely at the cultural variation within this investigation, interactional metadiscourse markers would assist to explain the reasons behind any similar and distinguish usage demonstrated by NE and NNE writers based on Hyland's (2005a) interactional metadiscourse markers along with other empirical studies of interactional metadiscourse through cultural perspectives. Significantly, the social science writers can develop their understanding and can more effectively bond with readers. Not only can the research bring about a better understanding for researchers as teachers of English, but the significance of interactional metadiscourse markers for the learners of English can also become established by identifying forms and functions. Therefore, the students will be able to notably expand their communicative abilities in English writing.

1.4 Purposes of the Study

The main objective of this study is to compare and contrast the interactional metadiscourse markers in English applied linguistics research articles written by native and non-native English writers based upon Hyland’s model. The study is conducted to investigate the following:

1) The interactional metadiscourse markers in the applied linguistics research articles of native and non-native English writers;

2) Whether or not differences exist in the use of interactional metadiscourse markers between native and non-native English writers;

3) Whether or not differences exist in the use of interactional metadiscourse markers across the four research article sections: Introduction, Methods, Results and Discussion (IMRD); and

4) The functions of interactional metadiscourse markers used in the applied linguistics research articles of native and non-native English writers.

1.5 Research Hypotheses

Based on the purposes of the study, the following hypotheses are tested:

H1. There are significant differences in the interactional metadiscourse markers used by native and non-native English writers in the research articles.

H2. There are cross-sectional differences in the use of interactional metadiscourse markers.

1.6 Research Questions

Based on the aims of the study, the following research questions are addressed:

RQ1. What are distinctive interactional metadiscourse markers of the research articles written by native (NE) and non-native English (NNE) writers?

RQ2. Are there any significant differences in the use of interactional metadiscourse markers in research articles by native and non-native English writers?

RQ3. Are there any significant differences in the use of interactional metadiscourse markers in native and non-native English research articles across Introduction, Methodology, Results and Conclusions sections?

RQ4. What are the functions of each type of interactional metadiscourse markers?

1.7 Definition of Terms

For the purpose of this study, the following terms are provided:

1) Native English writer(s) (NE) refers to a research writer or a group of native English research writers who are from native English settings, such as United States of America, Canada, Australia, New Zealand, and England, as well as a group of researchers who are from Kachru's (2003) the Inner Circle.

2) Non-native English writer(s) (NNE) refers to a research writer or a group of non-native English research writers who use English as a second language or foreign language as well as a group of researchers who are from Kachru's (2003) the Outer and Expanding Circles. Even though the numbers of nationalities are so vast, the integrated group of research writers will all be assembled into this group.

3) Interactional metadiscourse markers refer to Hyland's (2005a) interactional metadiscourse markers which are hedges, boosters, attitude markers, self-mentions and engagement markers.

4) Culture refers to the native and the non-native English research writers' background which reflects in the use of interactional metadiscourse markers in English applied linguistics research articles.

5) Contrastive rhetoric and intercultural rhetoric refers to the same aspect which is based on cultural similarities and differences counted in the corpora. The concept from both notions is thereby integrated and interdependent. Separating them will not be meaningful and does not contribute many implications to the investigation (Connor, 2011).

6) Cross-cultural refers to the investigation of similarities and differences in the use of interactional metadiscourse markers from the selected applied linguistics research articles in the two corpora of the native and the non-native English research writers.

7) Cross-sectional refers to the investigation of the Introduction, Methodology, Results, and Discussion (IMRD) (Swales, 1990) from the selected applied linguistics research articles in the two corpora of the native and the non-native English research writers.

1.8 Assumptions

The following assumptions are made in order to carry out the investigation through the same consideration.

1) Research articles in applied linguistics, selected for this investigation, contain interactional metadiscourse markers which have been expressed with the writers' full awareness of functions, forms, and meanings.

2) Research articles in applied linguistics, selected for this investigation, have been accepted internationally and have been derived from widely recognized journals. Accordingly, all of the writers represent researchers in the field of applied linguistics from various nations.

3) Identifying native and non-native English authors based on the names of the authors is deemed appropriate.

In summary, Chapter 1 introduces the present study by providing the overall aspects of research writing, such as metadiscourse, interactional metadiscourse markers, and cross cultural differences in research writing. This chapter also states the background of this investigation which leads to statements of the problems, purposes, and the significance of the study. Three hypotheses and four research questions have been proposed. There are also terms specified for this investigation with assumptions. The next section will review literature which is significantly related to this study.

CHAPTER 2

A REVIEW OF THE RELATED LITTERATURE

Writing is one communication strategy that scholars bring into play for the purpose of disseminating their ideas and passing them onto their colleagues and onto future generations. Not only does this textual mode of communication make a wide range of information available, but these fine writings can offer significant benefits to the readers because the readers can learn significantly from the writers' knowledge and perceptions which are extensively attached to their works. Conversely, research writing can be controversial because the information can be questioned, debated, and can be subject to re-proof. Accordingly, in order to be successful in the area of research writing, the writers do not propose their understanding plainly. They, instead, seek to convey their ideas in a manner that readers can accommodate and understand. One of the most helpful studies is the use of metadiscourse markers (e.g., Hyland, 1998, 1999, 2000, 2005a; Vande Kopple, 1985). Their usage may be affected by cultures (e.g., Burneikaite, 2009; Pooreesfahani, Khajavy, & Vnidnia, 2012; Zarei & Mansoor, 2011). Hence, this chapter aims at reviewing the relevant literature which is valuable to this study. The content will be divided into the following four main parts: 1) research writing, 2) metadiscourse and Hyland's interactional metadiscourse markers, 3) cross-cultural differences in academic writing, and 4) empirical evidence related to metadiscourse markers.

2.1 Research Writing

Writing skills vary according to the objectives that the authors aim to achieve. One of the purposes for research writing is to provide understanding on a particular subject in accordance with the investigation that has been specifically performed for the study. The practice of such writing is not limited to solely giving the results. Instead, research writers abide by norms and conventions in order to be accepted and

to be able to demonstrate the significance of their studies by exhibiting the language. The academic research aims to broadcast specific research findings with a discourse that can be widely accepted in the writer's research setting (Atkinson, 1996; Connor, 1984). A study by Atkinson (1996), regarding a rhetorical text analysis of scientific journals from 1675 to 1975, revealed a dramatic change in rhetorical choices which has evolved over that time period. Moreover, the study pointed out that research writing, as well as communicative and classroom writings differ in many ways. The purpose of scientific writing is so obvious that theoretical explanation is valid for the readers; while general narrative writing, such as fiction, neglects this crucial part. The research writing becomes less persuasive, and there are fewer usages of the first pronoun. A more passive style with shorter sentences has been witnessed in scientific writing. Connor (1984) also concurred that the writing requirements for scientific publication are controlled by an intellectual body.

It is crucial to be aware of the differences between writing research articles and regular communicative writing (Cargill & O'Connor, 2013). More than that, research writing which is a scientific exploration cannot be compared with general academic writing because their aims differ from one another. For scientific research writing, the writers are required to demonstrate their professional prose in their writing manner. The necessity of specification in research writing and structural organization has to be presented in a way that was not expected in general academic writing at the tertiary level. At the same time, the manuscripts needed for the presentation of research articles of particular data is anticipated to be declared, and the standards of these manuscripts can assist the researchers to evade rejection or even criticism. As a result, academic research writers cannot solely examine the organization of their text, but the lexico-grammatical features of research articles have also been evaluated. Examples of these features include tense choice, transitivity structures (Martinez, 2001), and citation practices (Hyland, 1999) that are associated with the usage of metadiscoursal elements from cross-cultural and cross-sectional aspects (e.g., Davoodifard, 2008; Karahan, 2013; Salek, 2014). In addition, this context has delved into interdisciplinarity (Hyland, 1998, 1999, 2000, 2001; Mauranen, 1993; Moreno, 1997, 1998; Mur-Dunas, 2007; Valero-Garcés, 1996). The standards for research or scientific writing have also been deliberated by numbers of

scholars (e.g., Cargill & O'Connor, 2013; Silva, 2007). Nevertheless, the writers themselves are mostly from the setting of native English writers, so the guides given for writing research articles have most likely been derived from the tenets of the English context (Altbach, 1978; Anthony, 1999; Bazerman, 1988).

2.1.1 The Research Writing of Non-native English Writers

It cannot be denied that English is the dominant language for global communication (Oommen, 2012; Bhaskar & Soundiraraj, 2013). Instead of basically following the guidebook written for native English readers, English instructors should place high consideration on "platforms of teaching English to speakers of other languages" (Omidvar & Sukumar, 2013). By doing so, the convention has brought about the investigations of non-native English writers and their research writing. Interestingly, previous research has called for more exploration because research findings have revealed that writers in non-native English setting have difficulties when composing out of relationship with the readers due to the differences between their own cultures and English culture (Ahmad, 1997; Kourilova, 1998; Mirahayuni 2002; Vasconcelos 2007). Nonetheless, these diversities are rarely mentioned in the model of ideal research writing which is widely applied in pedagogy. Flowerdew (1999) has stated that the importance of taking a cultural view towards research writing can be encouraged through the investigation of non-native writers in the international English publications both at the macrolevel and the microlevel, specifically in terms of linguistic tools and the backgrounds of the writers.

2.1.2 The Rhetorical Models in English Research Articles

Hyland (1999, p. 341) defines the research article as "a rhetorical sophisticated artifact" in which its information and social interactions have to be displayed in a very well-balanced presentation. The organization of a research article is mainly divided into five parts: the Introduction, Literature Review, Methods, Results, and Discussion. However, the main components for investigation are Introduction, Method, Results, and Discussion (IMRD) (Swales, 1990). To elaborate, Introduction (I) refers to the section that provides overall information of the research article. This part has to illustrate the investigation to the reader in summation. The part mainly includes

background of the study, statement of problem, significance of the investigation, purposes, and research questions. Next, Method (M) refers to the demonstration of investigation procedure. The part is aimed to direct the readers to total understanding of research design, the data and its collection, instrument and procedure, and data analysis. After that, Results (R) is a presentation of research discoveries based on methodologies provided in Methods (M) section. This part can be presented in either forms of number or description according to quantitative and qualitative investigation. Finally, Discussion (D) can be described as a final section of research article. It performs as a part relating new found results to previous findings from literature review section under the aspects of the writers. An elaboration of related studies as well as an argument to any inconsistent results comparing to other investigations will be made to shed some new light in the field of investigation. The macro-division of the research writing sets aside the fact that to some research writers each section is composed of internal ordering for the demonstration of information. For instance, the first section, Introduction, has been proposed with variations in structure by many scholars (Anthony, 1999; Samraj, 2002; Swales, 1990, 2004). However, it has been proven that some models are not valid, particularly for novice researchers, as well as for the non-native English writer. The macrostructure of research articles has been studied in order to explain the features of writing. Hutchins (1977) used Kinneavy's (1971) model of Dogma Dissonance-Crisis-Search-New to propose a review of research writing. Later, Swales (1981, 1990) and Hopkins and Dudley-Evans (1988) further developed a model of a research article for novice writers by creating a structure for the research articles, namely the CARS model (Swales, 1990, 2004). The Discussion section was also initially studied by Dudley-Evans (2000) and Peng (1987).

In summary, academic research writing is not merely an explanation of academic involvement since research writing is also formed to dispatch scientific and professional prose (Atkinson, 1996; Connor, 1984). Making a comparison of the research writings of native English writers and the writers from non-native English settings has also been encouraged since examining the similarities and differences may yield an understanding of the difficulties that second language writers face in establishing their scientific findings in English academia (Ahmad, 1997; Kourilova,

1998; Mirahayuni, 2002; Vasconcelos 2007). To that end, the Introduction, Method, Results, and Discussion (IMRD) model, which was proposed by Swales (1990), has been often applied to many investigations of research writing because it demonstrates the internal order of investigation and covers five main parts of research articles.

The next part will explain metadiscourse markers in more detail to cover the concepts and functions prior to analyzing English research articles written by native and non-native English writers.

2.2 Metadiscourse

2.2.1 Metadiscourse Concepts

Metadiscourse is viewed as the interpersonal sources applied to arrange a discourse or as the writer's standpoint towards both his/her passage and the audience (Hyland, 2000). The study of metadiscourse emerged long ago, but it was evidenced in 1959 when the term was coined by Zellig S. Harris to refer to the passages of a text that are signified as a minor basis of information rather than stating the main argument of the text. Later on, it was studied by Paul J. Beauvais (1989), who traced back the brief history of the term and explicated that metadiscourse has generally been labeled as "writing about writing" (Williams, 1985, as cited in Beauvais, 1989), "discourse about discourse" (Vande Kopple, 1985), and "discoursing about the discourse" (Crismore, 1984, as cited in Beauvais, 1989). The precision of the definition of the term was a primary attempt from many scholars. However, the definition was so vague and controversial that the construction of the theory adequately occurred under the outline of syntactic, semantic, and pragmatic phenomena. One of these three domains could not merely define the term alone. As previously mentioned, the study of metadiscourse has explicitly appeared in the study of scientific articles carried out by Harris in 1959 (as cited in Beauvais, 1989). He examined metadiscourse and remarks succinctly that metadiscourse kernels are words that are dissimilar to key kernels which means that metadiscourse solely conveys the secondary thoughts of the writers. The study does not distinguish the metadiscourse kernels from the main kernels. Therefore, it is still insufficient to specify the metadiscursive entities in the passage at that point.

To clarify metadiscourse studies, the following part will present the metadiscourse models and functions proposed by Vande Kopple (1985), Crismore, et al. (1993), and Hyland (2005a), respectively.

2.2.1.1 Vande Kopple's Metadiscourse Markers

Vande Kopple (1985) explains metadiscourse in his "College Composition and Communication" as a discourse that the writers use to assist the readers to connect, organize, interpret, evaluate, and develop their stance to the material rather than to enlarge the referential material. Later on, he developed the taxonomy of metadiscourse in 1997. The classification of metadiscourse functions were divided into categories because one form of metadiscourse could fulfill more than one discoursal function. In his view, metadiscourse could be collected according to its system, and he offered taxonomy as textual and interpersonal. Vande Kopple (1985) perceived metadiscourse differently than other scholars because he systematized and mentioned its application in his study. Nevertheless, the definition is not always explained in the same manner and applied to the same approach. Instead, metadiscourse is employed as a cover term to involve a heterogeneous collection of features which assist the relationship of a text to its environment by supporting audiences to bond, to systematize, and to understand passages in the way that the writer prefers and with regard to the understandings and values of a particular discourse community (Halliday, 1998).

The taxonomies of metadiscourse markers were first introduced by Vande Kopple (1985). Two main categories of metadiscourse, namely “textual” and “interpersonal”, were proposed. There were four constituted textual metadiscourse strategies. The strategies were text connectives, code glosses, illocution markers, and narrators. Also, there were three strategies: validity markers, attitude markers, and commentaries that made up the interpersonal metadiscourse. Vande Kopple (1985) metadiscourse model shed some light on this area of study in the sense that his model was the first functional system to establish a complex taxonomy. Most importantly, his model gave rise to new taxonomies which have given assistance to numbers of practical studies.

Table 2.1 Vande Kopple's (1985) Classification System for Metadiscourse

Category	Function
Textual Metadiscourse	
Text connectives	Used to help show how parts of a text are connected to one another. Includes sequencers (first, next, in the second place), reminders (as mentioned in Chapter 2), and topicalizers, which focus attention on the topic of a text segment (with regard to, in connection with).
Code glosses	Used to help readers to grasp a writer's intended meaning. Based on a writer's assessment of the reader's knowledge. These devices reward, explain, define, or clarify the sense of a usage.
Validity markers	Used to express a writer's commitment to the probability of or truth of a statement. These include hedges (perhaps, might, may), emphatics (clearly, undoubtedly), and attributors which enhance a position by claiming the support of a credible of other (according to Einstein).
Narrators	Used to inform readers of the source of information presented - who said or wrote something (according to Smith, the Prime Minister announces that).

Table 2.1 (Continued)

Category	Function
Interpersonal Metadiscourse	
Illocution markers	Used to make explicit the discourse acts the writer is performing at certain points (to conclude, I hypothesize, to sum up, we predict).
Attitude markers	Used to express the writer's attitudes to the propositional material he or she presents (unfortunately, interestingly, I wish that, how awful that).
Commentaries	Used to address readers directly, drawing them into an implicit dialogue by commenting on the reader's probable mood or possible reaction to the text (you will certainly agree that you might want the third chapter first).

Source: Adapted from Vande Kopple, 1985.

2.2.1.2 Crismore et al.'s (1993) Metadiscourse

Crismore, Markkanen, and Steffensen (1993) explained once again that metadiscourse is the discourse of the writer about his/her discourse. It is a tool that directs people with respect to how to read, to react and to evaluate the subject. The understanding of the researchers pertains to the concept that the writers' textual practice can provide propositional matter to the reader in a rhetorical context. The researchers also refer to metadiscourse as “linguistic cues” which the readers can utilize as an indication to classify, to construe, and to assess the given information. Crismore et al. (1993), however, noticed an overlapping function of the categories because one word can be counted as a metadiscursal value or else. For example, the transition 'and' can only be classified as metadiscourse token when it links two clauses. On occasion, 'and' is used as a linker in listing which is not measured as a metadiscourse feature. Then a revision of the function was introduced by Crismore et

al. (1993). The term relied on textual and interpersonal categories, but rearranged the textual metadiscourse. The category was further separated into two sub-categories of "textual" and "interpretive" markers because their functions are dissimilar. One separates organization, while the other evaluates the functions. To clarify, textual markers are responsible for supporting and arranging the discourse by their features. On the other hand, interpretive markers give the readers assistance to help in better interpreting and understanding the writer's implications and writing tactics.

Table 2.2 Crismore et al's (1993) Metadiscourse and Functions

Category	**Functions**	**Examples**
Textual Metadiscourse		
1. Textual Markers		
Logical connectives	To show connection between ideas	Therefore; in addition; and
Sequencers	To indicate the sequence & order of material	First; next; finally; 1,2,3
Reminders	To refer to earlier text material	As we saw in Chapter one…
Topicalizers	To indicate a shift in topic	Well, now we will discuss…
2. Interpretative Markers		
Code glosses	To explain text material	For example; that is
Illocution markers	To name the act	To conclude; in sum; I predict
Announcements	To announce upcoming	In the next section,
Interpersonal Metadiscourse		
Hedges	To show uncertainty to the truth of the assertion	Might; possibly; likely

Table 2.2 (Continued)

Category	Functions	Examples
Certainty markers	To express full commitment to assertion	Certainly; know; shows
Attributers	To give the source of or support of information	Smith claims that...
Attitude markers	To display the writer's affective values	I hope/agree; surprisingly
Commentary	To build a relationship with the reader	You may not agree that

Source: Adapted from Crismore et al., 1993.

2.2.1.3 Hyland's (2005a) Metadiscourse Model

The new model of metadiscourse taxonomies is a major application by Hyland (2005a) who aimed to make explicit the debates over the notion of metadiscourse and its definitiveness. This new pragmatic establishment is founded upon the distinction between the propositional and metadiscursal subject (Crismore, et al., 1993; Vande Kopple, 1985). Also, the model is aspired to offer an alternative approach to the perpetual category of metadiscourse in both the textual and interpersonal aspects (Valero-Garces, 1996; Vande Kopple, 1985). Influenced by the proposed taxonomies of Halliday (1973), Hyland's revised model insists upon the significance of seeing all metadiscursive functions as interpersonal because it takes into consideration the reader's knowledge, textual experiences, and processing requirements, "and that it provides writers with an armory of rhetorical appeals to achieve this" (Hyland & Tse, 2004, p. 161). His new framework relies on the notion that metadiscourse is self-reflective linguistic material which serves the reader to perceive a text efficiently. At the same time, this material helps the reader not to misplace the concentration of the text in which the writers have projected themselves into their discourses. By using their discourses and the linguistic devices in the text, the writers, through their contexts, express their stances within the text to the

audience. Hyland also pointed out that metadiscourse possesses the ability to negotiate interactional meanings in a text, to support the writer (or speaker) to convey a standpoint, and to connect with readers as members of a particular community. From Hyland's perspective, metadiscourse is, hence, grounded in the belief that communication is a societal engagement and is based upon the concept of language as a dynamic entity because when we speak or write, negotiations with others takes place. Prior to the insightful information of Hyland's (2005a) metadiscourse markers, it is worth identifying the groundwork of Halliday's contribution in order to recognize the cohesiveness of the tripartite conception of metafunctions and metadiscourse markers.

1) Halliday's Foundation

To understand Hyland's (2005a) metadiscursive function as a theoretical framework in this study, Halliday's (1994) tripartite conception of metafunctions is fundamental to the establishment of understanding. The foundation of Hyland's metadiscourse model has been overlaid by Halliday's contribution. The intricate complexity of metadiscourse functions of language in use was originally explained by the systemic-functional theory of language. Halliday (1994) differentiated the ideational elements of a text from the interpersonal and textual metafunctions of language. He described the ideational function as the ways in which we encode our experiences of the world. Halliday (1973, as cited in Rahman, 2004, p. 32) defined the interpersonal function as "all that may be understood by the expression of our own personalities and personal feelings on the one hand, and forms of interaction and social interplay with other participants in the communication situation on the other hand". He gave equal consideration to both the intrinsic intention and the extrinsic approach that are brought forth by the writers to express to their imagined audiences. Respectively, the textual function was theorized as "an enabling function, that of creating a text"…"that enables the speaker to organize what he is saying in such a way that it makes sense in the context and fulfills its function as a message" (Halliday, 1973, as cited in Rahman, 2004, p. 32). In short, textual function was the text itself in which the information was carried to perform the sense of the message. Halliday (1994) fundamentally believed that when communication takes place, the sender commonly contributes to satisfying the three macro-functions.

The writers or speakers will attempt to convey their expression to their experience, to cooperate with their audience, and to manage their language into interrelated discourses. His indication is that people communicate through messages that assimilate three different types of meaning: ideational meaning, interpersonal meaning, and textual meaning.

With Halliday's notion, Hyland (1998) explains that the metadiscourse term is an umbrella concept that takes into account the cohesive and interpersonal features. These two features help the readers in bonding their understandings which are led by a writer of a particular discourse community. He also defines metadiscourse as "an important means of facilitating communication, supporting a writer's position, and building a relationship with audience" (Hyland, 2004, p. 136). From his point of view, Hyland sees metadiscourse as fundamental linguistic devices that reveal the act of academic communication to particular audiences. Though their collaboration, Hyland and Tse (2004) perceived metadiscourse as self-reflective linguistic material aimed at the imagined readers and at the writers' evolving text. Metadiscourse is an establishment of the writers' attitudes through which they project themselves into that certain discourse. However, they have stated that the term has never gained complete comprehension. Even though some analysts have claimed the conception of metadiscourse in its narrower aspect as textual organization (Bunton, 1999; Mauranen, 1993), some other scholars have gained a broader recognition of the definition of metadiscourse as a writer's rhetorical and linguistic demonstration. Schiffrin (1980, as cited in Hyland, 2004, p. 157) sees the function of metadiscourse as to "bracket the discourse organization and the expensive implications of what is being said". Besides its definition, some researchers have used other terms to refer to metadiscourse. The concept has been presented as "attitude" (Halliday, 1994) and "stance" (Hunston & Thompson, 2000), whereas the term has been labeled as "appraisal" (Martin, 2001) or "evaluation" (Hunston & Thompson, 2001).

Hyland (1999) considers that the propositional information of the writers can be negotiated by textual metadiscourse. The writers utilize its characteristics to organize and make the passage constant for a particular audience and to make it proper for a given context. He believes that when it comes to writing

procedure, the writers will predict the obstacles that the readers will have to experience and will provide linguistic devices to help them to overcome those difficulties. He asserts that interpersonal metadiscourse "allows writers to express a perspective toward their propositional information and their readers. It is basically an evaluative form of discourse and expresses the writer's individually defined, but disciplinarily circumscribed, persona" (Hyland, 1999, p. 7). It is, however, noted that metafunctions are not activated autonomously and unconnectedly, but are articulated simultaneously in every utterance (Hyland, 2005a).

Even though Halliday's tripartite formation of metafunctions was largely acknowledged, Hyland (2005a) and Hyland and Tse (2004) have advanced a claim that all metadiscourse categories are vitally interpersonal. They have argued with respect to a stronger interpersonal view of metadiscourse "in that it takes account of reader's knowledge, textual experiences, and processing needs" (Hyland & Tse, 2004, p.161). The Hallidayan distinction between interpersonal and textual metafunctions of language was abandoned, and Thomson's (2001) description of interactive and interactional metadiscourse has been adopted. The interactive replaces the textual, and the interactional restores interpersonal.

Hyland (2005a) believes that metadiscourse is recognized through a variety of linguistic forms of the interpersonal model of metadiscourse. Therefore, the proposal of the model which consists of writer-reader interaction in the text is initiated. It was proposed by Hyland (2005a) and states that the model is equipped with two key categories namely, “interactive” and “interactional”. This model is obliged to Thompson and Thetela’s conception (1995) because Hyland developed the functions and furthered their analyses. Hyland's model, therefore, supplements a broader concentration by combining Thompson's (2001) perspectives together with stance and engagement markers. Hyland sees that the interactive part of metadiscourse is in the relationship of the writer's realization that the reader exists at the other end. He also illustrates the reader as the imagined reader or audience. Thus, the writer makes the attempts to facilitate the reader towards an understanding of the actual needs and interests. In contrast, the interactional part of metadiscourse takes into account the writer’s attempts to validate his claim, to show explicitness in his

perspective, and to interact with the reader by foreseeing his oppositions and reactions to the text (Hyland, 2005a, 2005b).

2) The Hyland's Elements of Interpersonal Model

Even though there are numbers of metadiscourse models proposed to the investigation of written text, Hyland's (2005a) interpersonal model has been recognized as a widely accepted platform to the exploration of linguistic devices in conveying writers' stance to readers' comprehension. Scholars have opted to analyze their data according to Hyland's (2005a) perspective (e.g., Andresenko, 2015, Getkham, 2011; Lee, 2011; Mur-Duenas, 2010, Salek et al., 2014). Apart from that, Pooresfahani, Khajavy, and Vahidnia (2012, p. 90) make a claim regarding Hyland's (2005a) metadiscourse that

> Consequently, this new model proposes that metadiscourse is engrossed in the socio-rhetorical context in which it occurs, and with regard to this fact, variation in the use of metadiscoursal features has been demonstrated to be strongly dependent on the intensions of writers, the audience or community, as well as socio-cultural contexts.

Therefore, this investigation will elaborate the Hyland's elements of interpersonal model in relation to Hyland's (2005a) metadiscourse markers as a theoretical framework.

Hyland (2005a) stated that academic writing is an amalgamation of the writers' points of view and the revisions of others' positions. This means that to be distinguished scholars, their claims have to be well situated and presented with competency. However, a writer's degree of comprehension does not always establish the writer-reader relationship. Instead, certain types of linguistic features help in bonding the interpersonal interaction and noticeably result in successful academic writing. By judging any academic achievement, the individual position of shared professional context must be acknowledged. Writers pursue their academic accomplishments by producing their works using the appropriate rhetorical choices. Interpersonal negotiations are expected to occur allowing for reader rejection. The reader's active role is seen as a crucial part of a successful research paper because

any responses to the writers' arguments are anticipated. Furthermore, by discussing the point of contention, the interaction can bring the writers' construction of their argument to a larger area. According to Baktin (1986, as cited in Hyland, 2005a), the writer exists intertexually within a larger web of opinion that is located here. Moreover, proposing a writer's argument to a community is challenging because there are tight bonds that are connected to formerly accepted forms of argument as applicable. To reiterate, in terms of results and interpretations, the writers need to engage their audiences and be persuasive and expressive with them.

As discussed in the previous section, interactive and interactional resources are different. Hyland's interpersonal model advocates two distinctions together with their sub-categories which allow the writers to transmit their objectives of communicating in their own ways.

1) Interactive Resources

Interactive resources deal with the writers' information and their assessment of what needs to be explained explicitly or specifically. Their function is to allow for the flow of information and its explicitness that the writers prefer to express in their interpretations. In addition, interactive resources take into account discourse organization in order to anticipate the readers' understanding. The resources also echo the guide from the writers of what can be extracted from the text.

2) Interactional Resources

Interactional resources are concerned with attempts to manage the level of the writers' existence within the text. They also deal with the establishment of intimacy with the readers as their function can establish a relationship with the readers though data presentation or through argumentative position. Reader involvement matters here because writers can show their commitment or can express their attitude towards the subject of interest with the readers. The interactive and interactional resources are summarized in Table 2.3:

Table 2.3 Hyland's (2005a) Interpersonal Model of Metadiscourse

Category	Functions	Examples
Interactive	To help to guide the reader	Resources
Transitions	To show connection between ideas	Therefore; in addition; and
Frame markers	To refer to discourse acts, sequences and stages	Finally; to conclude; my purpose is
Endophoric markers	To refer to in other parts of the text	Noted above; see figure; in section 2
Evidential	To refer to information from other texts	According to X; Z states
Code glosses	To elaborate propositional meaning	Namely; e.g.,; such as; in other words
Illocution markers	To name the act performed	To conclude; in sum; I predict
Interactional	To involve the reader in the text	Resources
Hedges	To withhold commitment and open dialogue	Might; perhaps; possible; about
Boosters	To emphasize certainty and close dialogue	Surely; certainly
Attitude markers	To express the writer's attitude to proposition	I agree; unexpectedly
Self-mentions	To explicitly reference the author(s)	I; we; my; me; our
Engagement makers	To explicitly build a relationship with the readers	Consider; note; you can see that

Source: Adapted from Hyland, 2005a.

The three models illustrate the notion of metadiscourse markers initiated from the idea that writers communicate to the readers not only by providing straight forward message. Rather, linguistic tools can perform as a navigator to any main points and help carry the readers along the text significantly. Even though the three models and Halliday's foundation based on similar basis of metadiscourse markers, they have developed their dissimilarities in their categorization. Vande Kopple (1985) and Crismore et al. (1993) proposed the metadiscourse markers categorization as textual and interpersonal metadiscourse. Later, Crismore et al. (1993) further divided the functions of each marker in grater details with sub-function of textual metadiscourse, textual markers and interpretative markers. The two models are similar as the development of Crismeore et al.'s model improves the overlapping function from Vande Kopple's (1985) metadiscoursal functions. However, Hyland is influenced by Halliday's contribution. The classification of metadiscourse markers is, therefore, proposed as interactive and interactional metadiscourse markers respectively.

2.2.2 Hyland’s Elements of Interactional Metadiscourse Markers

Prior to clarifying the resources of interactional metadiscourse, distinguishing the macro-interactional dimensions presented by Hyland (2005a, 2005b) is a constructive approach for academic interaction and persuasive analysis. The investigation of the key resources in academic discourse can significantly interpret the differences between cultures and their epistemologies.

For the current investigation, interactional metadiscourse markers lay as a foundation to the examination of academic text analysis. As interactional metadiscourse markers has been stated as a personal strategy of the writers in showing existence and negotiating claims with readers, the researcher believes that by investigating Hyland's (2005a) interactional resources, the cultural aspects of scholastic writing can, therefore, be explicated. The five main elements, which have been widely employed to explore the perspective of academic writing in great detail, are as follows:

2.2.2.1 Hedges

2.2.2.2 Boosters

2.2.2.3 Attitude Markers

2.2.2.4 Self-mentions

2.2.2.5 Engagement Markers

The following part explains each interactional element, which will be explored, ranging from hedges, boosters, attitude markers, self-mentions and engagement markers together with relevant investigations.

2.2.2.1 Hedges

Hyland (1999) categorized metadiscourse schema into textual and interpersonal metadiscourses. Hedges were considered as one feature of interactional resources and they function as devices to demonstrate each writer's collegial deference. But long before Hyland's (1999) metadiscourse taxonomies were proposed, the study of hedges had been remarkably investigated and explained.

Hedges or hedging devices are linguistic tools used to navigate the claim and to express its tone, attitude, and information. In both written and spoken communication, writers enable themselves to introduce their opinions and to maintain their objectivity by using this device. They also employ hedges to diminish the degree of conviction in their utterances, as well as in their statements within their written discourses and in their discourse analyses. For instance, risks in communication can be lessened through the use of verb, adjective, adverb, modal, or noun hedges. Hedges also help writers to show concern the face of others in their writing since employing hedges can help to avoid confrontation with the owners of the works when they are criticized (Getkham, 2011).

The illustration of hedges can be described by the way that these linguistic tools are employed to withhold a writer's intention of confirming definite obligation to a proposition. They solely allow their message to be presented in the form of opinion. Hence, the writers can independently come to a decision regarding how well they are satisfied about disclosing their proclamation. They can also determine the level of density in their text and the amount of exactness. Additionally, the writers, within the context of a research community, can gain the recognition of research claims and present their statements in softening categorical assertions by using hedges in their writing (Hyland, 2005a, 2005b).

Hedges also mark a writer's unwillingness to propose definite propositional information (Hyland, 2004). The devices contain both epistemic and affective roles, guiding either ambiguity or reverence to disciplinary norms of appropriate stance (Hyland, 1996). During the communication, hedges notify the audiences that the message is delivering credible reason rather than assured information. Furthermore, the message senders prudently contribute a degree of confidence to the text. Hyland (1998, p. 2) gives the following excerpt from his study as an example:

> Our results suggest that rapid freeze and thaw rates during artificial experiments in the laboratory may cause artifactual formation of embolism. Such experiments may not quantitatively represent the amount of embolism that is formed during winter freezing in nature. In the chaparral at least, low temperature episodes usually result in gradual freeze-thaw events.

It is significant to note that hedges also serve to create a thought-provoking arena in which the writers attempt to make claims which may possibly clash with the existing notion. By using hedges, the readers are allowed to appraise their interpretations, gleaned from the text, and compare them to their prior understanding by having hedges as the means of accomplishing the appraisal within this discursive space. Hedges prove that a writer's position is debatable, and they invite the readers to participate in a dialogue with their own views. In short, hedges create provisional statements and interact with the readers as experienced colleagues who can either dispute or recognize the writer's position (Hyland, 1998, 2008).

Hyland (1998) also admits that hedging devices function differently in favor of particular users in particular contexts. They do not construct specific meaning in all contexts from which the audiences can effortlessly and automatically come up with a single interpretation. Rather, hedges perform multiple functions instead of determinacy interpretation. Subsequently, hedges have been distinguished to the following two main categories of hedging devices in academic discourse: content-oriented hedges and reader-oriented hedges.

1) Content-Oriented Hedges

The content-oriented hedges “mitigate the relationship between propositional content and a non-linguistic mental representation of reality; they hedge the correspondence between what the writer says about the world and what the world is thought to be like” (Hyland, 1998, p. 162). Hyland further divides content-oriented hedges into two sub-categories.

(1) Accuracy-oriented hedges are employed when the writers aim to be as precise as possible. These hedges have even been narrowed down to attribute-hedges and reliability-hedges.

(2) Attribute-hedges include adverbs or adverbial devices that state precision in terms of degree or regularity. These hedges indicate that the "result may vary from an assumed ideal of how nature behaves and allows a better match with familiar descriptive terms" (Hyland, 1998, p. 164).

(3) Reliability-hedges include modal auxiliaries, full verbs, adverbs, adjectives, and nouns that convey “a conviction of truth as warranted by deductions from available facts, relying on inference, deduction, or repeated experience. They refer to present states and are usually in active voice without writer agentivity” (Hyland, 1998, p. 167).

2) Writer-oriented Hedges

Writer-oriented hedges include impersonal constructions, passive voice, and other means of avoiding references to authors. Hyland (1998, p. 170) views this as a tactic aimed to "shield the writer from the possible consequences of negotiability by limiting personal commitment".

(1) Reader-oriented hedges are the relationship between writers and their audiences because they “confirm the attention the writers give to interactional effects of their statements” and "solicit collusion by addressing the reader as an intelligent colleague participating in the discourse with an open mind" (Hyland, 1996, p. 446). These hedges include personal attribution, hypothetical conditions, and questions.

In sum, hedging devices are far more important than distancing from a textual pledge. Hedging makes it possible for the writers to implant their ideas, their individuality, and their attitudes, as well as their skepticism through the text in order

that the interaction between the authors and their audiences can emerge even when there is an underlying controversy. The significance of hedges develops when the strategy of hedging is highlighted in academia. Hedging also assists novice researchers to be more rational and intellectual in their research writing because they balance their credence with norms and notions that have been collectively accepted.

2.2.2.2 Boosters

Boosters are linguistic devices that can be found on the other end of hedges. While the writers utilize hedges to express their detachment, boosters allow the writers to validate their commitments in the content. Hyland (1996) once labeled boosters as emphatics and categorized the devices in the same interpersonal category as hedges. He posited that "emphatics emphasize force or the writer's certainty in a message", such as clearly, definitely, and demonstrate (Hyland, 1999, p. 7). Emphatics also designate the degree of confidence and loyalty. After identifying that all metadiscourse functions are interpersonal, Hyland re-categorized emphatics and renamed them as "boosters". The conception, however, remains unchanged in that boosters "express certainty and emphasize the force of propositions" and "allow writers to express certainty" (Hyland, 2004, p. 129; Hyland 2008, p. 7).

Holmes (1984) offered an early definition that boosting "involves expressing degrees of commitment or seriousness of intention" (Holmes, 1984, as cited in Peacock, 2006, p. 61). Hyland (1998) later defined boosters as communicative mechanisms for raising the force of announcement. However, this study focuses upon Hyland's (1998) definition of boosting as a communicative approach for raising the strength of a statement and for underlining its conviction, strong assurance, commitment, and acknowledged fact.

Boosters capture the opportunities for alternative voices which can quake the readers' determination by marking an explicit point and by becoming cohesively involved with the readers. Hyland (1999) also states that boosters are in charge of stressing shared information, grouping membership, and engaging with readers. A similar characteristic shared by both boosters and hedges is that they usually occur in cluster structures that entail the conviction of the text and the indecision within it. In short, boosters assist the writers to assert their work. At the same time, they function as interpersonal solidarity expressing assertion from the

writers in order to invite their readers' involvement. See the following extract from Hyland's (1998, p. 2) study:

> This brings us into conflict with Currie’s account, for static images surely cannot trigger our capacity to recognize movement. If that were so, we would see the image as itself moving. With a few interesting exceptions we obviously do not see a static image as moving. Suppose, then, that we say that static images only depict instants. This too creates problems, for it suggests that we have a recognitional capacity for instants, and this seems highly dubious.

Apart from Hyland, earlier scholars have portrayed the pragmatic functions of boosters as being to convey varieties of evidential or implicit truth, accepted truth, and solidarity.

1) Evidential or Implicit Truth

Skelton (1997) believes that a writer can claim truth by discussing its "evidential" nature and by announcing that “truth to be true” as a result of their study. The writers try to provide evidence and avoid expressing their judgment. By doing so, the writers use verbs such as demonstrate, reveal, and show as their means of claiming that truth. Hunston (1993) argues that show, demonstrate, and establish imply confidence led by the convincing data itself, rather than by the persuasive strategies of humans. Swales (1990) and Salager-Meyer (1994) also stated that the those three verbs highlight obligation to a proposition. Moreover, Swales calls them ‘powerful rhetorical tools’ for indicating that claims are to be accepted as valid.

2) Accepted Truth

Boosters, in fact, can perform more than one function since boosting is also used to signal accepted truth. Accepted truth is similar to evidential or implicit truth. Hyland (1998) stated that modal verbs, such as will and must, are used to indicate accepted truth. To be more precise, modal verbs reduce the writer’s participation by implying that the claim or statement offered is one that is commonly acknowledged at large. Of course and obviously are used to portray the same function.

3) Solidarity

Vassileva (2001, p. 97) introduced another familiar booster as a solidarity booster by showing an example as "it is indeed a well-known fact". Solidarity boosters inform the readers that the statement is well explained since its contents possess the mandatory understanding. Further explanation of the subject would be redundant because the subject matter of the text and the audiences being addressed with it are well connected in that discourse community.

In conclusion, boosters are not only used to highlight the confidence and affirmation of the writers, they also perform different functions at different times. Viewing the pragmatic functions of boosters is beneficial in that their conception and roles are enlightened. However, the analyses of boosters require more than seeing them one at a time, since the context in which they are used is vital to studying boosters. Salager-Meyer (1994) and others, therefore, have advised that the form and the function of the booster must be taken into account, and the same applies to hedges.

2.2.2.3 Attitude Markers

Attitude markers represent the writers' preference toward the data given in the text. These markers are used to express a writer's attitude rather than his/her commitment. Hyland (1999) explained that, as devices, attitude markers show a writer’s affective thoughts towards the textual information by expressing astonishment, compulsion, and significance, etc. Writers develop their attitudes by using words, like unfortunately, and prefer to inevitably attach their attitudes to what they say. In the same manner, Crismore et al. (1993, p. 53) defined attitude markers as a writer's expression to affect the values of his/her attitude. The markers are not a commitment, but a presentation of the writers within the text. There are various forms of expression, such as the expression of excitement and the expression of compromise.

Hyland (1999) and Crismore et al. (1993) have agreed that attitude markers signify a writer's affection by expressing his/her thoughts through the text. Their perceptions and affective opinions are presented in the form of an attitude by the writer rather than giving facts or expressing convictions. Writers use attitude markers to place their positions and to attract the readers to enter into tentative

agreements by indicating a supposition of shared attitudes, values, and responses to the material. According to Crismore et al. (1993), style and stance can be presented in the form of attitude markers. Hyland (2005a, 2005b) also clarifies that the attitudes of writers are conveyed in textual messages via a range of forms.

Attitude verbs (I agree/ disagree), for instance, sentence adverbs (fortunately, unexpectedly), and adjectives (proper, logical, and incredible) are used to signal the stance of the writers and to support their positions. Linguistically, these attitude markers can take on four forms. The forms and examples are given as follows: 1) Denotic verbs: These learner variables should prove to be promising areas for further research. 2) Attitudinal adverbs: The first clue of this emerged when we noticed a quite extraordinary result. 3) Adjectival constructions: .... two quantities are rather important and, for this reason, the way they were measured is re-explained here. 4) Cognitive verbs: And - as I believe many TESOL professionals will readily acknowledge – critical thinking has now begun to make its mark, particularly in the area of L2 composition. As shown, attitude markers have been considered as one of important rhetorical devices that convey authors' thoughts both in positive and negative manner towards the topic. The markers also present authors' subjectivity and objectivity as when ones employ the markers, the repetition can explain the views and directions of the text owners in the form of quantity and lead to qualitatively discussion. In the next section, a revision of one more interactional metadiscourse markers, self-mentions, will be presented respectively.

2.2.2.4 Self-mentions

It has long been perceived that academic writing is impersonal and that the content is objective. The interpretations of academic prose by scientists and scholars is partly founded upon the conventional positivist view in that research rests on empirical findings, and that these findings are detached from an individual's beliefs and attitudes. For instance, Einstein (1934, as cited in Hyland, 2001, p. 113) noted that "when a man is talking about a scientific subject, the little word 'I' should play no part in his expositions." This notion stresses the persuasiveness of author's impersonality even more. Course readers and textbooks have also advised academic authors to contribute generalized perceptions by concealing one's personal views. However, during the last decade a large amount of research (Ivanic, 1998; Tang &

John, 1999; Hyland, 2001, 2002) has been carried out advising that the use of first person markers in certain contexts is apposite.

Kuo (1999) explains that writers use rhetorical devices like the first-person pronoun to modestly claim significance for their research. Hyland (2001, p. 209) asserts that modesty is only one portion, because “writers must carefully balance this with vigorous argument for the originality of their claims”. This perspective draws on Benkenkotter and Huckin (1995), who suggested that the use of self-promotional features should be taken into account, because there is more competition for papers to be accepted and published in prestigious academic journals. As a consequence, researchers must rely on this personal tenor to declare the originality of their contribution. Harwood (2005) has encouraged the use of personal pronouns by proclaiming them as "marketing tactics" which cooperate with other interactional resources to accommodate the work to academia (Millan, 2010).

As a result of the shift from traditional practice to competent identity, the readers are persuaded by the adoption of the self-mention instrument, such as first person pronouns and self-citation (Hyland, 2001). They tag along the writers seeing the contribution and granting discourse credibility in the act of peer readers. Researchers have also studied the presence of self-mention features in research writing. Hyland (2001, 2002) and Tang and John (1999) have pointed out that an academic writer uses language to grow his/her specific self and to certify himself/herself as a knowledgeable and accountable member of the discipline. Nonetheless, Tang and John (1999) pointed out the essence of the first person pronoun in academic writing in that it is not a "homogeneous entity". Instead, they project different roles and identities of the authorial presence. Ivanic (1998) claimed that the writing process requires a presentation of the discoursal self because writers cannot steer clear of having parts of themselves in their arguments, disciplines, and in their readers. The writers can project the choice of the existence or absence of the authors to identify the authorial identity, and that choice is consciously made by the owner of the text. When the writer reference appears in the dialogue, it does not convey the ideational meaning as solitary. The readers can also be influenced by the self-mentioning rhetorical strategy that the writers perform to highlight the contribution of the authors through the textual discussion. A typology of six different

identities behind the first person pronouns, used in academic writing, was then proposed by Tang and John (1999) and was based upon Ivanic's (1998) notion of a continuum of the authorial presence. The continuum explains that a writer's roles are accompanied by exclusive personal pronouns like "creator" or "opinion-holder". This allows the writer's visibility and authority to be noticed within the text. In contrast, inclusive pronouns, such as a "delegate" of the community or "guide", signify a small degree of authorial presence.

Apart from Tang and John (1999), researchers have suggested a number of taxonomies for personal pronouns in academic discourses (Harwood, 2005; Hyland, 2002; Kuo, 1999). The analysis of personal pronouns has been studied as the exclusive and inclusive usage of self-contained rhetorical phenomena (Harwood, 2005; Kuo, 1999). Conversely, Hyland (2002) argued that the analysis of exclusive first person pronouns and possessive adjectives can cover the roles of inclusive pronouns. They, accordingly, should be investigated as a category of metadiscourse resources which Hyland (2001) named as "self-mentions", and in which he has included "self-citation" in this class of metadiscourse strategies.

In his work, Hyland (2002) clarified that writers expose themselves to “self-mention” in order to present information that is propositional, affective, and interpersonal. They incorporate the ongoing debate with the reader by using self-mention in the text. This tool seems to bind them as co-participants and to engage the two them in specific dialogue. A typology of the four different discourse functions for self-mentions in the research articles is hereafter proposed. The following are examples from Hyland's (2003) study:

1) Stating a Purpose: In this paper, we clearly demonstrate that Tax can activate transcription of the CQB promoter through the NF-Y element.

2) Explaining a Procedure: We analyzed the effect of the thermal couplings on the properties of an operational amplifier.

3) Elaborating an Argument: We found that more subjects mentioned beneficial and imagery attributes underlying their preference judgment.

4) Stating Results/Claims: In the course of thesemeasurements, we noticed that electrons induced thickness variations on the surface of the films.

In regard to the current investigation, self-mentions are explored through two devices, one is generally known as first person pronoun, another is known as term. To elaborate, self-mentioning by using term is when writers or groups of writer address themselves as the author or the researcher team, for instance (See Appendix D).

To conclude, self-mentions have shown remarkable significance in conveying writers' position in academic context. The studies of self-mentions have altered the notion that authors should not portray themselves in scientific writing. Rather than that, to some extends, mentioning of self is a means to gain authority by including writers and sometimes readers to the text. Self-mention studies are a proof that academia acknowledges the inclusion of self both in singular and plural forms. Additionally, cross-cultural perspective of self-mentions study has drawn attention dramatically because it is noticeable that with different background, the illustration of self is quantitatively and qualitatively dissimilar. Therefore, the investigation of self-mention markers in new context should be explored to benefit the authors and to correct misconceptions of self-mentions among native and non-native English writers.

2.2.2.5 Engagement Markers

When it comes to writing, a writer has to bear in mind that there will be various types of readers who will be assessing the message that has been given. Academic writing also does more than simply reporting the research findings. It, in fact, initiates rapport between the writers and their readers within an academic context. The writers are usually united with their study's results in order that the readers can be welcomed into joint textual participation. This writing mechanism can be accommodated by interactional metadiscourse resources, namely engagement markers.

For example, in order to guide readers through the text, research papers generally take on the inclusive form of “We”. In their writings, authors include their readers in order to entrust the corresponding and to draw out discussions based upon the topic. Academic writers tend to address the reader as an experienced participant and tend to engage the reader with markers that portray shared understandings and emphasize solidarity. Contrariwise, since course books utilize patterns of engagement

markers that inform and explain, the readers are excluded as outsiders in order to avoid disagreement.

Hyland (2005b) proposes that engagement markers have two main objectives with respect to focusing on reader participation. The first objective is to effectively convene the readers' expectations of addition and disciplinary solidarity. The writers mention the audiences as participants in an argument by using reader pronouns, such as you, your, and we, as well as by using interjections, such as by the way and you may notice. The second reason is to engage the audience rhetorically by placing the readers, inviting them into the discourse at critical phases, planning for probable oppositions, and leading them to particular understandings. These functions are chiefly achieved by the following: 1) asking questions; 2) giving directives by primarily using imperatives, such as see, note, and consider; 3) using modals of obligation, such as should, must, have to, etc.; and 4) using references that the readers would be commonly aware of.

Even though the two purposes do overlap remarkably, they are frequently noted because their forms and their levels of explicitness differentiate them. Accordingly, Hyland's study identified the basic types of markers that perform the two purposive objectives, and there are five main categories of engagement.

1) Reader Pronouns

In general, the pronoun usage of the reader is explicit. For instance, the writer uses the pronoun, you, to directly make contact with the reader in the context. For stylistic reasons, on the other hand, academic writers prefer the pronoun, we, to include both parties. Not only can the usage of this pronoun be seen as the most commonly exploited means of engaging the audience with the text itself, it is also regarded as a way to engage the audience in making connections with the owner of the discourse. Frequently, reader pronouns are used when the writers are able to anticipate any of the readers' objections or concerns, and as a result, make attempts to validate the sensitivity of membership to their readers.

2) Personal Asides

Personal asides present the writers' comments in brief by allowing the writers to interrupt the argument, which has been mentioned, in mid-flow in order that the writers' personality and intention can be interjected as a reader-

oriented strategy. Personal asides are seen as such a strategy because they convey a concise dialogue to the active audiences in order to create interpersonal connections rather than establishing the propositions of the discourse. The writers do not rely on these devices to make any explicit points because the connection has been solely built to show that both the writers and the readers are engaged in the same subject rather than assessing specific matters.

3) Appeals to Shared Knowledge

The function of appeals to shared knowledge is a means of reminding the readers that the content is common knowledge. This mechanism frequently proposes that the argument, whether written or spoken, is true by appealing to the readers with strategies of shared knowledge. The writers go beyond the boundaries by smuggling contested ideas into their argument and calling upon the reader to construct the ideas by presupposing that they have such a belief and that they are capable to contributing to the argument in their roles as readers. The following forms in which shared knowledge usually appears are rather typical: 1) forms using adverbials, such as certainly, obviously, and clearly; or 2) forms using phrases, such as "As we have seen…," in the introductory or the closing remarks.

4) Imperative Directives

According to the name, imperative directives direct the readers to respond or agree in a way that is guided by the writers. They signal the readers by using an imperative, a modal verb of obligation, and a predictive adjective to state the writer's decision about what is significant. There are three main activities in which directives are engaged (Hyland, 2002). Firstly, textual acts, such as see, look at, and consult, prompt the readers to move on to another part or to another text in order to find more information. Secondly, physical acts educate readers to practically apply some actions outside of the text, such as do that first and before that you should. Thirdly, cognitive acts are used when the writers give reasons to the readers for clarifying points, such as consider, think about, and It is important to.

5) Questions

Writers attract readers and involve them in the dialogue via questions. These questions can arouse interest and can invite the interlocutors to the field of the unresolved issues in order to solve them together from the perspective of

the writer. The partners share an equal position in viewing, sharing, and following the subject. Hyland (2005b) also mentioned that the readers are exposed to questions to which they are not expected to give a spontaneous response. He further stated that this rhetorical position is used by writers to initiate their ideas and to conclude the dialogue.

Abbreviated examples of engagement markers were given as a summary by Hyland (2005, as cited in Lee, 2011) as follows:

1) Reader Pronouns: Although we lack knowledge about …
2) Personal Asides: And –as I believe many…-- critical thinking...
3) Appeals to Shared Knowledge: Chesterton was of course wrong to suppose …
4) Directives: Consider a sequence of batches in …
5) Questions: Is it, in fact, necessary to choose …?

The current study will only place emphasis on the use of reader pronouns, directives, and questions. According to Hyland (2001), the signal of appeals to share knowledge is difficult to identify if the analyst is not a true member of such a discourse community. Therefore, the differences in the use of this category of engagement markers will be dismissed to avoid problematical issues in the analysis. Furthermore, it should be noted that the use of personal asides will not be discussed in this investigation as instances of these strategies are presented in phrases, such as "as I believe", in the examples listed above. Including personal asides could make the quantitative analysis rather unreliable.

In summary, metadiscourse studies have been examined from diverse perspectives. Vande Kopple (1985) and Crismore at al. (1993) indicated comparable functions of metadiscourse as "textual" and "interpersonal". Halliday (1994) and his systemic-functional theory of language was also called forth as a foundation of Hyland's metadiscourse markers. Hyland's metadiscourse taxonomy was intrigued by the three meanings discovered within people's communications: the ideational, the interpersonal, and the textual of Halliday. It can be seen that all metadiscourse features are attached with interpersonal elements since knowledge, experiences, and needs are significantly embedded within human communication. Thompson's (2001)

interactive and interactional perspectives have also been seen as having a great influence on Hyland's interpersonal schema of metadiscourse. To be more precise, the current investigation will only place emphasis on Hyland's (2005a, 2005b) interactional metadiscourse. Its five main categories of hedges, boosters, attitude markers, self-mentions, and engagement markers, which have previously been discussed will be analyzed for the purposes of comparing and contrasting the cross-cultural and cross-sectional usage among native and non-native English writers.

The following part will explain the differences in academic writing from a cultural perspective. This will be accomplished by presenting a brief development of the contrastive rhetoric, and the development of research ranging from contrastive rhetoric to intercultural rhetoric and other studies in order to investigate cross-cultural differences.

2.3 Cross-cultural Differences and Academic Writing

The complexity of academic writing is not limited to first language users since the issues of second language learners and their apprehensions concerning contrasting inquiries have taken place in various communicative situations. With respect to more than one author from different cultures taking steps to initiate their academic writing, the consideration, that should be of concern in any given culture, is to understand the insightful perspectives of the variations and resemblances that exist among those language users. For that reason, "contrastive rhetoric research" and "intercultural rhetoric research" have been developed to study the diversity of writers and their writing styles based upon their cultural and language backgrounds. However, prior to the understanding of cross-cultural differences in the aspect of academic writing, the notion of culture and cross-culture should be elaborated.

2.3.1 The Significance of Culture

Atkinson (2004) has reviewed the meaning of culture and explained according to Williams (1983, as cited in Atkinson, 2004) that the definition of culture was so implicit that “culture” could be viewed as one of the most complex words in English language. Back in 1871, a famous definition of culture was proposed by Taylor (1871,

as cited in Atkinson, 2004). as “any practices produced by members of a society”. For example, such practices can be expressed as beliefs, the arts, laws, morals, and customs. Moreover, with the intention of establishing a single and broadly agreed-upon definition of culture, a collection of 160 definitions of culture was gathered by Alfred Kroeber and Clyde Kluckhohn in 1952 (Atkinson, 2004). However, even though academia has continuously become more interested in culture, it appears that “culture” has never been definitively described to cover it as a universal concept. Instead of specifying a precise definition of culture, Atkinson (2004), has, therefore, described the binary oppositions on the subject of culture as "big culture versus small culture" which can be related to the current study of culture and language.

Adrian Holliday was mentioned as one of the most influential authors who had emphasized the concept of "big culture and small culture" in educational settings. Holliday (1994) stated that by studying cultural appropriateness in EFL settings, big cultures can be described as the normative and prescriptive elements of ethnic or national groups. Conversely, small cultures represent cohesive behaviors within a group which are rooted in activities, as well as in a specific discourse. A modified diagram illustrating the overlapping relations based on Holliday's (1994) culture conception was presented by Atkinson (2004). National culture, which is "not a small culture at all" (Atkinson, 2004, p. 285), is also demonstrated in the diagram and presents connections between big culture and small culture.

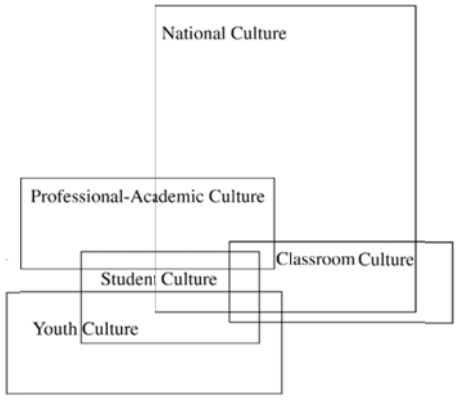

Figure 2.1 The Complexly Interacting Cultures in an Educational Setting

Source: Atkinson, 2004, p. 286.

In this particular investigation, the professional-academic culture has been found to partially overlap with national culture. From the shared space of professional-academic culture and national culture, it can be viewed that the characteristics of any scholar has been partially influenced by his/her national culture. At the same time, the national culture can be affected by teachers or professors in other parts of the world (Holliday, 1994, as cited in Atkinson, 2004, p. 286):

> Professional–academic cultures [. . .] are the cultures connected with professional peer and reference groups, schools of academic thought and practice, professional approach etc., generated by professional associations, unions, university departments, publishers etc. It is significant that these extend beyond the boundaries of the national culture: in particular, English language teachers, in countries where English is not the mother tongue, where the subject matter, the language, is considered to be foreign, have international links which they depend on for much of their sense of professional-academic belongingness.

Therefore, culture has become less of a national consensus, but rather "a consensus built on common ethnic, generational, ideological, occupational, or gender-related interests, within and across national boundaries" (Kramsch, 2002, p.276). Culture can be understood in this context as the collective totality of the attributes produced by a given group or a subgroup which changes over time. Shared values and basic assumptions, as well as beliefs and behaviors, are formed and expressed both in written and spoken texts by group members. By studying the academic aspects that are particular to native and non-native English writers, professional-academic culture should be explored under the interactions of diverse cultural forces.

2.3.2 Cross-cultural Differences

The significance of culture has proven that it is crucial to conduct cultural studies. Cultures have values and beliefs which are internalized through the group members' interactions (Eisenhart, 2001). Even though cultural values change overtime, they endure long enough to give intensity, stability, direction, order, and

predictability to one's life (Smith, 2000). Researchers, in the same way, are also influenced by academic-professional culture. Nevertheless, the norms of academic writing are not governed by any specific language. Rather, the researchers' native cultures, as well as the cultures of the L2 or foreign language that they use in their writing, play a significant role in challenging and organizing the ideas in their written products. Thus, according to Hyland's (2009) investigation into cross-cultural differences, the results have indicated that non-native speakers are challenged by having to learn to write academically in any of the foreign languages. Problematic interferences occur in a number of aspects, such as in redundancy and repetition, in the misplacement of new information, by being firm or tentative, in textual organization, in the limited usage of cohesive ties and argumentative strategies, and in a lack of meta-discursive guidance (Nasiri, 2012a). Therefore, in order to gain a wider acceptance in writing English research articles, similarities and differences in the writing patterns of native and non-native English writers should be addressed by way of cross-cultural perspectives.

In order to explore cross-cultural differences in academic writing, Nasiri (2012a) proposed the features of academic writing with respect to English culture as complexity, formality, precision, objectivity, explicitness, accuracy, hedging, and responsibility. These features can be used to compare and contrast any non-native English culture.

1) Complexity refers to integration of cited information, presentation of statements, and organization of arguments in English academic writing (Waskita, 2008, as cited in Nasiri, 2012a).

2) Formality refers to the writers' recognition of academic values which can be achieved through the in-depth evaluation of a particular community or context. Hyland (2009) also stated that metadiscourse assists the writers to represent this feature.

3) Precision refers to any numbers, figures, or facts which can be demonstrated in the text in order to keep the readers from misunderstanding.

4) Objectivity refers to words or patterns of writing which convey general objectives, rather than personal subject.

5) Explicitness refers to a writers' direction in the text. Readers should be presented with how parts of the text are related. Different signal words can help the cohesiveness of the text, for instance.

6) Accuracy refers to the use of any specific vocabulary which is in accordance with the correct meaning of the ideas that the writers are trying to convey. Any specific terms or jargon should be clearly understood and presented according the context.

7) Hedging refers to a feature that demonstrates a level of certainty. It also invites the readers to judge the value of the truth of the assertions. Nasiri (2012a, p. 5) mentioned that the devices can possibly be "the most important feature of the academic writing". Moreover, this feature is one of Hyland's (2005a) interactional metadiscourse markers which have been analyzed in this investigation.

8) Responsibility refers to a writer's requirement in presenting evidence, justifications, and sources of any claims in the text in order to demonstrate liability to the readers.

These features can be used as a platform for cross-cultural investigation. The differences between native and non-native English writers through cultural perspectives can strengthen several aspects in regard to the issues of the English language and the writers' distinctiveness in their cross-cultural communication.

2.3.2.1 Native and Non-native English Constructs

In order to investigate cross-cultural similarities and differences in the use of interactional metadiscourse markers, it is important to distinguish the of English nativeness and non-nativeness constructions. Varieties of English as a native (ENL), second (ESL) and foreign (EFL) language have impacted English users worldwide. For that reason, the classification of English users is traditionally mapped onto Kachru's (1985, as cited in Kachru, 1997) the Inner, Outer and Expanding circles as an implication for linguists to explore

According to Kachru (2003), the Inner circle refers to English users who have their traditional bases of English, and English is communicated as their first language or L1. Davies (1999, as cited in Zhang & Elder, 2011) also asserts that, traditionally, native English speakers are those who speak Standard English and their English performance has long served as the norm The Inner circle is those who are

generally described as 'norm providers' and originally set the models for English pedagogy to learners of English. The countries categorized in this circle are United Kingdom, USA, Canada, New Zealand and Australia. The Outer circle refers to the countries which use English in their own practice as they have emerged in postcolonial context. The Outer circle is considered as 'norm developing'. Some of these countries are in Southeast Asia such as Singapore and Malaysia. They use English as intra-national lingua franca and code-switch from their indigenous languages to English or L2 and create new expressions which accommodate their discourse community. Last, the Expanding circle has been considered as English learners because English is relatively treated as foreign language. Countries which can be considered in this circle are Thailand and Spain, for example. This circle is regarded as 'norm dependent' as English users develop their English performance according to their target norm from the Inner circle. Unlike the Outer circle, the Expanding circle learns to be more native-like as they do not usually transfer phonological and lexical elements from their mother tongue to English. It should be noted that the Outer and Expanding circles cannot be completely demarcated as they share some traits such as language policy which might be changed from time to time.

To summarize, according to Kachruvian Three Circle Model, the Inner circle should be classified as native English writers to the current investigation as researchers in the Inner circle use English as their first language. Meanwhile, the Outer and Expanding circles can be classified as non-native English writers in this investigation as English is an alternative mode of communication in their countries.

2.3.3 Contrastive Rhetoric

2.3.3.1 A Brief Historical Development of Contrastive Rhetoric

The whole notion of "contrastive rhetoric" was conceived in 1966 by Robert Kaplan, an applied linguist. He arrived with an intriguing conclusion when he recognized that the writing patterns of his ESL students were presented much differently than the writing patterns of his native English learners. Based upon the examination of 600 ESL student essays in 1966, the pioneering investigation of Kaplan identified distinctive rhetorical tendencies and specific types of paragraph development. Kaplan claimed that Anglo-European authors developed their writing

linearly, whereas Oriental writing styles preferred an indirect approach by coming to the conclusion at the end of the text. Essays in the Semitic languages use parallel coordinate clauses. Russians include material that is considered as irrelevant from a linear point of view. However, this early contrastive rhetoric was dramatically criticized because when compared to all other cultures, the findings seemed to prioritize the highest ranking of the writings to be by native English speakers. Therefore, the linguistic and cultural differences in writing among interrelated languages were dismissed. Due to the limitation of the data gathered from Kaplan's students, the underdeveloped nature of the written text analysis had to be reconsidered in light of the concept of linguistic relativity.

The insightful premise from Kaplan's investigation was that to the degree that language and writing are cultural phenomena, different cultures will reveal different rhetorical tendencies. According to his comparative investigation, Kaplan found that the differences were not fundamentally found at the level of structure or at the sentence level. Because their cultural thought styles were also dissimilar, they, therefore, opted to express their understandings through the rhetorical styles of their cultures. The linguistic patterns and rhetorical conventions of their native languages are often re-assigned when writing in ESL, and the result is, therefore, found in L2 writing interference. In short, Kaplan tried to point out that according to contrastive rhetoric a writer's choices of rhetorical strategies were manifested by L1 interference. Nonetheless, with respect to the authors, rhetorical structure is not universal, but is collectively culture-dependent.

The revision of the early history of contrastive rhetoric showed that Kaplan (1966)'s notion was inspired by four areas: 1) contrastive analysis, 2) the Sapir-Whorf hypothesis, 3) rhetoric, and 4) pedagogy (Connor et al., 2008).

1) Contrastive Analysis: The main principle was that "difference equals difficulty". Accordingly, this leads to Kaplan's basic assumption: a potential problem can occur when the rhetorical styles of the learner's native language differ from English rhetorical style.

2) Sapir-Whorf Hypothesis: Based on Benjamin Whorf's hypothesis (1929, as cited in Conner, 2008), the world view determines the structure of the language. Also, Edward Sapir held to the cultural relativism doctrine. Both

scholars believed that each cultural group owned their unique world view, and that their long-term connection among group members mainly brought about this uniqueness.

3) Rhetoric: To illustrate, Kennedy (1998, as cited in Connor et al., 2008) defined it as a state of mental and emotional power that allows humans to express in any natural phenomena. Sullivan and Potter (1997, as cited in Connor et al., 2008) also gave the definition of rhetoric as a production of situation. Communication is shaped by ongoing circumstances. Apart from its definition, Kaplan's (1966) doctoral paper showed that he mainly specialized in Aristotle's five elements of rhetoric: invention, memory, arrangement, style, and delivery (Connor et al., 2008).

4) Pedagogy: When Kaplan (1966) noticed that international students were required to write English papers as a part of their university assignments, the influence of English and language teaching became one of his main interests.

However, it was argued that the premises found in the works of Kaplan (1966) were not broad enough to cover and explain the differences among cultures. Scollon (1997); Spack (1997); and Zamel (1997) criticized Kaplan's investigation and called it "an alleged infectivity" to the diversity of culture. Also, Kubota (1999, 2001) pointed out that the dichotomy between the East and the West is another drawback for this version of contrastive rhetoric since this critical perception was viewed as a promotion to cherish Western writing (Connor, 2002). In other words, rather than English, other cultures, which had also been culturally coded, were ignored. The contrastive studies of writing in English, as a second language, are merely one aspect of contrastive rhetoric. There are numerous aspects of culture that should be brought into play in order to discover and describe the effects of culturally-coded belief systems in writings.

All criticisms aside, Connor (1996) made an essential claim that "metadiscourse" represented a new era of in the study of contrastive rhetoric. According to Halliday (1973, as cited in Connor, 1996), the textual and interpersonal functions of language can be revealed by studying metadiscourse strategies because metadiscourse is used to mention the linguistic material and nothing is inserted into the text except that which serves in assisting the reader to follow the organization of

the text, assisting them with interpretation, and helping them to assess the information.

2.3.3.2 Contrastive Rhetoric Research Developments

Apart from the controversial issues generated by the premises of Kaplan (1966) and his early investigations, the influence of his study affected the work of Hinds (1983) during the growth of contrastive rhetoric. Hinds (1983) was a specialist in contrastive rhetoric in Japanese and encouraged Kaplan to examine native structure in his own language. Japanese and its conventionalized discourse structure were then studied. In addition to Hinds, Connor (1984) set out to study the textual analysis of written products. The work with Kaplan (1966) resulted in the collection of empirical and text-analytic contrastive rhetoric studies. Connor has made some reforms to the field of contrastive rhetoric by utilizing international text projects for the study. For instance, the relationship between American and European traditions was investigated. By using genre analysis and corpus-based study, the studies of language and writing have also been viewed differently, for example, as contrastive rhetoric.

Connor (2002, p. 493) furthered the notion of contrastive study by which the study "considers texts not merely as static products, but as functional parts of dynamic cultural contexts". The teaching of writing and culture has not been investigated under the overseas condition of L2, but the teaching in non-ESL classrooms was also taken into consideration. Contrastive rhetoric places greater emphasis on social context, as well as on the local constructs of writing activities. The growth of context-sensitive studies resulted from observations of text production and interpretations of the writing processes and their products. More than that, intellectual life and everyday life were the focus of how these elements led to the culture of writing. Over the years, changes in writing were also investigated through corpus analysis as Connor observed stylistic changes in order to identify the evolution of writing structures and norms.

To be more specific with respect to the improvement of the methodology of contrastive rhetoric, it has shown considerable progress with both text-based and non-textual approaches which are currently being used in the studies (Connor, 1996). The developments, that have been extensively adopted, are in line with ethnographic approaches. Moreover, to relate to current study, corpus linguistics

has also been used to analyze specific linguistic features in order to obtain informational insights regarding textual and cultural perspectives (Kim & Thompson, 2010). If researchers could elaborate the use of rhetorical and discursive tools and could relate the statistical data to the prospects of culture and the societal backgrounds of the participants, it would convey great benefits for the study of language and culture. Corpus-based study can also represent available resources by conducting empirical investigations to reveal intractable data in great detail (Deignan, 2005). With a variety of sources, corpus-based research can also create corpora which are more generally representative of the language. The analysis can help to expand the cultural aspects from overall resources, rather than being limited to a chosen group of writers.

The methodological advancement, which is essentially dealt with in the current investigation of interactional metadiscourse markers, is the inclusion of L1 and L2 writers and the contrastive rhetoric of their texts drafted by writers from two culturally diverse backgrounds. Grabe and Kaplan (1996, p.198) disclosed that one factor, which placed restraints upon contrastive rhetorical research in the early period, "lay in the fact that deductions were made by examining deviations from the norms of English only, rather than examining the discourse of the L1". Based on previous contrastive rhetorical investigation, the underlying assumption was that the transmission from L1 to L2 texts, particularly to English, contained discourse features of the L1 rhetoric of the writers. Nevertheless, Connor (1996), as well as Wu and Rubin (2000), has all contradicted this hypothesis for two reasons. Firstly, the distinction of the languages between mother tongue and English does not always negatively affect L2 rhetoric. In fact, L1 rhetorical styles might lead to other potentialities. For instance, a better writing skill in L1 might result in a greater proficiency in their L2 production. Secondly, the assumption overly generalized all L2 writers from certain language and cultural backgrounds as a consistent discourse community. Moreover, if any difficulties occurred, the L1 rhetoric was to blame for the interference instead of considering the individual L2 writer as a distinctive author. This belief was in line with Odlin (1989, p. 30) in that "the manifestation of transfer can vary from one learner to the next".

2.3.4 From Contrastive Rhetoric to Intercultural Rhetoric

Contrastive rhetoric has argued that the premises postulated by Kaplan (1966) and other subsequent scholars are reductionistic, deterministic, and existentialist (Kubota & Lehner, 2004) because the studies are presented as adoptions of static views of culture and discourse. They have failed to reveal the individual's uniqueness of experienced reality. Furthermore, Kubota and Lehner (2004) gave a critique regarding the early conceptions of contrastive rhetoric in that it had been too heavily devoted to the English language as a research paradigm by following cultural differences based on positivistic methodologies. Connor (2008) also asserted with a certainty of validation that the early period of contrastive study had omitted the theoretical and methodological evolution of the continuity of the research. Therefore, contrastive rhetoric cultural theory has changed dramatically just as other fields of social science have.

The use of Atkinson's (2004) historical definition of culture has been employed. The influence of post-structuralist and post-modernist views of culture have greatly affected the concept of culture and language in contrastive rhetoric (Atkinson, 2004). For instance, Sharp (2010) viewed cultural practice as an account for an open view of behavioral or linguistic codes. The definition of culture cannot cement any particular nation or ethnicity; rather, it may influence individual tendencies. Likewise, provocative texts for contrastive study have shifted epistemologically and have enlarged the scope of the field. Early investigations focused upon comparing ESL/EFL academic texts and native English academic texts in order to shed some light on ESL/EFL pedagogy.

The ever-changing theoretical notions of culture in the study of contrastive rhetoric have resulted in new and varied research methodologies in the social science disciplines (Connor, 2004). Previously, contrastive rhetoric covered linguistic text analysis and quantitative study, but currently different research methods have been adopted to display research interests within the field. Even though numbers of scholars have argued that cross-cultural writing promoted by contrastive rhetoric needed to be revised (Atkinson, 2004; Connor et al., 2008), it remains a valuable fundamental proposition to the interrelation of culture and language which affects the rhetorical patterns of language choices. Atkinson (2004) proposed that the

evolutionary potential of culture is, in fact, reflected by a process of cross-cultural writing, rather than by the mere consideration of a product. Besides, Connor et al. (2008) made the claim that by itself, contrastive rhetoric is static, essentialist, and ethnocentric. Accordingly, "intercultural rhetoric" is a new term coined to capture the cross-cultural research models of the current dynamic. The difference is that intercultural rhetoric bonds contextual research and ethnographic inquiry with the broad realms of social actions. This view has brought about a highly dynamic entity perspective of culture.

Intercultural rhetoric (Connor, 2004) is, consequently, a new call for the essential shifts in the area of the discipline of contrastive rhetoric. The objective of this revision of terminology is to include the notion of cultures and rhetorical structures through multiple methodologies. The development started from the issue of ESL/EFL academic writing and its pedagogical practices, and has led to the expansion of contrastive rhetoric into intercultural rhetoric. Intercultural rhetoric is aimed at a more specific purpose and has consequential effects upon multi-research interests and methods (Connor, 2011). Furthermore, this area of study has begun to cover the social situation of writing analysis (Connor et al., 2008) and has had a beneficial effect on a variety of approaches that have advocated the development of sensitivity within the social context and have promoted the interactions between readers and writers through discourses. In addition, it promotes genre-specific study conducted under the writers' backgrounds without the claims of generalization. This is to provide opportunities for writers to gain first-hand experience by participating in the act of writing which has been created to convey L2 contexts, but is mainly based upon the writers' background of his/her local culture.

2.3.5 Studies Investigating Cross-cultural Differences

Contrastive rhetoric and intercultural rhetoric studies have become primary areas for investigation in the independent field of second language writing. Even though Baker (2008) stated that the new term of “contrastive rhetoric knowing” as intercultural rhetoric, it is a revision of contrastive rhetoric because it includes a variety of genres and tends to place a more intense analysis of the text on the corpus linguistics, Connor (2011, p. 154) states in the book "Intercultural Rhetoric in the

Writing Classroom" and has remarked that "contrastive rhetoric, cross-cultural rhetoric, and intercultural rhetoric are used interchangeably to refer to "the study of written discourse between and among individuals with different cultural backgrounds"". Therefore, the following literature revision of cross-cultural differences and academic writing is an inclusion of the contrastive rhetoric and the intercultural rhetoric studies.

Discourse patterns in English and other languages have been investigated by abundant studies in order to explore their similarities and differences. Nevertheless, this line of investigation has been persistently criticized because the organization of the writing is excessively viewed, but only within the narrow perspective of rhetoric. Therefore, from the 1980's onward, the trend in contrastive rhetoric research has been changing in order to compare the non-structural discourse elements in diverse languages and cultures, particularly the interactional aspect of written communication (Indrasuta, 1988; Kamimura & Oi, 1996; Kubota, 1998; Lee, 2006; Liu & Furneaux, 2014; Soler-Monreal, Carbonell-Olivares, & Gil-Salom, 2011; Loi & Evans, 2010; Wu & Rubin, 2000). According to Halliday and Matthiessen (2013), language can simultaneously act upon the interpersonal, textual, and experiential functions, so this approach can be highly productive.

One of the earliest studies in contrastive rhetoric conducted by Indrasuta (1988, as cited in Kubota, 1998) aimed at exploring both L1 and L2 written text within the same group of writers. The investigation captured the work of 30 secondary school students from America, who wrote in English, and more interestingly, 30 students from Thailand who wrote both in Thai and in English. The outcomes of the study showed that the English narrative work of the Thai students differed from their Thai writing and from American students' writings. However, the English narrative of the Thai students was more similar to the narrative elements and to their functions in the former terms. With respect to the results, the researcher's interpretation of the evidence showed that the Thai students had highly taken their local narrative conventions into consideration, and most of these had been mainly directed by Buddhism. Even though the study of Indrasuta (1988) was not directly concerned with the investigation of interactional metadiscourse employed in academic research articles, its findings, involving the use of the English language by both Thai and

American writers has disclosed a substantial position of culture. Despite the fact that the participants were secondary level students, who can be regarded as young learners of English, they significantly disclosed their cultural identity within the text. This has led to the examination of an intriguing topic: whether or not adult writers, who are from non-native English backgrounds, would be more greatly attached to their cultural settings and exposed to academic writing.

The previous investigation was in line with Wu and Rubin (2000) as they explored within-subject design by evaluating the collectivism of the Chinese mentality and the individualism of the American mentality. An argumentative essay was written on two parallel topics by Taiwanese university students (written in Chinese and English) and by American university students (written only in English) and then they were collected. The findings suggested that the American students' essays were expressed in a straightforward manner and conveyed more personal direction than the essays of the Taiwanese students. Both the Chinese and English essays of the Taiwanese students exhibited features of indirectness and lacked self-disclosure. Both the nationality and the L1 language of the Taiwanese students had affected their assertiveness and personal exposure to the texts.

The within-subject investigation, relating L1 and L2 writing by viewing writers as the same individuals, also insightfully yielded the relationship of L1 and L2 writing. Kubota (1998) examined English and Japanese texts written by Japanese university students. A total of 22 students wrote on an expository topic, and another 24 students wrote on a persuasive topic. The advantage of the within-subject approach in contrastive rhetoric was applied in this investigation. The findings showed that 50% of the two types of texts were written with dissimilar rhetorical structures by the same group of the writers. The results also suggested that the differences, found in the organization of both of the languages, opposed the premise of the contrastive rhetoric study in that the organization of the L2 English texts was similar to their L1 text pattern. The influence of the language of their mother tongue had played important role in imposing their L2 rhetoric. Later on, Kubota and Lehner (2004) argued that the new perspective concerning the between-subject design may not have demonstrated individual transfer. Instead, it solely dealt with the question of whether or not the

writers, as members of the groups, represented the use of rhetoric from the same approach.

Connors and Lauer (1988, as cited in Hyland & Milton, 1997) also explored the cross-cultural similarities and differences found in the persuasive writing of 50 high-school students from America, England, and New Zealand. This study aimed at examining the persuasive patterns of students from three perspectives: linguistic, rhetorical and communicative. Additionally, this investigation was concerned with the structure of the argumentativeness, which had been supported by informal reasoning and which touched upon the interpersonal aspect of writing. The results showed that cross-cultural differences were detected in the use of syntactic devices, such as the use of anaphora at the beginning and the epistrophe at the end of the sentences. The language, that was the least formal and the least revised, was created by the U.S. students. This may result in the argument being the least effective because the U.S. students were unable to come up with adequate evidence as students from other countries were.

Kamimura and Oi (1996) also conducted a study by exploring the students' perspectives of rhetorical appeals, diction, and cultural aspects. A collection of English essays from 22 American high-school seniors and from 30 second-year Japanese college students was gathered. The results revealed that the American and Japanese students had shown differences in their argumentation. The American essays showed more empathy by using emphatic devices, such as believe and should; while words employed in the Japanese essays showed emotional persuasion, such as sad and sorrow in addition to hedging devices, such as maybe.

Lee (2006) also worked with systemic functional linguistics (SFL) to investigate the similarities and differences of six Asian and six Australian students. The objective was to learn how the interactional resources of international students (mainly from Japan, Korea, and Taiwan) and Australian-born students were being used in argumentative and persuasive writing. The results of the study indicated that the native English students had displayed a stronger voice and had shown a higher sense of authority than the East Asian students.

Interestingly, Liu and Furneaux (2014) conducted a study by identifying three methodological limitations in English-Chinese contrastive rhetoric research from

other relevant research as follows: 1) the failure to manipulate the quality of L1 information; 2) an inference approach for interpreting the connection between L1 and L2 writing; and 3) an emphasis on national cultural elements in interpreting rhetorical differences. By indicating these limitations, their study explored the regularity and position of the thesis statement and topic sentences of argumentative texts written by three groups of university students. The studied population included 31 British university native English-speaking undergraduates, 18 Chinese university Chinese-speaking undergraduates, and 32 Chinese university third-year English-majors. The results revealed that the Chinese students had tended to use a direct method in their English and Chinese writings, while the native English writers had generally adopted an indirect method. The main conclusion of this study was that in both their English and Chinese writings, the Chinese students had possessed a flexible nature in their rhetorical practices. They could opt for their rhetorical choices; therefore, the overgeneralization made by any limitations of studies could lead to some characteristics which had to be revisited because their rhetorical choices are possibly mainly affected from their rhetorical background. This comparative study led to the investigation of metadiscourse features between English and non-native English research writers in order to discover their choices of words and beyond that, their explanations.

Apart from the examination of the writings of the undergraduate students, the investigation of culture as it relates to research articles has also been explored. Soler-Monreal, Carbonell-Olivares, and Gil-Salom (2011) sought to analyze 20 doctoral theses and their introductory sections of computing written in Spanish and English. The study aimed at ascertaining whether or not writers from diverse cultural and linguistic backgrounds could produce the same rhetorical strategies in order to introduce the study presented in their theses within the same scientific/technological fields. The model of investigation was guided by the Swales's (2004) approach based on move analysis in Ph.D. theses. The analysis suggested that the introductory section of both languages greatly employed the contributions of background information along with the revision of previous investigations. The dissimilarities were that the English writers placed more emphasis on their own work in order to point out their originality and contributions to the area of study. These findings also conformed to

the results of the investigation of interactional metadiscourse markers with respect to the use of boosters and self-mentions. For example, the writing can reveal the quantity and reasons behind such usage, as well as reveal the writer's claim of the authenticity of the text. In short, the cultural background of the Spanish Ph.D. students presented the value and convention of the introductory chapter in the order statement. Their aim was to provide a broad establishment before they moved onto their own positions without giving great concern of genuine value of the introductory section.

Similarly, Loi and Evans (2010) aimed at comparing and contrasting 40 English and Chinese research articles in the field of educational psychology. The Swales's (1990, 2004) framework of move analysis was employed in order to explore the rhetorical organization of the introduction sections. The findings reported the employment of moves and steps and suggested that the rhetorical differences had revealed some of the unique characteristics of the two different cultures, English and Chinese. The introduction sections were characterized by three major features: 1) explicitness, 2) a specification of the value of the research, and 3) the adoption of a critical stance. It was found that Chinese writers had used the three major features to a lesser degree than the English writers had. The values of the cultural traits in Chinese culture had been reflected their writing style. For instance, among the Chinese writers, there was an avoidance of information that was “too apparent” or of expressions that appeared to relate to specific character. The Chinese rhetoric of “ethos” was also found in the introduction as Chinese society values the collective rhetoric of good men's thoughts. As a result of this, Chinese writers might be led to more vividly include it in their writing rather than specifying the implications of their research. Seemingly, the study of Loi and Evans (2010) showed far more concern than the previous investigation of Soler-Monreal et al. (2011) because the discussion of the research paper touched upon the historical perceptions and national beliefs which are constructive to the clarification of the contrastive and intercultural rhetoric.

Moving from genre analysis, when corpus analysis is applied to the study of language and culture, Molino (2010) also investigated the use of language and the cultural influence in research articles. A cross-cultural approach was taken to examine 60 English and Italian linguistics research articles. By analyzing the use of pronouns and the passive voice in both languages, an exploration through the view of culture

and language was performed. The objective was to determine whether personal and impersonal authorial references (as realized by these features) are susceptible to variation across academic writing cultures. The findings indicated that the frequency of the rhetorical devices varied due to the adoption of differing interpersonal strategies (subjectivity or objectivity) within the two academic discourse communities. Personal forms or pronouns were found to be used less frequently in Italian linguistics research articles. It can be seen that native English users tend to be more self-proclaiming within the text in order to gain authority and credibility. Meanwhile, the English writers and Italian writers revealed a similar frequency in the use of impersonal or passive forms. Both corpora indicated the use of the passive voice for explaining procedures, but English writers commonly used these tools to announce goals or purposes and to illustrate the data, while the Italian writers more frequently used the passive voice in stating results and referring back to the text.

In conclusion, Kaplan (1966) introduced a new way of interacting culture with writing by developing contrastive rhetoric. However, Scollon (1997), Spack (1997), Zamel (1997), and Kubota (1999, 2001), pointed out that Kaplan's investigation was not only a succinct view towards language and culture, and that it could also be viewed as a study that supported the superstructure of the Western languages, specifically English (Connor, 2002). In response to contrastive rhetoric, intercultural rhetoric is a conceptual shift from the overly generalized claim of cultural effects in the early notion of contrastive rhetoric studies. The new approach requires studies of intercultural rhetoric, rather than contrastive rhetoric, without totally omitting culture (Connor, 2002). Studies of cultural diversity within an academic genre have been conducted through the perspective of contrastive rhetoric and intercultural rhetoric. The studies have revealed that the use of linguistic devices has been diversely employed by different groups of writers based upon their cultural backgrounds (Indrasuta, 1998; Kamimura & Oi, 1996; Lee, 2006; Liu & Furneaux, 2014; Wu & Runbin, 2000). Furthermore, post-graduate research has been examined (Soler-Monreal et al., 2011; Loi & Evans, 2010). Researchers have also reflected their cultural and learning backgrounds within their scientific indication (Molino, 2010; Rahimpour & Faghih, 2009). Accordingly, the comparative study of interactional metadiscourse among native English writers and English as a second language writers

would make the value of the cross-cultural aspects in academic research writing obvious and would facilitate professional and novice researchers to develop their rhetorical choices towards proper contexts.

The following part will demonstrate the empirical evidence regarding metadiscourse markers from the perspective of cultural and sectional differences in order to better connect with the current investigation in the form of cross-cultural and cross-sectional analysis.

2.4 Empirical Evidence Related to Metadiscourse Markers

The current study is aimed at comparing and contrasting native and non-native English research articles in the field of applied linguistics in order to shed some light on cultural perspectives with respect to the use of metadiscourse markers. In addition, the investigation will be carried out in order to explore the cross-sectional similarities and differences in the usage of these linguistic devices. Therefore, the empirical evidence concerning cultural exploration will mainly be discussed in the following part. Afterward, the combination of cross-cultural and cross-sectional investigations will also be elaborated.

2.4.1 Empirical Evidence Related to Cross-cultural Similarities and Differences

With respect to metadiscourse markers, several studies have explored usage to explain the cultural diversities that exist among users of English from various nationalities. The following studies have been conducted to demonstrate the cross-cultural aspects regarding interactive and interactional metadiscourse markers: student essays (Crismore, et al., 1993), applied linguistics research articles (Burneikaite, 2009; Rahimpour & Faghih, 2009), medical texts (Gholami, Tajalli & Shokrpour, 2014), cross-disciplinary (Dahl, 2004; Pooreesfahani, Khajavy, & Vnidnia, 2012; Zarei & Mansoori, 2007), hedges (Andrusenko, 2015; Atai & Sadr, 2006; Hyland & Milton, 1997; Nasiri, 2012b), boosters (Abdollahzadeh, 2011; Hyland & Milton, 1997; Koutsantoni, 2004; Vassileva, 2001), attitude markers (Blagojevic, 2009; Koutsantoni, 2004; Millan, 2012; Mur-Duenas, 2010), self-mentions (Karahan, 2013;

Kuhi et al., 2012; Mur-Duenas, 2007), and engagement markers (Lafuente-Millan, 2014; Lee, 2011).

The study by Crismore, et al. (1993) placed emphasis on the metadiscourse strategies of 50 students from Finland and the United States. L1 persuasive essays were collected and examined for the use of metadiscourse based on Vande Kopple's (1985) definitions and classifications. The findings revealed that students from both countries used more interpersonal metadiscourse than textual metadiscourse. However, more hedges were utilized by the Finnish students, while a higher usage of certainty devices was common among the U.S. group. This cross-cultural study touched upon the elucidation of culture since the Finns may be historically influenced by their previous domination from the Swedes and the Russians. At the same time, the U.S. citizens placed a high value on strength which was expressed by their use of boosters.

Burneikaite (2009) contrasted L1 and L2 (Lithuanian) writers and their 70 English Masters Theses in the discipline of Linguistics. A new taxonomy introduced by Burneikaite consisted of three main resources which are "text-organizing markers, "participant-oriented" markers, and "evaluative" markers. Firstly, her results suggested that the use of text-organizing markers is the most overwhelming. Secondly, the usage of participant-oriented markers is restricted, and the evaluative markers are spared. The results applied to both the English and the Lithuanian writers. She remarked that even though the overall frequency application of metadiscourse was identical in the L1 and L2 English texts, the particular categories of metadiscourse had been applied differently. Burneikaite came to a remarkable conclusion in that the presentation of different usages among L1 and L2 in English was neither a matter of the mother tongue language nor a matter of culture. Conventional education prompts the students to put their theoretical ideas into practical production and to contribute to diversity in the use of metadiscourse markers in an individual writing procedure.

Rahimpour and Faghih (2009) also examined applied linguistics research articles based on a corpus-based analysis. Ninety discussion sections were used to explore the cultural differences between Iranian and English researchers. Hyland's (2004) metadiscourse markers were applied to the investigation. Even though the

research demonstrated the universal nature of metadiscourse usage, it also showed that by counting each type of marker, the number of interactive markers was employed more significantly than the interactional markers. However, it was observed that native English speakers had used more of the interactional markers than the Iranians had. The overall results illustrated the dissimilarities across native and non-native English writers. Language and culture are commonly and indirectly related at the same time. Effective communication in both written and spoken forms cannot be created in other languages without knowing the structures of those languages. By studying language and culture, metadiscourse markers are beneficial to this field of knowledge by practicing and controlling academic writing in the ways native and non-native English writers perform

Moving from the discipline of linguistics solely, Gholami, Tajalli, and Shokrpour (2014) quantitatively compared and contrasted the metadiscourse markers in 35 English medical texts and their translations into Persian in terms of the numbers and types of markers. The statistical results suggested that there is a significant difference in the frequencies and categories of metadiscourse markers ($P<0.001$) and that the distribution between the original English version and the translated Persian paper is dissimilar. The greater usage of metadiscourse markers in English medical texts explains that they are less restricted than the translated ones. English authors attempt to build a bridge to closely interact with the readers by commenting on the subject and by allowing their readers to become involved in the medical texts more than the translated versions of Persian do. Also, the authentic sources of the text are from different languages. Culture and the norm of explicitness can provide a significant basis for this diversity.

Across disciplines, Pooreesfahani et al. (2012) conducted a study to seek dissimilarities in the uses of interactive and interactional metadiscourse elements. The study analyzed 16 English research articles in two disciplines: eight applied linguistics articles and eight engineering articles which had been written by Iranian academic authors. Both disciplines displayed the use of metadiscursive texts and both used interactive and interactional markers. However, the frequency of interactive markers is higher. The results of the study found that in the written text, the interactive markers had occurred less frequently than the interactional markers.

Pooreesfahani et al. (2012) suggested that the fact that the journal articles had been limited to 16 and that there were cultural diversity factors may have caused this distinguished result.

In the same manner, Zarei and Mansoori (2007) studied the metadiscursive patterns across cultures and disciplines. The study investigated structures within Persian and English in 19 research articles in the fields of computer engineering and applied linguistics. They found that both languages had accentuated interpersonal functions for textual coherence. The authors had used interactive features in their writings to cohesively guide the readers through the text rather than involving and developing a closer interaction with them. Zarei and Mansoori (2007) furthered their investigation in 2011. This investigation was carried out in two languages, Persian and English, but under one discipline, computer engineering. The study tried to go further in the field of engineering in order to discover the similarities and differences across the two languages. In ten non-humanities articles, results showed that both languages had concentrated upon the text's comprehensibility. The interactive function overrode the interaction between the writers and the readers. However, the English articles had used more interactional features than the Persian articles showing that the English authors had placed greater concern on the imagined readers' interpretations.

Study by Dahl (2004) also drew significant attention because the investigation explored the manifestation of 180 research articles written in three languages (English, French, and Norwegian) and covering three different disciplines. The aim was to see the most influential variable governing the pattern of metatext in academic discourse. The investigation collected research articles from three separate disciplines: Economics, Linguistics, and Medicine. The findings suggested that the most important variable was language from economics and linguistics in English and Norwegian. Whereas all three languages displayed similar patterns, little metatext was discovered within the discipline of medicine. The study contributed to the notion of language variability in the area of academic discourse together with an investigation of three dissimilar research articles which had been perceived as "knowledge distributors" within the scholastic community.

To be more precise with respect to interactional metadiscourse marker elements, Nasiri (2012b) stated that academic writers used hedging devices to present their research findings. These linguistic tools allowed the authors to corroborate their empirical findings with the previous investigations in the discussion sections. Meanwhile, hedging devices facilitated their readers to create their own space for interpretation as their findings were not presented in statements of absolute fact, but the devices proposed the results in the form of each writer's position. To this end, the investigation was aimed at exploring the differences between the authors from two different cultures in their utilization of hedges although they were from the same field. This study investigated 20 English research articles of American and Iranian writers in the area of Civil Engineering and attempted to discover the frequency of different types of hedging devices based on Salager-Meyer's (1994) taxonomy. Under the framework, there are five categories which are as follows: Type 1: Shields; Type 2: Approximators of degree, quantity, frequency, and time; Type 3: the Authors' personal doubts and direct involvement; Type 4: Emotionally-charged intensifiers; and Type 5: Compound hedges. The overall frequency shows that the American writers had employed more hedging devices than Iranian writers had. The American authors demonstrated a higher degree of preference for Types 1, 4, and 5. Conversely, the Iranian researchers used more of Types 2 and 3. A chi-square analysis was conducted accordingly to see the probable significant differences, and the results showed that the usage of hedges did not differ in Civil Engineering academic articles.

Atai and Sadr (2006) also witnessed the vitality of hedging devices in academic articles. This study aimed at discovering the cross-cultural genre of applied linguistics research papers and their discussion sections. Additionally, the investigation sought to examine the impact of language and culture on the use of hedges in Applied Linguistics research articles in the English language which had been written by English and Persian speakers using two types of research design: experimental and descriptive. By stratified random sampling, 108 articles were compared for the amount and types of hedges under Hyland's (1998) polypragmatic model through chi-square analysis. According to Hyland, in the discussion portion, authors make claims, which lie beyond the evidence of their results, by inspecting the outcomes and making their interpretations in order to gain academic credibility.

Therefore, the numbers of hedges are high in order that the ratification of their results can be offered in the section. The main types of hedging devices in the analysis were lexical verbs, nouns, adjectives, adverbs, modal auxiliaries, clausal elements, rhetorical questions, and others. The results showed that, of all categories, full verbs had been most frequently used in both the experimental and descriptive writings of the English and Persian authors, followed by modalities. On the other hand, questions were the least employed and were absent from the works of Persian writers. Chi-square analysis also reported that there is a significant difference between cultures in the usage of each of the types of hedging devices. The academic writers chose various kinds of hedges to discuss their results with previous studies and tentative arguments throughout the section even though not all hedges from Hyland (1998) had been used. Native English speakers have a variety of hedges in their textual presentations in order to interact with applied linguistics readers. The smaller number of hedges, used by native Persian speakers, is evidence showing a limited degree of interpersonal approach to the audience. It can be implied that the Persian writers pay more attention to the text itself, rather than communicating in academic writing. Regarding the analysis of hedging devices, this study proposed a different perspective than the previous study by Nasiri (2012b) who suggested that the notion of hedging is more relevant. Nevertheless, the current study witnessed that native English speakers are more fluent and proficient, so they hedge more. The study stated that the reason for the opting of hedges in the academic writing of writers from diverse backgrounds "may be linked to the different culturally determined paradigms and frameworks that influence writers' rhetorical choices" (Atai & Sadr, 2006, p. 53).

The investigation of hedging devices is not only limited to English and its counterparts since English is viewed as the second language of numerous non-native speakers. The exploration of this linguistic device has also been developed to a larger extent in order to answer rhetorical questions in various L1 and L2 languages. Andrusenko (2015) quantitatively investigated the use of hedges in research articles and revealed that Spanish-Arabic metadiscourse analysis was lacking. Therefore, in order to convey a considerable force to the area of teaching and learning in Arabic as a second language of Spanish speakers, an investigation was designed. The purpose of the study aimed at comparing and contrasting this interpersonal feature in the two

languages, Spanish and Arabic, by examining 90 research articles within the field of linguistics between 2010 and 2014. Hyland's (2005a) taxonomy of metadiscourse was applied in this study. The Spanish hedges were derived by utilizing the revision of Mur-Duenas (2011) as the starting point, and then the Arabic hedges were created by translating Hyland's English hedges together with the additional Arabic hedges from the Arabic interactional metadiscourse investigations. The final taxonomy of the Spanish and Arabic hedges was proposed as epistemic lexical verbs, adverbs of frequency, adverbs of modality, and epistemic expressions. The results showed cross-cultural, cross-linguistic, and genre-related differences in the application of the hedging devices. Both Arabic and Spanish authors had used hedges in their writings to mitigate their precision; however, the usage of hedges had appeared with greater frequency in the Spanish research articles than they had in the Arabic ones. The findings showed rhetorical similarities and differences across languages and cultures which could be helpful if they are explained to students who are bi-culturally situated.

Hyland and Milton (1997, p. 193) created a corpus of one million words to investigate students' expressions of qualification and precision in their English writing assignments. The students were divided into L1 and L2 groups, British and Cantonese learners, in order to discover whether or not these two categories of speakers were different. By placing emphasis only on the degree of certainty, the linguistic features of actually, certainly, indeed, in fact, know, think, and will were examined. The findings showed that there were significant differences between the two groups of students. L2 students showed more commitments, but were reluctant to express certainty. Their linguistics knowledge was a case to explain on this point because their native language was Chinese, and there had been indirectness attached to their linguistic repertoire. In their native language discourse, Chinese students know how to compensate for their directness with indirectness. However, their findings showed that non-native speakers used more than half of the devices to strengthen their claims believing that the device conveys "a socially appropriate illocution, but which actually carries an inappropriate degree of directness, deference, or assertiveness for an academic register".

Similarly, Abdollahzadeh (2011) investigated the use of interactional metadiscourse in applied linguistics research articles written by Anglo-American and

Iranian writers. To this end, 60 conclusion sections were selected from leading journals in English which had been written by English and Iranian writers during 2000 to 2004. These were collected and then compared to examine the differences in the usage of hedges, emphatics or boosters, and attitude markers. Placing an emphasis on boosters in this section, the study utilized Vande Kopple's (2002) emphatic forms. He illuminated five emphatic forms, which were involved as follows: “1) adverbs (e.g., certainly, assuredly); 2) phrases (e.g., without a doubt, and with no hesitation whatsoever); 3) clauses (e.g., I am certain); 4) clauses within other clauses (e.g., The proposal, I’m certain, will fail); or 5) exclamatory tags (e.g., That was an error, it was!). Writers may underscore what they believe with an introductory command (e.g., Believe me, it was an error.)" (Abdollahzadeh, 2011, p. 290). However, the study sought a closer inspection of four categories: " a) modal verbs, such as must and should, b) adverbials, such as much, clearly, and obviously, c) adjectivals, such as clear and significant, and d) verbs, such as demonstrate and show" (Abdollahzadeh, 2011, p. 293). In summary, the results demonstrated that the Anglo-Americans had applied the use of emphatics with greater frequency than the Iranian writers had. Adverbials were employed the most by both groups followed by modal auxiliaries. Adjectival or verbal boosters showed the least frequency in establishing the significance of the work by the Iranian writers. Also, native writers showed the same frequencies of verbs and adjectivals in this study. The explanation for these two groups of authors was that the English writers had used boosters to larger extent than its counterpart because their emphatics had served a variety of purposes, such as "to stress the significance and contributions of their findings, boost the current knowledge and scholarship, emphasize the results to elicit a positive evaluation of the same results by the readers, and stress the need for further research on the topic to consolidate its research base" (Abdollahzadeh, 2011, p. 293). Meanwhile, the Iranian authors employed emphatics to underline the general notion in order to support their results and to highlight findings which offered support to their primary hypotheses.

Another study exploring the use of boosters is from Vassileva (2001). The study concentrated on the expressions of commitment and detachment from English (E), Bulgarians (B), and Bulgarians English (BE) articles in order to examine the similarities and differences of the cross-cultural academic discourse. The collections

of research articles were chosen from journals in the field of Linguistics. Chafe's (1985, as cited in Vassileva, 2001) classes of boosters were applied in this investigation. They were termed as follows: “'solidarity' (the case when the author claims shared knowledge with the audience) and 'belief' (when the author states unequivocally that he/she is absolutely convinced of what he/she is saying)” Chafe (1985, as cited in Vassileva, 2001, p. 86). The three most general parts, which were the Introduction, Discussion, and Conclusion portions of the research papers, were analyzed in order to investigate cross-cultural variations. Hedges and boosters were compared before the results of boosting were highlighted. The results showed that, while writing in English, the Bulgarians had used more boosters and fewer hedges than the native English writers. The findings from the three sections of the articles revealed that the English writers had favored hedges and boosters in the Discussion section by having more than 60% of occurrences in this section, but that the hedges had been used more than boosters. Meanwhile, the Bulgarian writers had used twice as many boosters as hedges in the Discussion. It showed that Bulgarian writers had been more certain in elaborating their research outcomes and had felt more encouraged to discuss their points. Next, the overall boosting application results showed that BE had been the highest with respect to the level of commitment in the discussion sections. The reason was that Bulgarians were unfamiliar with the expressions of detachment in English and had found it unnecessary to include indirectness within the text. As for the English authors, they had shown more commitment in the Conclusion sections than in the Introduction sections. Nevertheless, in their initial claims, the Bulgarians authors had used boosters no less than they had in the end results of their studies. This was due to the fact that according to Bulgarians standards, they had stuck to their original claims no matter what deviations had occurred during the course of the examination. These cultural differences dramatically affected the use of boosting devices.

To investigate one more element of interactional metadiscourse markers, Blagojevic (2009) believed that the metadiscourse elements, which were the most responsible for conveying a writer's position, were the attitude markers. As a result, an investigation was then conducted to respond to two questions regarding attitudes or attitudinal markers. The first question was whether or not the different cultural

backgrounds of the academic writers would show differences or similarities in employing the markers. The second was how frequently the writers had used the markers in their written discourses. To answer these questions, works from English and Serbian writers were collected and were analyzed. Forty five academic articles from three academic disciplines of Sociology, Social Psychology, and Philosophy were collected. Next, the articles were compared with respect to the linguistic forms, which had been presented within them, and to the frequency of their incidences within academic articles of the Humanities. The classifications of attitude markers, which had been identified in the corpus of the English text from the Social Sciences research articles, were analyzed. The findings demonstrated that the same linguistic forms had more or less been employed to convey the writers' attitudes in articles written in both English and Serbian. Yet, their occurrence was more apparent in the articles written by the Serbian writers. This fact meant that these authors had been more willing to express their attitudes than their English colleagues had been.

Similarly, Mur-Duenas (2010) studied the expression of writers' attitudes negotiated in a corpus of 24 research articles from Business Management. The objective of the study was then established to analyze the function of the wider cultural context in the presentation of attitudinal values. In addition, the study attempted to ascertain to what extent language and cultural values may be overridden by disciplinary values. As a result, the investigation explored attitude markers in two different languages or two writing cultures: the Anglo-American (international readership) and local Spanish (local readership). The articles were published in 2003 and 2004, and only empirical studies from American and Spanish Business Management journals were respectively selected. Attitude markers in this study were seen as interactional metadiscourse defined by Hyland (2005a). The sub-categories, used in this analysis, were adjectives, verbs, nouns, adverbs, and phrases. Overall, the results indicated a parallel occurrence of use and tendencies with respect to the rhetorical objectives of attitude markers in the two sub-corpora. In the two languages, attitudinal adjectives have been found to be far more common than any other lexico-grammatical attitudinal markers. From the total of 1,000 words for each corpus, a total of 398 adjectival tokens were found in the English sub-corpus, and a total of 288 were found in the Spanish one. The second most frequent lexico-grammatical category of

attitudinal markers in the English sub-corpus was verbs, followed very closely by nouns. The verb support, occupied almost half of the total number of attitudinal verbal tokens in the English sub-corpus. Some other verbs were found in Business Management articles in English that were not found in the Spanish articles. This could indicate that possibly there is fiercer competition with respect to getting an article published in an international journal. Furthermore, Business Management scholars, who had been published internationally, were obviously more prone to express that they had contributed to the discipline. Conversely, in the Spanish sub-corpus, attitudinal verbs were rather meager. Instead, attitudinal nouns represented the second frequency of use in this sub-corpus. In fact, the use of nouns in Spanish was slightly higher than in the English sub-corpus. Similar to the attitudinal verb support, the noun support was the most repeated in English articles. Regarding nouns, importance and limitation in the English sub-corpus and importancia and limitación in the Spanish sub-corpus were the most recurrent attitudinal nouns used in the two languages. The clarification was that the scholars had tried to convene the outcomes of their studies by showing the significance of the results, along with showing the limitations, in order to help expand their credibility in the eyes of their audiences. Furthermore, with respect to the disciplinary values from this study, it could be concluded that when the scholars (from these two cultural contexts) had published their research articles, they had shared their disciplinary values with the other scholars in their field.

Millan (2012) claimed that given the competitiveness existing in the world of academia, writing scholars have tactically deployed attitudinal evaluation to magnetize editors and reviewers in order to convey the message that their studies are valuable and worthy of publishing, as well as that they present inventive and robust outcomes. The diversity of disciplines, cultures, and languages could vary these rhetorical resources. The ways in which writers assert their attitudes would also be in accordance with the readers and would be based on whether the readers' backgrounds were the same as or differed from the authors' and whether the writers were attempting to reach a local or an international readership. Accordingly, this investigation consisted of a corpus of 72 research articles, published internationally in English and selected from three different disciplines, Applied Linguistics (AL), Business Management (BM), and Food Technology (FTech). Correspondingly, 36

Spanish research articles in the same three disciplines were used as the control group. The purpose of the study was to evaluate whether the differences in cultures or languages and the differences in the degrees of competitiveness could establish the use of attitudinal markers. The definition of attitudinal evaluation in this study corresponded to Conrad and Biber's (2000, as cited in Millan, 2012) notion of attitudinal stance. Apart from disciplinary variation in the number of attitudinal markers, the results showed that the authors had depended upon the context of the publication in order to decide on the usage of attitudinal evaluation. In other words, the researchers had endeavored to pose their linguistic strategies so as to promote the great contribution of their investigation in order that their studies could be published internationally. This condition has extensively occurred within the most competitive and urbane disciplinary fields. To be more precise, recurrent attitudinal evaluation has seemed to be greatly required in BM articles, while evaluation was less frequent in AL articles and was very limited in similar articles in FTech. The topic of cultural differences was also a case for further investigation because this study claimed that "some of these differences are arbitrated by the culture where the articles were produced and by the size of the audience" (p. 93). For example, Spanish FTech articles showed that attitudinal markers had been used more often than in those written in English. In contrast, the ENG corpus of BM articles showed roughly twice the number of attitudinal markers as in the SP corpus. The outcome reflects a higher degree of competition needed for acceptance by international publications. Therefore, this contradictory outcome could be explained once the enhanced analysis of the attitudinal evaluation had been stepped forward. To summarize, these outcomes have demonstrated that the need for attitudinal evaluation depends upon the writers' intentions of whether to be published locally or internationally since research articles written for local readers in Spanish contained a lesser degree of the writers' integrity than did certain disciplinary conventions presented in international articles.

Koutsantoni (2004, p. 163) believed that academic authors project themselves with a stance as their resources for appraisal. The definition of stance is the presentation of the writers in the text, while appraisal "represents the ways authors' evaluations, attitudes, and emotions are expressed and managed interpersonally". The purpose of this investigation was, therefore, to capture the appraisal resources made

by the researchers in their academic writings, and to perceive how scientific authors had positioned themselves both interpersonally and intertextually. In order to bring together the taxonomy of the lexical and discourse-based realizations of these markers and their pragmatic functions, the study examined three categories of markers: attitude markers, certainty markers, and common knowledge markers. The investigation was documented from research articles in the fields of Electronics and Electrical Engineering. The collection of 34 articles, dating from 1989 to 2000, was assembled. In addition, the data was analyzed qualitatively and quantitatively, and attitude markers were the only type of marker mentioned in this section. The analysis of these resources was originally mentioned from the perspective of Crismore et al. (1993) in that the taxonomy included "'expression of surprise, of thinking that something is important, of concessions, agreement and disagreement', 'higher verbs expressing attitude' (I hope, I agree, I disagree) and 'sentence adverbials' (unfortunately, most importantly)" (Koutsantoni, 2014, p. 165). Later on, the analysis was comprised of evaluative adjectives (such as significant, interesting, important); evaluative, intensifying, and attitudinal stance adverbs (such as significantly, considerably, unfortunately, respectively); obligation and necessity expressions and modals (it is necessary, must, should); and discourse-based negative evaluations from previous research. The analysis indicated that theses markers had been employed by the authors to assist them in presenting their expertise based on their knowledge. According to the results, 60% of all items accounted for were evaluative adjectives. The expressions were linguistic realizations of the authors' appreciation. These adjectives demonstrated the subjectivity, rather than objectivity, of the text. The adjective value also emphasized the significance of the text, such as crucial and promising, as well as the authenticity of the author's work, such as reliable and robust. However, Hunston (1989, as cited in Koutsantoni, 2004) pointed out that the values of these adjectives are positively or negatively assigned by the community. Eighteen percent of all attitude markers were obligation and necessity expressions and modals which the authors had used to stress their important points and to declare certain actions as crucial to their audiences' attention. Next, there were the adverbs which had conveyed their emotions and expectations by bonding through interactions with the readers. Negative judgments, which had been limitedly expressed in the corpus as the

tokens, could be omitted. Furthermore, discourse-based expressions of disagreement had frequently appeared in the form of shared agreements in that further study was required with regard to certain topics.

Under the cultural perspective, self-mentions were also investigated. Karahan (2013) studied the distribution and frequency of self-mention markers used by Turkish and Non-Turkish writers in English. The researcher stated that there were two main perspectives of first person pronoun employment, which had been proposed by Halliday and Hasan (1976, as cited in Karahan, 2013): the traditional text linguistics and information presentation. Firstly, the traditional text linguistics explained that the first person pronouns were the devices of personal reference. Additionally, the information presentation (or the "I" and "we" perspective), which had been the main focus of this study, reflected the author-knowledge relationship and social relation. The objective of this study was to explore the similarities and differences in the rhetorical style of the first person pronouns among Turkish and Non-Turkish writers in English academic writing. The qualitative and quantitative studies consisted of 40 research articles randomly selected from the English Language Teaching (ELT) Journal, 20 by Turkish writers and 20 by their counterparts. The quantitative results showed that the Non-Turkish authors had more than doubled their use of the "I" perspective as compared to the Turkish authors (83 times versus 36 times). Regarding the "we" perspective, the total frequency had been higher than the use of "I". However, the Non-Turkish authors had still come up with a greater frequency of "we" than Turkish authors had (84 times versus 68 times). More specifically, the inclusive *"we"* was most employed (74 times) by the Non-Turkish authors, while the Turkish authors used it 46 times. The only occurrence in which the Turkish authors outnumbered the Non-Turkish authors was in the use of exclusive *"we"*. The Non-Turkish authors demonstrated only 9 instances, whereas the Turkish authors showed 23 instances. The explanation for this could not have been the condition of local versus international publication because both corpuses had been written in English, and the authors, therefore, had had equal opportunities of being published internationally. Instead, the analysis illustrates the notion of cultural differences among two groups of writers in that the Turkish authors, particularly in the Turkish EFL setting, "may conventionally avoid the use of first person pronouns

due to the preconceived notion of impersonal and distant academic discourse" (Karahan, 2013, p. 319).

Both qualitatively and quantitatively, Mur-Duenas (2007) examined the use and distribution of self-mentions across cultures. The analysis aimed at contrastively analyzing the employment of these English interactional markers and Spanish Business Management (BM) research articles with an international readership from North American universities and from Spanish national universities. A corpus of 24 BM articles was taken from four different U.S. journals: Academy of Management Journal (AMJ), Strategic Management Journal (SMJ), Journal of Management (JM), and Journal of International Management (JIM). In addition, articles were taken from four other Spanish journals: Alta Direccio´n (AD), Direccio´n y Organizacio´n de Empresas (DyO), Revista Europea de Direccio´n y Economı´a de la Empresa (REDyEE), and Investigaciones Europeas de Direccio´n y Economı´a de la Empresa (IE) for the corpus. All articles, comprising the corpus, had been published in 2003 and 2004. The underlying reason for solely gaining analytical outcomes in the field of the Social Sciences was that the academic knowledge "is possibly more prone to be culturally bound than in pure sciences" (Mur-Duenas, 2007, p. 146). The findings showed that as authors the American-based BM scholars, who had addressed the international discourse community, had demonstrated more self-presentation than their Spanish colleagues had used when addressing the national academic community in Spain. Also, the numbers of first person plural subject pronouns (we), object pronouns (us), and possessive adjectives (ours) in the English articles were far greater in number than in the Spanish BM articles. The researcher explained that Anglo-Saxon speakers are generally believed to use possessive adjectives more regularly than their Spanish counterparts. Therefore, "this difference in the realization of plural self-references in BM RAs in both sub-cultures could at least be partially explained in terms of the different language systems" (Mur-Duenas, 2007, p. 149). Apart from that, the sectional analysis showed the greatest difference of plural self-references in the Methods sections. English scholars had felt less inclined to express their procedures and had preferred to act more in a research role in their papers than Spanish scholars had. Moving on to the area of first person single pronouns, it was reported that the first person object pronoun (me), the first person possessive adjective

(my), and the possessive pronoun (mine) were not found in the Spanish corpus. Only 17 tokens of "I" were featured in the English sub-corpus in the only research article written by a single-author. The scarcity can be partly explained by the numbers of the authors and by the implication of the Face Threatening Act (FTA) of Brown and Levinson (1987, as cited in Mur-Duenas, 2007) and Myers (1989, as cited in Mur-Duenas, 2007). Moreover, diverse cultural norms and traditions may explain the rhetorical choices to use or not to use first person singular self-references in this study. The frequency and distribution of self-citation in this corpus revealed that the English authors had intruded into their work more frequently than their counterparts because the competitiveness among scholars to publish their works is greater. Accordingly, self-mentioning features had helped in gaining credentials and in presenting themselves as the originators of their works. In conclusion, the results revealed that national Spanish cultures had been more prone to positive politeness strategies because they emphasized in-group and involvement in their texts (Hickey, 1991, 2005, as cited in Mur-Duenas, 2007). While, the Anglo-Saxon cultures had seemed to favor the use of self-mentions to a greater extent in order that they could obtain the legitimacy and authority of their works within the immense cultures of academic writing.

Wu and Zhu (2015) also investigated the use of self-mentions in research articles. The category of self-mention in this study was restricted to first person and third person pronouns with a corpus of 45 English a 45 Chinese research articles. The collection was from 2004 to 2011 publication. The English journals from which the data was collected are Applied Linguistics (AL), Journal of Pragmatics (JP), Language Teaching Research (LTR) and Language and Speech (LS), all of which are on the SSCI journal list. The Chinese journals were Yuyan Yanjiu (Studies in Language and Linguistics) (CSLL), Yuyan Wenzi Yingyong (Applied Linguistics) (CAL), Hanyu Xuexi (Chinese Language Learning) (CLL) and Yuyan Jiaoxue yu Yanjiu (Language Teaching and Research) (CLTR), all of which were on the CSSCI journal list. The overall results indicated that Chinese researchers used more self-mentions than English researchers (1.92 and 1.61). Also, it was found that first person pronouns such as we and I were used more than third person pronouns such as the writer and the researcher in both corpora. These finding indicated that researchers

were aimed to emphasize their research contribution and take credit for their academic accomplishment.

Quantitatively, Kuhi, Tofigh, and Babaie (2012) investigated the self-representation of Iranian and American writers by the means of a writer's explicit self (first person self-references) and implicit self (imperative forms and attitude markers). In order to determine the distribution of first person pronouns, imperative forms and attitude markers; forty research articles, written in English by Iranian and American academics and published from 2008 to 2011 in the field of Computer Engineering, were analyzed under Hyland's (2005a) metadiscourse markers taxonomy. Due to the relevance of this study, only self-mentions will be reviewed. One of the methodological conditions was that all of the research articles, included in the study, were to be written by multiple-authors. Therefore, only the frequency of the explicit representation of the writer's self, as exhibited by first person plural pronouns, was calculated. Also, the semantic references of the plural pronoun 'we' as inclusive or exclusive were analyzed according to their functions. The results revealed that Iranian and English scholars had presented themselves as almost equally explicit. Remarkably, the Iranian writers had utilized the explicit self more than American writers had (9.82 versus 7.85). The highest frequency of all explicit self belonged to the subjective pronoun, "we" (14.32); followed by the possessive adjective, "our" (2.95) and the objective pronoun, "us" with a frequency of 0.45. As is apparent, the Iranian scholars had applied the subjective plural pronoun, "we" (7.94) with greater frequency than American scholars had (6.38) in this corpus of Computer Engineering research articles. It is worth noting that the essence of the authors' cultures and their pragmatic motivations had lead to their diverse linguistic preferences. The results of exclusive and inclusive "we" in the corpus showed similar outcomes in that the Iranian writers had exhibited a greater use of exclusive "we" (7.68) than American writers had (6.05). Nevertheless, a higher frequency of the inclusive "we" was shown by the American writers (0.33), while the Iranians exhibited only 0.26. It is noteworthy that the traditional views of "objectivity versus subjectivity" and the "local versus international" perspectives could no longer completely explain this investigation as the prior investigations had been able to do. Rather, the Iranian scholars had presented themselves by denying the conventions of the non-native

writers' conceptions of being introverted and by refuting the traditional views of objectivity and impersonality in the Computer Engineering field that the American scholars had performed.

The final element of the interactional metadiscourse markers is engagement markers which have also been explored from the viewpoint of cross-cultural differences. Lafuente-Millan, (2014) stated that engagement markers are vital interpersonal means to relate writers to readers and to help assist the writers' stances. The scholar posited that the cultural background and language of the writers had only little investigational value which could affect the use of these devices. In addition, with respect to the context of the publication, the ways in which the academic authors decide to use these strategies should be explored. As a result, the study's aim was to quantitatively and contrastively analyze a corpus of 24 Business Management articles. Considering the diversity of the cultures and languages as a topic to be comprehended, the Anglophone or English and Spanish articles were selected from the context of local and international publications. The corpus was divided into three categories: English, Spanish, and English Spanish. The present analysis only emphasized the use of pronouns, possessives, directives, and questions engagement markers. After the quantitative analysis, chi-square statistical tests were performed. The results, obtained from this study, indicated that the language and context of the publication and the national culture had revealed diverse effects on the use of engagement markers. Even though the context had influenced the use of these features to a certain degree, cultural values had played a more important role in defining the use of these strategies. For example, even though their work was published internationally, the Spanish writers had deployed rhetorical forms which were only consistent with respect to their own cultures. One more aspect of L1 transfers to L2 proficiency had some bearing on the use of these features. The rhetorical structure, which the Spanish writers used in their own language, had been displayed in their English academic writing which meant that their command of English and their interlanguage were both lacking.

Similarly, Lee (2011) conducted English-Japanese contrastive rhetoric research to observe the way that language is used to express opinions in writing. The examination involved 60 research articles taken from academic journals in two

languages (English and Japanese). There were the TESOL Quarterly and Nihongo Kyoiku (Journal of Japanese Language Teaching) from the year 2007 to 2011. All sections were analyzed because the scholar had claimed that the features were not restricted to any individual section. The framework of Hyland (2005a) was used to compare stance and engagement. By only underlining the results from engagement markers in this investigation, five sub-categories (reader pronouns, personal asides, appeals to shared knowledge, directives, and questions) revealed the nature of the data differently. It showed that the frequent use of engagement markers in Japanese was greater than in English. The engagement subcategory of 'questions' was most employed in both English and Japanese, but the total number in Japanese was much higher (59 versus 32.4). Moreover, this was the only Japanese item that had surpassed the English ones. The cultural background of the Japanese could help to explain the occurrence as "Hyland (2002, as cited in Lee, 2011, p. 68) points out: 'questions' are the strategy of dialogic involvement, inviting engagement and bringing the reader into an arena where they can be led to the writer's viewpoint. Japanese tendency to use this strategy has been observed in spoken language as well". Interestingly, very few 'reader pronouns', 'directives', and 'shared knowledge' were found, and there was no occurrence of 'personal asides' shown in the Japanese research articles. Furthermore, according to the previous study of Lee (2009) regarding the stance and engagement expressions in 60 newspaper editorials, an investigation was performed to compare the differences in the use of metadiscourse markers across genres in journalistic and academic research articles in English and Japanese. After the journalistic genre had been compared, the frequent use of 'questions' in both journalistic and academic writing had been demonstrated and this was believed to be due to the linguistic and rhetorical characteristics of Japanese writing. Dissimilarly, not only had the English academic writing demonstrated less concern with respect to engagement markers than those in Japanese academic writing, it had also revealed a less frequent usage of engagement expressions than those in journalistic writing.

2.4.2 Empirical Evidence Related to Cross-cultural and Cross-sectional Similarities and Differences

Metadiscourse study has not solely undergone cross-cultural investigation, cross-sectional analysis has also been conducted to reveal the similarities and differences in the use of hedges (Getkham, 2011). Also, the empirical evidence of cross-cultural differences, as well as cross-sectional differences, in the use of metadiscourse markers in relation to interactive and interactional metadiscourse markers (Salek, 2014), merely interactional metadiscourse markers (Mirzapour & Mahand, 2012), hedges (Davoodifard, 2008), and self-mentions (Martinez, 2005; Munoz, 2013) have also been demonstrated.

To start, Getkham (2011) conducted a study of hedges in Applied Linguistics research articles in order to compare the usage of these devices in the four sections: Introduction, Methodology, Results, and Discussion (IMRD) (Swales, 1990) of different journal titles. Based on the Thomson scientific database, sixty research articles published in 2006, selected from the top five journals (Brain and Language; Computational Linguistics; Journal of Memory and Language; Journal of Speech, Language, and Hearing Research; and Studies in Second Language Acquisition), were collected for this study. Getkham was particularly interested in investigating lexical verb hedges, modal verb hedges, adjective hedges, and adverb hedges. Descriptive statistics, followed by ANOVA and the post hoc Scheffe test, were used to determine the differences in pairs. The results showed that the greatest use of hedges occurred in the Introduction sections, followed by the Discussion, Methodology and Results sections, respectively. Modal verb hedges were mostly used in all sections. Differences in the use of hedging devices across journal titles also occurred. Though, there were no differences in the use of lexical verb hedges across journal titles, the modal verb hedges were the most highly used in Computational Linguistics.

Salek (2014) believed that academic writers viewed English as a lingua franca which portrays a different culture through research articles. In addition, the research writers also employed metadiscourse markers to help them enhance their interactions with their readers. Therefore, the study was conducted to discover the metadiscourse markers used by native English writers in their research articles including the following: 'Abstract', 'Introduction', 'Review of the Literature', 'Methods and Results',

and the last part, 'Discussion and Conclusion' sections. The study differed from the others in the sense that these ELT research articles were investigated not only with Hyland's (2005a) taxonomy, but also with the model by Abdi, Tavangar Rizi, and Tavakoli (2010). The study was conducted with a belief that it would yield the needs of non-native English academic writers. The additional resources, used in this study, were derived from Hyland (2005a) and consisted of interactive collapsers and interactional disclaimers as mentioned above. The findings suggested that the total number of research articles had shown high numbers of interactive features. For example, the collapsers represented a symbol of 'Abstract', endophoric markers were seen as a symbol of the 'Methods and Results', and evidentials were viewed as a symbol of the 'Review of the Literature'. Interactional features were chosen differently, but high percentages of hedges, boosters, and attitude markers were shown in the 'Abstract' and 'Discussion and Conclusion' sections. Because this research had sought to find a rule that could govern academic writing in order to assist academic writers, the findings were parallel to the framework of Hyland (2005a). For example, the result revealed that the numbers of hedges and boosters were almost equal. There was roughly a one percent discrepancy within the analyzed research articles. Hyland (2005a) believed that boosters cannot demonstrate the aptitude of language and that placing boosting devices with hedges helps to attain upper grades. Therefore, these two features should be used evenly in academic writing in order to "balance objective information, subjective evaluation and interpersonal negotiation, and this can be a powerful factor in gaining acceptance for claims".

To investigate interactional metadiscourse markers, Mirzapour and Mahand (2012) studied 20 Library informational (LI) and Computer science (CS) research articles to observe the similarities and differences of hedges and boosters among native and non-native English authors. The incidence was also analyzed to study the frequency from three rhetorical sections: Abstracts, Introductions, and Conclusions published from 2004 to 2011. The study applied Holmes' (1988, as cited in Mirzapour & Mahand, 2012) classification of the following five lexical devices: modal verbs, lexical verbs, adjectives, adverbs, and nouns. Researchers had usually employed hedging devices in their Discussion sections of LI and CS. The categorical distribution of hedges in the LI and CS articles showed that the modal verb hedges

had been used the most frequently by the both native and non-native writers. The results of this investigation were in line with Getkham's (2011) study which explored the use of hedges in applied linguistics research articles specifically. Both results revealed that the highest use of modal verb hedges occurred in cross-sectional and cross-cultural aspect of research articles. It was also reported that the highest incidence of hedges by native writers in the Abstract sections had been found in the LI articles. However, the highest incidence of hedges also reoccurs in non-native Conclusion section. A further study, which has already been mentioned in the section on hedging, is from an investigation by Mirzapour and Mahand (2012). In order to compare and contrast the hedging and boosting devices in 20 research articles from native and non-native writers, the frequency of the devices was detected. Library Informational (LI) and Computer Science (CS) research articles and their three rhetorical sections; Abstracts, Introductions, and Conclusions; were explored under Holmes' (1988) classification of the five lexical devices: modal verbs, lexical verbs, adjectives, adverbs, and nouns. By considering boosters as a single subject for discussion, the results demonstrated that modal verb boosters had exhibited the highest frequency among all of the types of boosting devices. Also, they had been most frequently employed in the Conclusion sections. However, the non-native writers had demonstrated the highest incidence of boosters in their LI Abstracts, whereas the Conclusion sections of the native English writers had contained the most boosters. Additionally, the Conclusion sections of CS articles had shown the highest incidence of boosters from the non-native writers. Overall, boosters had occurred mostly in the Conclusion sections, and both native and non-native writers had applied more modal verb boosters than other categories in both disciplines.

In the same way, Davoodifard (2008) explained that hedges were the expression of likelihood and tentativeness. Academic discourse authors used hedges to cautiously put forward their propositions in an essential and integral part. With respect to the degree, that the authors had employed the use of hedging devices in their academic writings, certain cultures and the scientific nature of academic disciplines were studied to a large extent. Therefore, this study sought to analyze research articles from four different disciplines in English and Persian by comparing and contrasting the applications of hedging devices in their discourses. The

establishment of similarities and differences would yield an explanation of the culture and the language of the authors from each of the disciplines. The collection of 80 research articles was analyzed. The articles were from hard science (Chemistry, Medicine, and Civil Engineering) and from soft science (Psychology). For the sake of uniformity, only studies, conforming to the Introduction, Methodology, Results and Discussion sections (IMRD), were considered for analysis. This study also applied the model of Hyland's (1996) polypragmatic phenomenon to categorize the function of the hedges. As previously mentioned, the main categories, namely content-oriented and reader-oriented, were distinguished. The results revealed that there had been significant differences in both frequency and function in English and Persian among four disciplines. The findings showed that all English papers hedge more frequently than the Persian ones. The English Psychology and Medicine articles had had the highest and the second highest hedge percentages, respectively. In contrast, medicine articles in Persian, had reported the smallest percentage of hedging devices. The conclusion of this study was that English research articles had favored interacting with the audiences using reader-oriented hedges, while the limited diversity of hedging devices in Persian had shown the tendency of using content-oriented hedges in Persian. One of the more interesting comments from this study was that the results had implied the identity differences from one culture to another. According to Hyland (1997), ideological schema controls the authors of certain communities to convey their identification, knowledge, goals, and conduct. As their membership exercises their roles, they use language to reflect their specific cultures. Their values and conventions showed that English and Persian academic writers had responded differently in terms of using this linguistic feature to transform their findings into their own knowledge. English authors had used hedges to present personal ideas, but there were fewer presentations of hedges among the Persian authors.

In contrast to the previous study, Munoz (2013) investigated the presence of "I" in English and Spanish research articles. In order to explore the writer and reader interaction, a corpus of 60 research articles in the fields of Linguistics, Education, and Psychology was collected. The conditions for the selection of the journal articles were that their IMRD sections needed to be published between 2005 and 2007. Also, the publications, selected for each of the disciplines, had to be taken from leading

academic journals. Based on Tang and John's (1999) concept of "creating identity", the investigation developed a refined taxonomy of self-mentions as follows: “I as the Representative”, “I as the Guide”, “I as the Architect”, “I as the Recounter”, “I as the Opinion holder”, “I as the Interpreter”, and “I as the Originator”. The results showed that there had been no dramatic differences between the English and the Spanish articles in the use of “I as the Representative” and “I as the Guide”. However, the Spanish authors had demonstrated the use of "I as a guide" to their readers in order that their readers could be led to the significance of the text. “I as the Architect” revealed that the writers from both cultures had, to the same extent, used "I" to emphasize the organization, but the Spanish authors had used it more often as an organization signal to reference the previous point. Moreover, English writers had projected themselves in the use of “I as the Recounter” more often than Spanish writers had. They had also been more persuasive in their choices of methodology and had shown more credentials to illustrate their professional performance as research process performers. “I as the Opinion holder”, “Interpreter”, and “Originator” showed only a small quantity of difference between the writers of the two languages. In conclusion, “I as the Recounter” was most frequently used in both languages. In the text,

> English writers overtly present themselves in terms of the steps and procedures followed in their research process, and that they also prefer to elaborate arguments and present ideas that portray them as confident, competent, and knowledgeable researchers. Spanish writers, on the other hand, show differences in their rhetorical choices since they are more evaluative of facts and information, and when interpreting their results and outcomes, claiming in this way authority and power to do so.” (Tang & John, 1999, p. 55)

From the results, it can be seen that cultures having two different languages can significantly influence the use of the "I" perspective. This investigation can be understood in light of the local and international discourse communities. The total number of "I" in English journal articles is superior as the writers might have to be

more explicit in their claims and competency in order to compete within the context of global academia. On the other hand, the Spanish discourse community is obviously smaller, so the writers have less pressure placed on their credibility.

Martinez (2005) also studied the use of first person pronoun 'we', 'our', and 'us' among native (NES) and non-native English writers (NNES) Biology research articles. This sectional comparative study explored the Introduction, Methods, Results, and Discussion (IMRD) sections as discussed by Swales (1990). It examined English academic texts written by English scholars from English speaking countries and Spanish speakers from Argentina. The results showed that although all sections had shown cases of first person pronouns per 10,000 words, the Discussion sections had revealed the highest incidences among the four sections. NES had also shown the highest occurrences in the Discussion sections (59.6 cases), followed by the Results sections (48.0 cases). Additionally, NNES had shown the highest incidence of self-mentions in the Introduction sections (39.0 cases) and Discussion sections (29.5 cases). The overall occurrences illustrated that the NES had presented the authorial self of first person pronouns with twice the frequency of NNES. This evidence indicated that NNES had underused the first person pronouns, mainly 'we', but had overused 'our' and 'us' in some sections. Spanish culture possibly explains the incidence that the usage of first person subjects, 'we', can lead the readers to misinterpret that the author is egocentric and pompous. When NNES transfer their perceptions into to English, they might find it easy to distance themselves from those rhetorical choices in order to avoid such characteristics. On the other hand, NES project a sense of international culture and authorial presence within the text. As mentioned in the previous studies, native English speakers seek to maintain their parts in the investigation. The conception of a writers' intrusion and involvement in the text do not naturally convey a negative signification to the readers. Rather, it is believed that self-mentions benefit the authors markedly when it comes to the world of academic publications (Hyland, 2001; Kuo, 1999; Tang & John, 1999).

2.5 A Summary of the Review of the Related Literature

To summarize Chapter Two, the review of literature starts from the notion of academic writing and its connection with the concepts and categories of the study. The scope is presently pointed to research writing and non-native English writers together with the rhetorical model in English research articles. Metadiscourse and its theoretical framework have also greatly augmented the relevance of the current investigation. The models of metadiscourse markers proposed by Vande Kopple (1985), Crisemore et al. (1993) and Hyland (2005a) are illustrated in order to describe the diachronic development before highlighting Hyland's (2005a) interactional metadiscourse markers. The three models are presented dissimilarly as Vande Kopple proposed textual and interpersonal functions of metadiscourse with their elements in indicating the readers through the text. However, Crismore et al. (1993) noticed the overlapping functions, so the researchers re-categorized by adding two sub-categories to textual metadiscourse as textual markers and interpretative markers. Then, under Halliday's perspectives, Hyland has developed and renamed metadiscourse classification to interactive and interactional metadiscourse. All five elements of Hyland's (2005a) interactional metadiscourse are also theoretically demonstrated, and their relevant literature explains what and how they are significantly studied to the academic extent. To this end, the final part of Chapter Two focuses on cross-cultural and academic writing by reviewing the concept of contrastive rhetoric initiated by Kaplan (1966) and developed into intercultural rhetoric by Connor (2004). Both notions have played important roles in studying language and culture specifically for academic writing, and furthermore, they are inseparable. The emphasis on cross-cultural and research writing is subsequently proposed to methodologically and theoretically present understanding through the development of the research. Finally, the empirical evidence related to metadiscourse markers from the perspective of cross-cultural differences and cross-cultural and cross-sectional differences are presented in the last section. The main findings are that the usage of metadiscourse markers is significantly influenced by a writer's native background (e.g., Andrusenko, 2015; Atai & Sadr, 2006; Crismore, et al., 1993; Rahimpour & Faghih, 2009; Hyland & Milton, 1997; Gholami et al., 2014; Pooreesfahani et al., 2012). Moreover, the

studies of cross-cultural and cross-sectional analysis have demonstrated that metadiscourse markers are employed differently in their usage by native and non-native English writers as most studies demonstrate a higher use of metadiscourse markers in native English writers than its counterpart (Davoodifard, 2008; Martinez, 2005; Mirzapour & Mahand, 2012; Munoz, 2013; Salek, 2014).

From previous studies, it is evident that metadiscourse markers play important role in writing research papers. Therefore, the researcher of this investigation expects that the cross-cultural and cross-sectional differences which could be found from the analysis would help better understanding in communicating across cultures and in using English as an international language for research publication.

Chapter Two also ends with a summary table addressing the relevant literature in order to create a clear picture before moving on to the next chapter, Research Methodology.

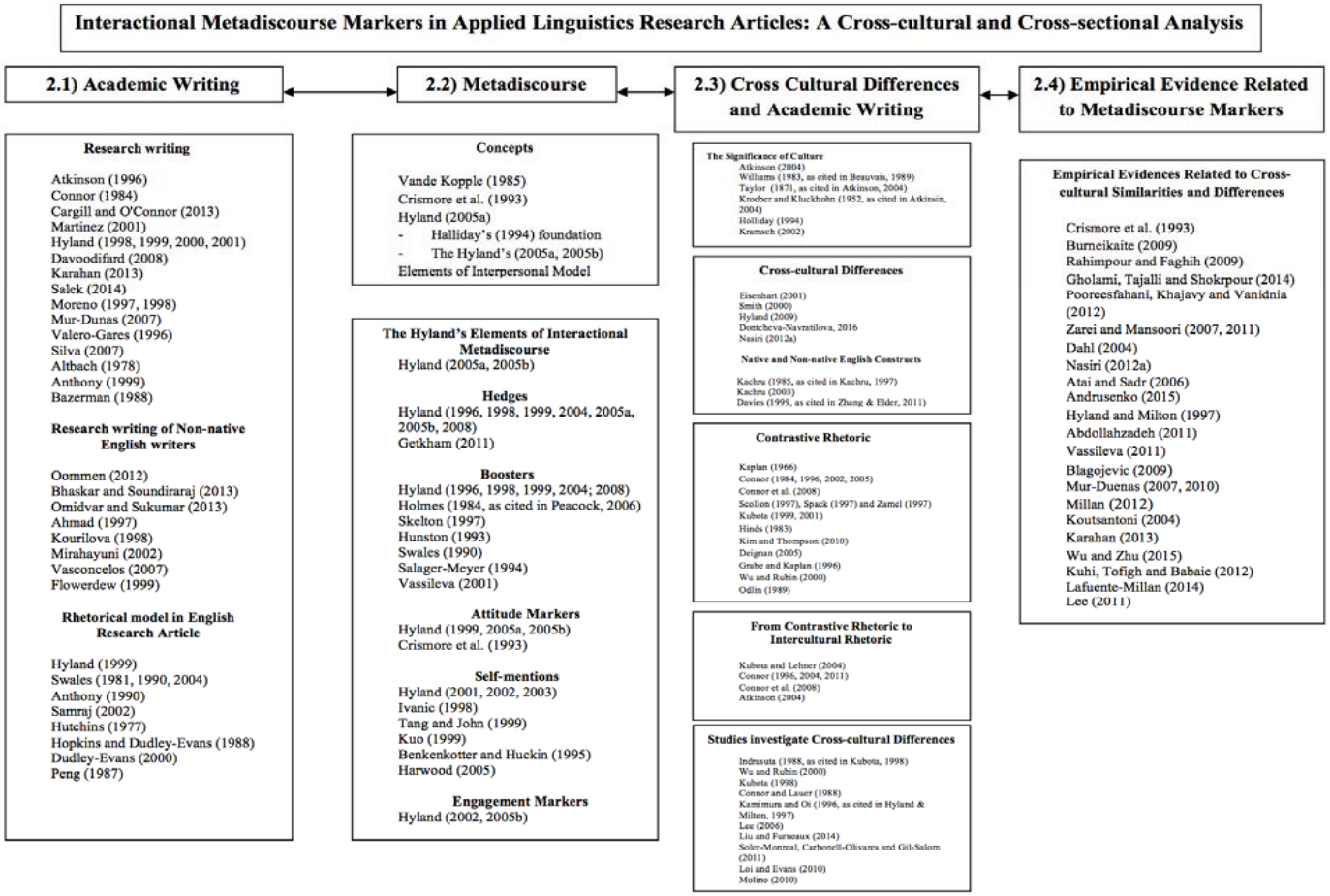

Figure 2.2 Summary of a Review of Related Literature

CHAPTER 3

RESEARCH METHODOLOGY

The objective of this investigation is to analyze research articles written by native and non-native English scholars in the field of applied linguistics from the perspective of contrastive rhetoric and their use of interactional metadiscourse markers. This chapter aims at demonstrating the procedures used in the investigation to accomplish the research objectives. In order to achieve the purposes of this study, the creation, validation, and analysis will be presented.

The analysis of this investigation was designed for a mixed-method which included a quantitative analysis of similarities and differences in the two corpora by presenting figure demonstration and by authenticating the research findings in greater evidence. This was followed by a qualitative analysis of discussing the functions of each type of interactional metadiscourse markers. To this end, the research design, corpus, the process of data collection, instrumentation and procedure, as well as the data analysis will be explained respectively.

3.1 Research Design

The study adopted a mixed-method design, a quantitative and a qualitative method, to compare and contrast interactional metadiscourse markers in Introductions, Methods, Results and Discussion sections of applied linguistics research articles by native and non-native English writers. The corpus analysis, complemented by the mixed methodology, provided augment the validity of the research findings and had been conducted by several researchers (e.g., Abdollahzadeh, 2011; Getkham, 2010; Hyland, 2006). The research design was summarized in Figure 3.1 to clarify the procedure in this investigation.

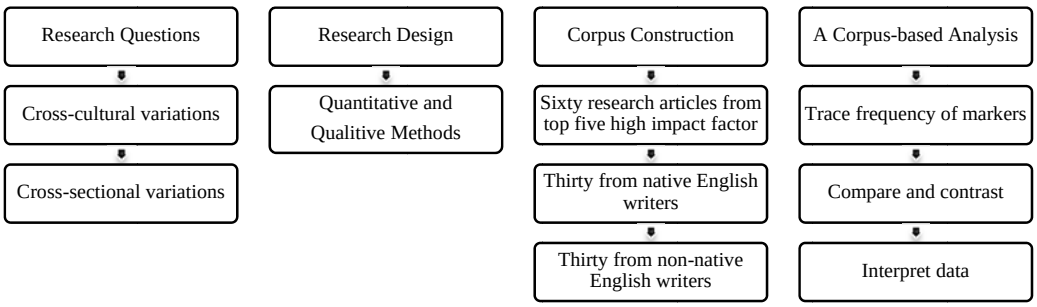

Figure 3.1 Research Design Flow Chart

3.2 The Corpus

Wynne (2005) suggested that the minimum size of a corpus depends on two major factors. The first factor is the question that is anticipated by the users. The second factor depends upon the methodology that will be used to analyze the data. As in previous investigations, a corpus-based analysis can be as small as 16 files (Pooreesfahani et al., 2012) and as large as 180 files (Dahl, 2004) since the conditions are subjunctive and arbitrary.

Based on the proposal, the size of this corpus was designed for 60 research articles which could be divided into two sub-corpora: native English research articles (NE's) and non-native English research articles (NNE's). The size of the native English corpus was 30 articles while its counterpart, the non-native English corpus, contained another 30 articles. The total amount of data was demonstrated as follows:

30 (NE's) x 4 (IMRD) = 120 files
30 (NNE's) x 4 (IMRD) = 120 files
Total = 240 files

The total amount of 240 files could represent the deemed information of all four research questions because the approximate size was adequate enough to analyze the frequency of each of the interactional metadiscourse markers. Furthermore, in order to help the researcher gained distance from the issue of the particularity of styles

for each of the writers, random sampling was applied. Research texts, that were published between 2006 and 2015 (a ten-year-period), were also be accumulated to ensure that the files were be drawn as sample texts and contributed a similar representation of the interactional metadiscourse markers that have been used in these years. Also, the ten-year-period offered better opportunity in random sampling selection of native and non-native English research writers. By primarily using writers' names as main source of collection, the ten-year-period could make possible the distinction between native and non-native English writers than selecting from a shorter time frame. In addition, although considering research articles written other than the ten-year-period would offer wider ranges of writers, the data in this investigation would not be considered as recent and the presentation of writers might be too diverse to study. It was significant to note that the targeted writers in the current study were considered scholars or advanced English language users. They were expected to fulfill the English language proficiency requirement and to be able to conduct scientific investigations on their own.

The total corpus size was approximately 495,301 words which could be divided as 230,612 words from native English writers' research article corpus and another 264,689 words from non-native English writers. This included total number of Introduction sections (I) for 138,919 words, Method sections (M) for 111,528 words, Result sections (R) for 110,896 words, and Discussion sections (D) for 133,958 words. The table summaries of words in each corpus were presented in Table 3.1 and 3.2.

Table 3.1 Summary of Running Words Included in Native English Research Article Corpus

Research article	I	M	R	D	Total size
NE1	1040	1503	407	2511	5461
NE2	440	785	2034	1433	4692
NE3	1159	2510	1743	1764	7176
NE4	2161	3039	1902	2407	9509
NE5	583	637	3180	1528	5928
NE6	1590	1720	2350	1310	6970
NE7	2681	1814	1954	2456	8905
NE8	1840	809	1466	2071	6186
NE9	2913	2883	1431	1909	9136
NE10	1876	2967	965	2106	7914
NE11	375	1394	1764	2169	5702
NE12	950	2319	627	3331	7227
NE13	1177	514	1497	463	3651
NE14	763	298	2123	1730	4914
NE15	614	1105	1275	1364	4358
NE16	604	1301	1052	1727	4684
NE17	2238	492	2120	1694	6544
NE18	574	538	2893	669	4674
NE19	6926	1712	956	2130	11724
NE20	1514	2648	878	1939	6979
NE21	606	2071	2150	1997	6824
NE22	4154	2670	986	1391	9201
NE23	799	1633	946	2088	5466
NE24	3419	1880	1091	1316	7706
NE25	1516	2127	2180	1943	7766
NE26	3023	627	2300	1651	7601
NE27	1481	2497	1073	1870	6921
NE28	1964	2486	824	1413	6687
NE29	2041	758	1366	1766	5931
NE30	1888	2798	2318	2295	9299
Maximum	6926	3039	3180	3331	
Minimum	375	298	407	463	
Average	1763.6333	1684.5	1595.033	1814.7	
Total size	61973.633	55556.5	53033.03	60049.7	230612

Table 3.2 Summary of Running Words Included in Non-native English Research Article Corpus

Research article	I	M	R	D	Total size
NNE1	4360	1678	897	2626	9561
NNE2	2191	1261	1714	1654	6820
NNE3	2833	2552	3049	2051	10485
NNE4	2353	1476	1042	2813	7684
NNE5	3674	2104	884	2639	9301
NNE6	884	1849	2134	1619	6486
NNE7	3851	2527	3152	2196	11726
NNE8	3708	2145	1848	4641	12342
NNE9	1578	2324	1205	2175	7282
NNE10	2894	524	1139	1739	6296
NNE11	753	6704	2080	3576	13113
NNE12	3068	1919	1309	1766	8062
NNE13	1437	757	5329	1529	9052
NNE14	1242	527	676	1764	4209
NNE15	1341	513	1076	1182	4112
NNE16	861	584	710	1867	4022
NNE17	922	647	2466	1527	5562
NNE18	761	1268	2235	1450	5714
NNE19	3433	1657	2375	3380	10845
NNE20	2862	1952	1989	3271	10074
NNE21	5771	1265	2118	1999	11153
NNE22	2369	946	1283	1126	5724
NNE23	4313	1480	789	3062	9644
NNE24	5016	1342	2740	1429	10527
NNE25	680	561	399	1341	2981
NNE26	1295	1192	1412	1456	5355
NNE27	1613	1715	2151	2255	7734
NNE28	2460	2076	627	1973	7136
NNE29	938	445	1204	5686	8273

Table 3.2 (Continued)

Research article	I	M	R	D	Total size
NNE30	1714	3277	2502	2431	9924
Maximum	5771	6704	5329	5686	
Minimum	680	445	399	1126	
Average	2372.5	1642.233	1751.133	2274.1	
Total size	76946	55971	57863	73909	264689

3.3 Data Collection

3.3.1 The Journals

The corpus for this investigation was comprised of two sub-corpora of native and non-native English research articles in the field of applied linguistics. All articles were collected from five leading journals based on the SCImago Journal Rank 2014 which is a database that indicates statistical information. By using journals with high impact factors, the selection of the data could help to avoid the researcher's biases and subjectivity because any recommendations in selecting the corpus could influence the research results and could only represent an individual's preference (Kanoksilapatham, 2003). The relevance of selecting data from the SCImago Journal Rank 2014 would also cover a wide range of nationalities worldwide which supported the analysis of language and culture in the current investigation.

According to the SCImago Journal Rank 2014, the top five journals to be in used in this study and their indicators are presented in the following table.

Table 3.3 The Top Five Journals Used in this NE and NNE Corpus

Journal	**SCImago Journal Rank Indicator**	**Frequency**
1. Journal of Second Language Writing	2.489	4 issues / year
2. Language Learning	1.790	4 issues / year
3. English for Specific Purposes	1.533	4 issues / year
4. Studies in Second Language Acquisition	1.151	4 issues / year
5. Reading and Writing	1.341	9 issues / year

3.3.2 The Articles

After selecting the journals, a total number of 60 research articles was randomly collected (See Appendix A and B). As mentioned in the previous section, there were 30 NE's and 30 NNE's divided in the study. With respect to selecting the articles for this investigation, the criteria was set to meet the purposes of exploring the perspective of academic research writing through a cultural lens. The main conditions for selecting the corpus were as follows:

1) The exclusion of any identical lists of authors.

2) The exclusion of any article less than two thousand words.

3) The exclusion of any abstract and review or any article without IMRD structure unless an identifiable close variant of the IMRD structure will be legitimate in the corpus.

4) The inclusion of any article published during 2006 to 2015 for random sampling.

Furthermore, it was crucial to note that the investigation focused much attention on the authors as a main source of information in order to indicate whether the articles were written by native or non-native English writers. For the purpose of establishing this corpus, the names and institutional affiliations of the researchers should also help in identifying whether or not the researchers are native English writers. Even though all research articles, that were published, must undergo the procedures of rigorous peer review, proof-reading, and the editing process, the

representations of the interactional metadiscourse markers were still significantly presented within their writings. These procedures was mainly aimed at revising grammatical errors, as well as verifying the quality of the study for the purposes of publication rather than for correcting any originality of language which was used to convey ideas and to connect the authors with their readers. In addition, given the random selection of the five leading journals based on the SCImago Journal Rank 2014, the credibility of the researchers could be certified in terms of their expertise in the use of language for the purpose of producing academic research writing in English.

3.4 Instrumentation and Procedure

The theoretical framework for this investigation is Hyland's (2005a) interactional metadiscourse as writers use these devices to convey their idea and engage with the readers personally; therefore, interactional metadiscourse markers would reveal cross-cultural similarities and differences significantly to this exploration. The five micro-subcategories of hedges, boosters, attitude markers, self-mentions, and engagement markers would be captured. The selected research articles were converted from PDF files to text files (.txt), and then some deletions of the irrelevant parts were performed, such as the deletion of abbreviations, tables, excerpts, and the adjustment of all empty lines within the paragraphs and headings. Then, the texts were converted to an electronic corpus and searches were made to discover the frequency of the specific features based on Hyland (2005a) (See Appendix D). These procedures were important to the main approach of the corpus-based analysis which was used to tag the frequency of the five interactional metadiscourse markers.

The AntConc Text Concordance Software program version 3.4.4 (Anthony, 2015) was used to count the frequency of interactional metadiscourse markers. This program has been widely used by numbers of scholars (e.g., Abdollahzadeh, 2011; Burneikaite, 2009; Getkham, 2011; Kondowe, 2014). Based on the criteria of the model in Appendix D, the linguistic realizations of the interactional metadiscourse markers were recognized. The markers were then identified functionally and

rechecked manually during the investigation since the function of overlapping could occur. The frequency count and functions of each interactional metadiscourse marker were validated by the researcher and another two specialists who have international and national publication. Both researchers specialize in both quantitative and qualitative analysis. Their research background regarding corpus analysis assists the verification of this investigation significantly.

The three intercoders made a consensus regarding functions based on Hyland's (2005a) interactional metadiscourse model. The researcher of this study was in charge as a trainer and ran a hands-on training by providing the interactional metadiscourse markers notions prior to the validity and reliability evaluation. Then the three researchers assessed the results of the frequency count and functions by randomly drawing half of the two corpora, 15 NE and 15 NNE research articles, to discuss the occurrence of each marker. Also, the functions were specified from sentence level. Each researcher proposed the functions of each marker. Notwithstanding that disagreement occurred, the notion of that certain interactional metadiscourse marker was revisited, and the three researchers were invited to the discussion to make a consensus in identifying functions until 100% agreement was achieved. To reassure the methodological validity, apart from the three intercoders, a native speaker was invited to discuss the functions and provide in-depth understanding of the qualitative results.

By tagging the specified features, the consistency of the length of the articles was considered crucial. Performing normalization of the data was essential to making the research results comparable by adjusting raw frequency. Therefore, the obtained data was normalized for every 1,000 words (Biber, 1995). By nominalization, the frequency of words was divided by number of words in the text and multiplied by one thousand. For example, the frequency of modal verb hedges was 200 words. The total number of words in text was 4,000.

(frequency of words) / (number of words in the text) x 1000

(200/4000) x 1000 = 50

Therefore, there were 50 modal verb hedges per 1,000 words. This was to justify the frequency count from different length, and the data could be compared more accurately.

3.5 Data Analysis

This part explains the analysis of the research question. The PASW program (formerly SPSS statistic program) which is used to quantitatively analyze the data was used to perform the statistical analyses.

Research Question 1: What are the distinctive interactional metadiscourse markers of the research articles written by native (NE) and non-native English (NNE) writers?

The distinctive interactional metadiscourse markers could be tested by counting the frequency of hedges, boosters, attitude markers, self-mentions, and engagement markers. The PASW program demonstrated the highest and lowest normalized frequency for each device. Interactional metadiscourse markers were considered as dependent variables for this research question. Also, the two sub-corpora of native and non-native English research articles were independent variables, respectively.

Research Question 2: Are there any significant differences in the use of interactional metadiscourse markers in research articles by native and non-native English writers?

The differences in the usage of interactional metadiscourse markers between native and non-native English research articles were analyzed by an Independent Sample T-test. Then the occurrence of any dissimilarity was revealed at the confidential level set at 0.05. The dependent variables for this research question were the normalized frequencies of the interactional metadiscourse markers, and the independent variables were a group of native and non-native English research articles.

Research Question 3: Are there any significant differences in the use of interactional metadiscourse markers in native and non-native English research articles across Introduction, Methodology, Results and Conclusions sections?

In order to test the similarities and differences between two corpora and across sections within each group, an Analysis of Variance (ANOVA) was employed in this investigation. Afterwards, the differences, occurring within the group, were tested by conducting Post Hoc Scheffe test. The dependent variables were the normalized frequency of the interactional metadiscourse markers and the independent variables were IMRD subsections. The confidential level was set at 0.05.

Research Question 4: What are the functions of each of the types of interactional metadiscourse markers?

This question required functional interpretation based on Hyland's (2005a) interactional metadiscourse markers. The analysis started at the sentence level since interactional metadiscourse markers could not be analyzed by themselves. Text and context were considered as the main sources of information by providing the objectives of the usage of the markers. Then according to their functions, the markers were specified individually with the interpretation. For the analysis and interpretation of the data, the methodological validity has already been provided in the prior section. The functions and sample sentences were presented in the following examples:

1) Hedges used to withhold commitment: It is possible to conclude that...

2) Boosters used to emphasize certainty: The participants are certainly aware of...

3) Attitude markers used to express writer's attitude: Learners are strongly urged to...

4) Self-mentions used to explicit reference to authors: I found this point significant.

5) Engagement markers used to build relationships with reader: Consider a sequence in...

In summary, Chapter 3 illustrated the research methodology by providing research design followed by the explanation of corpus selection which was analyzed with regard to the four research questions. The corpus construction was designed to serve the purposes of the main analysis as the major sections (IMRD) of the native and the non-native English research articles to be analyzed. The methodology, served in this study, was founded upon a corpus-based analysis which was used to calculate

the frequency of each of the interactional metadiscourse makers and was described by qualitative interpretation for research question one and four, respectively. Independent Sample T-Test and ANOVA were also employed to correspondingly test the similarities of and the differences between research questions two and three, respectively. In order to fully address the following: 1) all four research questions with instruments, 2) the dependent and independent variables, 3) the analytical methods, and 4) the statistical data analyses, a summary table for this chapter is also proposed.

Table 3.4 Summary of Instrument and Data Analysis

	Research Questions			
	1) What are distinctive interactional metadiscourse markers of research articles written by native (NE) and non-native (NNE) English writers?	2) Are there any significant differences in the use of interactional metadiscourse markers in research articles by native and non-native English writers?	3) Are there any significant differences in the use of interactional metadiscourse markers in native and non-native English research articles across Introduction, Methodology, Results and Conclusions sections?	4) What are the functions of each type of interactional metadiscourse markers?
Research instruments	60 research articles	60 research articles	60 research articles	60 research articles
Dependent variable (s)	Interactional metadiscourse markers	Interactional metadiscourse markers	Interactional metadiscourse markers	Interactional metadiscourse markers
Independent variable (s)	The two corpora of NE and NNE	The two corpora of NE and NNE	The four conventional sections (IMRD) of NE and NNE	

Table 3.4 (Continued)

		Research Questions		
Data analysis	Frequency	An Independent samples T-test	ANOVA and Post Hoc Test	Functional analysis

CHAPTER 4

RESULTS

To fulfill the analysis of 1) interactional metadiscourse markers, hedges (H), boosters (B), attitude markers (A), self-mentions (S) and engagement markers (E), and 2) their devices, adjective (Adj), adverb (Adv), modal verb (M), noun (N), verb (V), first person pronoun (FPP), term (T), reader pronoun (RP), imperative directive (ID) and rhetorical question (RQ), the research results have been presented quantitatively and qualitatively based on the methodologies applied for each research question. In the following part, frequencies have been reported in response to research question one. Then cross-cultural differences, cross-sectional differences and functions have been reported, respectively.

4.1 The Distinctive Interactional Metadiscourse Markers of the Research Articles Written by Native (NE) and Non-native English (NNE) Writers

Distinctive interactional metadiscourse markers of the research articles written by native and non-native English writers are reported in Table 4.1 Then tables 4.2 to 4.6 report the frequencies of each device.

Table 4.1 The Frequencies of Hedges, Boosters, Attitude Markers, Self-mentions, and Engagement Markers (Per 1,000 Words)

Writers	**H**	**B**	**A**	**S**	**E**	**Total**
NE	1912.69	818.44	420.21	397.48	358.73	3907.55
NNE	1395.30	634.52	260.78	407.10	235.18	2932.88
Grand Totals	**3307.98**	**1452.97**	**680.99**	**804.59**	**593.91**	

As shown in Table 4.1, the NE writers had used interactional metadiscourse markers more than the NNE writers (3907.55 and 2932.88, respectively). The frequencies of all five interactional metadiscourse markers are reported from the highest to the lowest as hedges (3307.98), boosters (1452.97), self-mentions (804.59), attitude markers (680.99), and engagement markers (593.91). NE researchers had used hedges the most (1912.69) followed by boosters (818.44), attitude markers (420.21), and self-mentions (397.48). Additionally, engagement markers in NE had revealed the least usage of all (358.73). For NNE research articles, hedges also had the greatest frequency (1395.30), followed by boosters (634.52). Interestingly, self-mentions (407.10) had been used more than attitude markers (260.78) and engagement markers (235.18) in the NNE research articles. Taken together, NE hedges had been used more than NNE hedges (1912.69 and 1395.30, respectively). In the same way, boosters had been used more in NE than by the NNE (818.44 and 634.52, respectively). Attitude markers had been mainly used in NE rather than the NNE articles (420.21 and 260.78, respectively). Meanwhile, self-mentions had been less used in NE (397.48) than in NNE (407.10). Finally, the results of the usage of engagement markers showed that the NE writers had used these markers more than the NNE had (385.73 and 235.18, respectively).

In the following tables, the devices, used in each interactional metadiscourse markers, are reported, and the tables start with the hedging devices.

Table 4.2 The Frequencies of the Five Hedging Devices (Per 1,000 Words)

Writers	**Adj**	**Adv**	**M**	**N**	**V**	**Total**
NE	356.89	796.43	509.43	26.63	223.31	1912.69
NNE	276.92	475.28	402.09	72.63	168.38	1395.30
Grand Totals	**633.81**	**1271.70**	**911.52**	**99.26**	**391.69**	

As shown in Table 4.2, the NE writers had used hedging devices more than NNE writers (1912.69 and 1395.30). The frequencies of all hedging devices, reported from the highest to the lowest frequencies, were adverbs (1271.70), modal verbs (911.52), adjectives (633.81), verbs (391.63), and nouns (99.26). NE writers had used adverbs the most (796.43), followed by modal verbs (509.43), adjectives (356.89), and verbs (223.31). Additionally, nouns in NE research articles had been demonstrated the least of all (26.63). For NNE research articles, adverbs also had shown the greatest frequency (475.28), followed by modal verbs (402.09), adjectives (276.92), and verb hedges (168.38). Similar to NE research articles, the usage of noun hedges had been exhibited the least (72.63) in NNE. To compare the results, NE researchers had used more adjective hedges than the NNE researchers had (356.89 and 276.92, respectively). Similarly, NE writers had used more adverb hedges than the NNE writers had (796.43 and 475.28, respectively). NE writers had also used more modal verb hedges than their counterparts (509.43 and 402.09, respectively). For noun hedges, both the NE and NNE writers had scarcely used the device, but the NE writers had used this device less than NNE writers had (26.63 and 72.63, respectively). Finally, verb hedges had been used more often in the NE than in the NNE research articles (223.31 and 168.38, respectively).

In the following table, the boosting devices, used in the NE and NNE research articles, are reported.

Table 4.3 The Frequencies of the Five Boosting Devices (Per 1,000 Words)

Writers	**Adj**	**Adv**	**M**	**N**	**V**	**Total**
NE	27.00	137.32	502.75	59.91	91.46	818.44
NNE	35.15	78.11	406.90	59.10	58.27	634.52
Grand Totals	**62.15**	**215.43**	**909.65**	**116.01**	**149.73**	

As shown in Table 4.3, the NE writers had used boosting devices more than NNE writers had (818.44 and 634.52, respectively). The frequencies of all boosting devices had been reported from the highest to the lowest frequency as follows: modal verbs (909.65), adverbs (215.43), verbs (149.73), nouns (116.01), and adjectives (62.15). NE research articles had greatly used modal verb boosters (502.75), followed by adverbs (137.32), verbs (91.46), nouns (59.91), and adjective boosters (27.00). For NNE research articles, the ranking from high to low was found to be comparable to the NE boosters. Modal verb boosters had also been significantly used (406.90), followed by adverbs (78.11), verbs (58.27), nouns (56.10), and adjective boosters (35.15). Considerably speaking, adjective boosters were used very limitedly in both corpora, but a slightly larger number had been demonstrated in the NNE research articles (27.00 and 35.15, respectively). Similarly, NE adverb boosters had been used with greater frequency than the NNE ones (137.32 and 78.11, respectively). NE and NNE modal verb boosters were reported to be used considerably, but the difference was that the NE writers had used more than the NNE writers had (502.75 and 406.90, respectively). For noun boosters, the NE research articles had also revealed higher usages (59.91 and 56.10, respectively). Lastly, the NE verb boosters had also presented a higher usage than their counterparts (91.46 and 58.27, respectively).

In the following table, the attitude marker devices, used in NE and NNE research articles, are reported.

Table 4.4 The Frequencies of the Four Attitude Marker Devices (Per 1,000 Words)

Writers	**Adj**	**Adv**	**N**	**V**	**Total**
NE	241.01	72.63	53.12	53.46	420.21
NNE	143.35	53.23	41.88	22.32	260.78
Grand Totals	**384.35**	**125.85**	**95**	**75.78**	

As shown in Table 4.4, the NE writers had used attitude marker devices more than the NNE writers (420.21 and 260.78, respectively). The frequencies of all attitude marker devices had been reported from the highest to the lowest frequencies as follows: adjectives (384.35), adverbs (125.85), nouns (95.00), and verbs (75.78). The NE researchers had demonstrated adjectives the greatest (241.01), followed by adverbs (72.63), verbs (53.46), and nouns (53.12). For NNE research articles and attitude markers, the results showed that adjectives had mostly been used (143.35), followed by adverbs (53.23). However, noun attitude markers (47.88) had been reported with more frequency than verbs (22.32). As seen, although adjective attitude markers had mainly been used, greater usage had been reported in NE research articles than in NNE research articles (241.01 and 143.35, respectively). Similarly, the NE researchers had used more adverbs than the NNE researchers had (72.63 and 53.23, respectively). Noun attitude markers were reported differently because they had been used with higher frequency by the NE than by the NNE writers (53.12 and 41.88, respectively). Finally, with respect to verbs, a higher usage was present the NE research articles than in the NNE research articles (53.46 and 22.32, respectively).

In the following table, the self-mention devices, used in the NE and NNE research articles, are reported.

Table 4.5 The Frequencies of the Two Self-mention Devices (Per 1,000 Words)

Writers	**FPP**	**T**	**Total**
NE	381.30	16.18	397.48
NNE	388.09	19.02	407.10
Grand Totals	**769.39**	**35.20**	

As shown in Table 4.5, the NE writers had used self-mention devices less than NNE writers had (397.48 and 407.10, respectively). The frequencies of the two self-mention devices had shown that first person pronouns had been used considerably more than the terms (769.39 and 35.20, respectively). The NE research articles had also revealed differences between the uses of the two devices since the first person pronouns (381.30) had been found considerably more frequently than the terms (16.18). Similarly, the NNE self-mention devices of first person pronouns (388.09) had also been found more frequently than the terms (19.02). To consider the differences in usages between the NE and NNE, the first person pronouns had been reported slightly less in NE than in the NNE articles (381.30 and 388.09, respectively). In the same way, NE research articles had shown a less frequent usage of terms than those found in the NNE (16.18 and 19.02, respectively).

In the following table, the engagement marker devices, used in NE and NNE research articles, are reported.

Table 4.6 The Frequencies of the Three Engagement Marker Devices (Per 1,000 Words)

Writers	**RP**	**ID**	**RQ**	**Total**
NE	74.30	243.93	40.50	358.73
NNE	44.70	174.88	16.30	235.88
Grand Totals	**119.01**	**418.81**	**56.79**	

As shown in Table 4.6, the NE writers had used engagement marker devices more frequently than the NNE writers had (358.73 and 235.88, respectively). The frequencies of the three engagement marker devices had been reported from the highest to the lowest frequency as follows: imperative directive**s** (418.81), reader pronoun**s** (119.01), and rhetorical question**s** (56.79). The NE researchers had used imperative directives the most (243.93), followed by reader pronouns (74.30), and rhetorical questions (40.50), respectively. Similar to the NNE engagement marker devices, imperative directives had been extensively found (174.88), followed by reader pronouns (44.70), and rhetorical questions (16.30). To compare, reader pronouns had been used more in NE research articles than in the NNE research articles (74.30 and 44.70, respectively). Imperative directives had also been used more in the NE research articles than in the NNE research articles (243.93 and 174.88, respectively). Similarly, rhetorical questions had been found more frequently in the NE research articles because only limited usage had been reported in the NNE research articles (40.50 and 16.30, respectively).

To discover whether significant differences had occurred in the use of interactional metadiscourse markers between NE and NNE, the researcher has analyzed the data to answer the second research question.

4.2 Differences in the Use of Interactional Metadiscourse Markers in Research Articles Written by Native and Non-native English Writers

An independent sample T-Test was conducted to compare NE and NNE research articles to discover the differences in the usages of interactional metadiscourse markers and their devices. Statistically, if the p value in Sig. (2-tailed) column is reported less than .05, some significant differences occur. Thus, hypothesis one is accepted, and the results are reported in Tables 4.7 and 4.8

Table 4.7 Significant Differences in the Use of Five Interactional Metadiscourse Markers between NE and NNE Research Articles

		t-test for Equality of Means		
		t	**df**	**Sig. (2-tailed)**
H	Equal variances assumed	2.213	238	*0.028
A	Equal variances assumed	3.015	238	**0.003
E	Equal variances assumed	2.67	238	**0.008

Note: * = < .05
** = < .01

An Independent Sample T-test reported that there had been some significant differences in the use of the five interactional metadiscourse markers between the NE and NNE research articles written in English ($p < .05$). As seen in the Table 4.7, the differences had occurred in the use of hedges, attitude markers, and engagement markers. (See Appendix D for all the statistical results.) A significant difference in the use of hedges was found between NE ($M = 15.93$) and NNE ($M = 11.62$) research articles; df (238) $t = 2.213$, $p < .05$. Also, a significant difference had occurred in the use of attitude markers between NE ($M = 3.50$) and NNE ($M = 2.17$) research articles;

df (238) t = 3.015, p < .01. In addition, a significance difference had occurred in the use of engagement markers between NE (M = 2.98) and NNE (M = 1.95) research articles; df (238) t = 2.670, p < .01.

Table 4.8 Significant Differences in the Use of Interactional Metadiscourse Marker Devices between NE and NNE Research Articles

		t-test for Equality of Means		
		t	**df**	**Sig. (2-tailed)**
AdvH	Equal variances assumed	2.324	238	*.021
NH	Equal variances assumed	-2.468	238	*.014
AdvB	Equal variances assumed	2.011	238	*.045
AdjA	Equal variances assumed	2.594	238	**.010
VA	Equal variances assumed	3.059	238	**.002
IDE	Equal variances assumed	2.084	238	*.038

Note: * = < .05
** = < .01

An Independent Sample T-test reported that there had been some differences in the usages of the interactional metadiscourse marker devices between NE and NNE research articles written in English (p < .05). As seen in the Table 4.8, the differences had occurred in the uses of hedges (adverbs and nouns), boosters (adverbs), attitude markers (adjectives and nouns) and engagement markers (imperative directives) (See Appendix E for all statistical results). There had been a significant difference in the use of adverb hedges between NE (M = 2.97) and NNE (M = 2.30) research articles; df (238) t = 2.342, p < .05. Also, a significant difference had occurred in the use of noun hedges between the NE (M = 0.22) and the NNE (M = 0.60) research articles; df (238) t = -2.468, p < .05. Moreover, there had been a difference in the use of adverb

boosters between NE (M = 1.14) and NNE (M = 0.65) research articles; df (238) t = 2.594, p < .01. For the adjective attitude markers, a significant difference between NE (M = 2.00) and NNE (M = 1.19) research articles had also been reported; df (238) t = 2.011, p < .05. The verb attitude markers had also been used differently in the NE (M = 0.44) and the NNE (M = 0.18) research articles; df (238) t = 3.059, p < .01. A significant difference had also been reported for one engagement marker device. Imperative directives had also been used differently between the NE (M = 2.03) and NNE (M = 1.45) research articles; df (238) t = 2.084, p < .05.

In addition to the differences between the two groups, the researcher analyzed the data to answer the third research question in order to discover whether or not differences existed in the use of interactional metadiscourse markers across the research sections.

4.3 Differences in the Use of Interactional Metadiscourse Markers in Research Articles Written by Native and Non-native English Writers across the Four Research Article Sections

Between the subjects, a one-way ANOVA test was conducted to compare the use of interactional metadiscourse markers and their devices in NE and NNE research articles. Moreover, a Post Hoc Scheffe Test was conducted to perform multiple comparisons across the four research article sections: Introduction (I), Method (M), Results (R), and Discussion (D). Thus, hypothesis two is accepted. Results are reported in Tables 4.9 and 4.12 for NE research articles and Tables 4.13 and 4.16 for NNE research articles.

Table 4.9 The NE Interactional Metadiscourse Markers in ANOVA Comparison

		df	**Mean Square**	**F**	**Sig.**
	Between Groups	3	195.771	3.586	*0.016
B	Within Groups	116	54.599		
	Total	119			
	Between Groups	3	204.82	6.936	***.000
S	Within Groups	116	29.528		
	Total	119			

Note: * = < .05

** = < .001

Results of the ANOVA showed that in the NE research articles, two differences had existed in the use of boosters and self-mentions. (See Appendix F for all statistical results.) Firstly, there had been a significant difference in the use of boosters [F (3,116) = 3.586, $p < .05$]. Secondly, there had also been a significant difference in the use of self-mentions [F (3, 116) = 6.936, $p < .001$].

The results of the Post Hoc Test are reported in the next table to indicate the differences in the use of boosters and self-mentions across the IMRD sections.

Table 4.10 The NE Interactional Metadiscourse Markers in Post Hoc Scheffe Test

Dependent Variable	(I) Section	(J) Section	Mean Difference (I-J)	Std. Error	Sig.
B	R	D	-6.24384*	1.90786	*.016
S	I	M	-5.13023*	1.40304	**.005
	M	R	5.82204*	1.40304	**.001

Note: * = < .05

** = < .01

The results of the Post Hoc Test revealed that significant differences had occurred in the NE research articles in the use of boosters and self-mentions. (See Appendix F for all statistical results.) For boosters, the differences had occurred between the R and D sections ($p < .05$). For self-mentions, the differences had occurred between the I and the M sections ($p < .01$) and between the M and the R sections ($p = .001$).

The next table reports interactional metadiscourse marker devices that had been used in the NE research articles.

Table 4.11 The NE Interactional Metadiscourse Marker Devices in ANOVA Comparison

		df	**Mean Square**	**F**	**Sig.**
AdjH	Between Groups	3	61.2	4.727	**.004
	Within Groups	116	12.948		
	Total	119			
MH	Between Groups	3	158.514	8.983	***.000
	Within Groups	116	17.646		
	Total	119			
MB	Between Groups	3	150.232	8.306	***.000
	Within Groups	116	18.088		
	Total	119			
NA	Between Groups	3	2.714	2.934	*.036
	Within Groups	116	0.925		
	Total	119			
FPPS	Between Groups	3	180.005	6.211	***.001
	Within Groups	116	28.983		
	Total	119			

Note: * = < .05

** = < .01

*** = < .001

Results of ANOVA showed that there had been some significant differences in the use of hedges (adjectives and modal verbs), boosters (modal verbs), attitude markers (nouns), and self-mentions (first person pronouns) in the NE research articles. (See Appendix G for all statistical results.) Firstly, there had been significant differences in the use of adjectives [$F (3, 116) = 4.727$, $p < .01$] and modal verb hedges [$F (3,116) = 8.983$, $p < .001$]. Secondly, a highly significant difference [$F (3,116) = 8.306$, $p < .001$] had been reported for the modal verb boosters. Thirdly, differences had also occurred in the use of noun attitude markers [$F (3,116) = 2.714$, p

< .05]. Finally, there had been a significant difference in the use of first person pronouns self-mentions [F (3,116) = 6.211, p = .001]. However, no differences had occurred in the use of engagement marker devices.

The results of the Post Hoc are reported in the next table and indicate some significant differences in hedges (adjectives and modal verbs), boosters (modal verbs), attitude markers (nouns), and self-mentions (first person pronouns) across the IMRD sections.

Table 4.12 NE Interactional Metadiscourse Marker Devices in the Post Hoc Scheffe Test

Dependent Variables	**(I) Section**	**(J) Section**	**Mean Difference (I-J)**	**Std. Error**	**Sig.**
AdjH	M	R	3.27362*	0.92907	**.008
MH	M	D	-3.91061*	1.08463	**.006
	R	D	-5.42076*	1.08463	***.000
MB	M	D	-3.73587*	1.09811	*.011
	R	D	-5.30745*	1.09811	***.000
FPPS	I	M	-4.77532*	1.39005	**.010
	M	I	4.77532*	1.39005	**.010
		R	5.48264*	1.39005	**.002

Note: * = < .05
** = < .01
*** = < .001

The results of the Post Hoc Test had revealed that some significant differences had occurred in NE research articles in the use of hedges (adjectives and modal

verbs), boosters (modal verbs), and self-mentions (first person pronouns) in NE research articles. (See Appendix G for all statistical results.) For adjective hedges, the differences had occurred between the M and the R sections ($p < .01$). Regarding the modal verb hedges, differences had taken place between the M and the D sections ($p < .01$) and had highly occurred between the R and the D sections ($p < .000$). With respect to modal verb boosters, differences had been noted between the M and the D sections ($p < .01$), and these differences had highly occurred between R and D sections ($p <.000$). For first person pronouns self-mentions, the differences had occurred between the I and the M sections ($p = .01$) and between the M and the R sections ($p < .01$).

The next table reports the stances which the authors had used in their NNE research articles.

Table 4.13 NNE Interactional Metadiscourse Markers in the ANOVA Comparison

		df	**Mean Square**	**F**	**Sig.**
H	Between Groups	3	3	8.377	***.000
	Within Groups	116	58.576		
	Total	119			
B	Between Groups	3	149.538	11.696	***.000
	Within Groups	116	12.786		
	Total	119			
A	Between Groups	3	11.139	4.051	**.009
	Within Groups	116	2.75		
	Total	119			
E	Between Groups	3	19.631	6.008	***.001
	Within Groups	116	3.268		
	Total	119			

Note: ** = < .01

*** = < .001

Results from the ANOVA indicated that there had been some significant differences in the uses of hedges, boosters, attitude markers, and engagement markers. (See Appendix H for all statistical results.) Firstly, there had been significant differences in the use of hedges [F (3, 116) = 8.377, p < .001] and boosters [F (3, 116) = 11.696, p < .001]. In addition, there had been differences in the use of attitude markers [F (3, 116) = 4.051, p < .01] and engagement markers [F (3, 116) = 6.008, p = .001] in the NNE research articles.

The results of the Post Hoc are reported in the next table and show the differences in the use of hedges, boosters, attitude markers, and engagement markers across the IMRD sections.

Table 4.14 The NNE Interactional Metadiscourse Markers in Post Hoc Scheffe Test

Dependent Variables	**(I) Section**	**(J) Section**	**Mean Difference (I-J)**	**Std. Error**	**Sig.**
H	I	D	-6.10796*	1.97613	*.027
	M	D	-9.19883*	1.97613	***.000
	R	D	-7.74631*	1.97613	**.002
B	I	D	-3.82794*	0.92324	***.001
	M	D	-5.29049*	0.92324	***.000
	R	D	-3.22797*	0.92324	**.009
A	M	D	-1.37939*	0.42817	*.019
E	M	D	-1.52486*	0.46673	*.017
	R	D	-1.81671*	0.46673	**.003

Note: * = < .05
** = < .01
*** = < .00

Results of the Post Hoc Test revealed that some significant differences had been identified in the NNE research articles in the use of hedges, boosters, attitude markers, and engagement markers. (See Appendix H for all statistical results.) For hedges, the differences had occurred between the I and the D sections ($p < .05$), the M and the D sections ($p < .001$), and the R and the D sections ($p < .01$). For boosters, the differences had occurred between the I and the D sections ($p = .001$), the M and the D sections ($p < .001$), and the R and the D sections ($p < .01$). For attitude markers, differences had been found between the M and the D sections ($p < .05$). Finally, some differences had been noted in the use of engagement markers in NNE research articles between the M and the D sections ($p < .05$) and between the R and the D ($p < .01$) sections.

The next table reports interactional metadiscourse marker devices used in the NNE research articles.

Table 4.15 The NNE Interactional Metadiscourse Marker Devices in ANOVA Comparison

		df	**Mean Square**	**F**	**Sig.**
AdjH	Between Groups	3	12.029	2.903	*.038
	Within Groups	116	4.143		
	Total	119			
MH	Between Groups	3	125.047	15.987	***.000
	Within Groups	116	7.822		
	Total	119			
VH	Between Groups	3	20.217	10.66	***.000
	Within Groups	116	1.897		
	Total	119			

Table 4.15 (Continued)

		df	Mean Square	F	Sig.
AdjB	Between Groups	3	4.776	5.817	***.001
	Within Groups	116	0.821		
	Total	119			
MB	Between Groups	3	133.464	14.578	***.000
	Within Groups	116	9.155		
	Total	119			
NB	Between Groups	3	4.108	5.271	**.002
	Within Groups	116	0.779		
	Total	119			
VB	Between Groups	3	3.937	7.038	***.000
	Within Groups	116	0.559		
	Total	119			
AdjA	Between Groups	3	8.221	5.159	**.002
	Within Groups	116	1.593		
	Total	119			
NA	Between Groups	3	1.338	3.697	*.014
	Within Groups	116	0.362		
	Total	119			
VA	Between Groups	3	0.454	3.929	**.010
	Within Groups	116	0.116		
	Total	119			
TS	Between Groups	3	1.375	4.389	**.006
	Within Groups	116	0.313		
	Total	119			

Table 4.15 (Continued)

		df	**Mean Square**	**F**	**Sig.**
IDE	Between Groups	3	9.895	4.149	**.008
	Within Groups	116	2.385		
	Total	119			
RQE	Between Groups	3	0.803	3.806	*.012
	Within Groups	116	0.211		
	Total	119			

Note: * = < .05
** = < .01
*** = < .001

Results from the ANOVA showed that there had been some significant differences in the use of hedges (adjectives, modal verbs, and verbs), boosters (adjectives, modal verbs, nouns and verbs), attitude markers (adjectives, nouns and verbs), self-mentions (terms) and engagement markers (imperative directives and rhetorical questions) in the NNE research articles. (See Appendix I for all statistical results.) For hedges, firstly, significant differences had been shown in the use of adjectives [F (3, 116) = 2.903, p < .05], modal verbs [F (3,116) = 15.987, p < .001], and verb hedges [F (3,116) = 10.660, p < .001]. Secondly, significant differences had been found in the use of adjectives [F (3, 116) = 5.817, p = .001], modal verbs [F (3,116) = 14.578, p < .001], nouns [F (3,116) = 5.271, p < .01], and verb boosters [F (3,116) = 7.038, p < .000]. Thirdly, differences had also occurred in the use of adjectives [F (3,116) = 5.159, p < .01], nouns [F (3,116) = 3.697, p < .05], and verb attitude markers [F (3,116) = 3.929, p = .01]. Regarding self-mention devices, only one difference had occurred which was found in terms [F (3,116) = 4.389, p < .01]. Finally, there had been significant differences in the use of both engagement marker devices which were found in imperative directives [F (3,116) = 4.149, p < .01] and rhetorical questions [F (3,116) = 3.806, p < .05].

The results of the Post Hoc are reported in the next table to show some significant differences in the use of hedges (adjectives, modal verbs, and verbs), boosters (adjective, modal verb, nouns and verbs), attitude markers (adjectives, nouns and verbs), self-mentions (terms) and engagement markers (imperative directives and rhetorical questions) across the IMRD sections.

Table 4.16 NNE Interactional Metadiscourse Marker Devices in the Post Hoc Scheffe Test

Dependent Variables	**(I) Section**	**(J) Section**	**Mean Difference (I-J)**	**Std. Error**	**Sig.**
AdjH	R	D	-1.53491*	0.52557	*.041
MH	I	D	-3.12679*	0.72212	***.001
	M	D	-4.30245*	0.72212	***.000
	R	D	-4.34355*	0.72212	***.000
VH	I	D	-1.34758*	0.35558	**.004
	M	R	-1.23676*	0.35558	**.009
		D	-1.88288*	0.35558	***.000
AdjB	I	R	-.87280*	0.23395	**.004
	M	R	-.68768*	0.23395	*.039
	R	D	.78998*	0.23395	*.012
MB	I	D	-3.27776*	0.78123	***.001
	M	D	-4.39718*	0.78123	***.000
	R	D	-4.52549*	0.78123	***.000

Table 4.16 (Continued)

Dependent Variables	(I) Section	(J) Section	Mean Difference (I-J)	Std. Error	Sig.
NB	M	R	-.80770*	0.22792	**.007
	R	D	.75409*	0.22792	*.015
VB	I	R	-.69831*	0.19311	**.006
	M	R	-.77199*	0.19311	**.002
AdjA	M	R	-1.22679*	0.32593	**.004
NA	M	D	-.50042*	0.15535	*.019
VA	M	R	.29736*	0.08778	*.012
TS	I	M	-.46163*	0.14452	*.020
	M	R	.43567*	0.14452	*.032
IDE	R	D	-1.29967*	0.39872	*.017
RQE	M	D	-.35398*	0.11857	*.035

Note: * = < .05
** = < .01
*** = < .001

The results of the Post Hoc Test revealed that some significant differences had been found in the NNE research articles in the use of hedges (adjectives, modal verbs, and verbs), boosters (adjectives, modal verbs, nouns and verbs), attitude markers (adjectives, nouns and verbs), self-mentions (terms) and engagement markers (imperative directives and rhetorical questions). (See Appendix I for all statistical results.) For hedges, the differences had occurred between the R and D sections (p <

.05) in the use of adjectives. For modal verb, the differences had been found between the I and the D sections ($p = .001$) and had highly occurred between the M and the D sections ($p < .001$) and the R and the D sections ($p < .001$). For verb hedges, the differences had occurred between the I and the D sections ($p < .01$), the M and R sections ($p < .01$), and had highly occurred between the M and the D sections ($p <.001$).

To continue with boosters, the differences had occurred between the I and the R sections ($p < .01$), the M and the R sections ($p < .05$), and between the R and the D sections ($p < .05$) in the use of adjective boosters. For modal verb boosters, differences had been noted between the I and the D sections ($p = .001$), and the usage of modal verb boosters had highly occurred between the M and the D sections ($p < .001$) and between the R and the D sections ($p < .001$). In regard to noun boosters, differences had been found between the M and the R sections ($p < .05$) and between the R and the D sections ($p <.05$). For verb boosters, differences had been noted between the I and the R sections ($p < .01$) and between the M and the R sections ($p <.01$).

The next to be examined were the attitude marker devices. For adjective attitude markers, the differences had occurred between the M and the R sections ($p < .01$), while for the noun attitude markers the differences had been between the M and the D sections ($p < .05$). In addition, there had been differences in the use of verb attitude markers between the M and the R sections ($p < .05$). Regarding self-mentions, the differences had taken place for terms between the I and the M sections ($p < .05$) and between the M and the R sections ($p < .05$). Finally, for engagement marker devices, it was found that differences had occurred in the use of imperative directives between the R and the D sections ($p < .05$), as well as between the M and the D sections ($p < .05$) in the use of rhetorical questions in the NNE research articles.

Table 4.17 Summary of Differences in the Use of Interactional Metadiscourse Markers in Research Articles Written by Native and Non-native English Writers across the Four Research Article Sections

Sections	Rhetorical Tools	NE	NNE
Introduction and Methodology	**Interactional Metadiscourse Markers**	Self-mentions	-
	Devices	Self-mentions (first person pronouns)	Self-mention (Terms)
Introduction and Results	**Interactional Metadiscourse Markers**	-	-
	Devices	-	Boosters (Adjectives and verbs)
Introduction and Discussion	**Interactional Metadiscourse Markers**	-	Hedges Boosters
	Devices	-	Hedges (modal verbs and verbs) Boosters (modal verbs)
Methodology and Results	**Interactional Metadiscourse Markers**	Self-mentions	
	Devices	Hedges (adjectives) Self-mentions (first person pronouns)	Hedges (modal verbs) Boosters (adjectives, nouns, verbs)

Table 4.17 (Continuted)

Sections	Rhetorical Tools	NE	NNE
			Attitude markers (adjectives and verb) Self-mentions (terms)
Methodology and Discussion	**Interactional Metadiscourse Markers**	-	Hedges Boosters Attitude makers Engagement markers
	Devices	Hedges (modal verbs) Boosters (modal verbs)	Hedges (modal verbs and verbs) Boosters (modal verbs) Attitude markers (nouns) Engagement markers (rhetorical questions)
Results and Discussion	**Interactional Metadiscourse Markers**	Boosters	Hedges Boosters Engagement markers
	Devices	Hedges (modal verb) Boosters (modal verb)	Hedges (adjective and modal verb)

Table 4.17 (Continuted)

Sections	Rhetorical Tools	NE	NNE
			Boosters (adjectives, modal verbs, nouns) Engagement markers (imperative directives)

In the fourth research question, the functions of hedges, boosters, attitude markers, self-mentions, and engagement markers are qualitatively and individually reported.

4.4 The Functions of Each Type of Interactional Metadiscourse Markers

Interactional metadiscourse markers are significantly presented in English research articles. The use of interactional metadiscourse markers represents an endeavor to bond the authors' stance with the readers' voice. Based on Hyland (2005a), these markers portray the writer-reader relationship and each of the markers functions purposively. Accordingly, the results of these interactional roles are individually described below:

Firstly, hedges have always been heavily used within the various fields of English academic writing (Andrusenko, 2015; Atai & Sadr, 2006; Hyland & Milton, 1997; Getkham, 2011; Nasiri, 2012b). Even though the current investigation has placed its sole emphasis on Applied Linguistic research articles, the study has also found that hedges had been used to propose the writers' opinions in light of the realization that any acceptance or rejection of claims can be performed based upon on the readers' considerations. This crucial rhetorical tool, used in academic writing, also helps writers to present their objectivity and to deviate from the highest degree of certainty. Even though credibility and validity are generally reported by the writers,

hedges function as tools that allow for future rejections by lessening forceful textual production. In addition, the writers, themselves, hedge when they are attempting to take a controversial stance regarding prior research. Their precision can be drawn in the best possible way by depending on hedging devices when they are contributing their arguments within the text. By doing so, readers are simply invited to reflect their stances along with the stance of the writer. Therefore, in this investigation, hedges have been found to carry out two main functions. Firstly, it was found that hedges had been used to create the objective stances of the writers. Secondly, they had been utilized to question any existing ideas in a considerate approach. These two functions had also grounded the writer-reader relationship. This had specifically taken place when, after reading the text, the readers had been left with the opportunity to further their own thoughts.

Given that hedges are the most frequently used and extensively studied, it is the boosters that are ranked second and are mentioned along with other interactional metadiscourse markers. Because writing academically can be achieved through the writers' proposition, the writer's degree of conviction regarding his/her claims is also considered to be a vital feature in academic writing. The current investigation will first describe the function of boosters as devices used to strengthen a writer's claims. Boosters are found when the writers have the confidence to express their commitment. Rather than showing the superiority of their claims, the writers opt to use boosters when they have gathered sufficient evidence and are supported by that evidence to build a case for their stance. However, using boosters is merely a presentation of an evidence-based statement. Writers do not boost in order to use force in support of mutual judgment. Readers are welcomed to negotiate their views since the writers are usually overt in order to construct their "territory" within their academic writing. Next, the results of this investigation also showed that the writers had used boosters to gather their readers' sense of attachment, as well as their sense of detachment by positing a rather strong degree of conviction in place of a negotiable view. By using boosting devices, a writer aims to draw the readers' attention, as well as to declare his/her authorial stance through the text. Therefore, the current investigation has determined two functions of boosters. Firstly, boosters function in the capacity of "strengtheners of claims" when writers believe that they have been

supported with adequate evidence. Secondly, boosters function as “invitations” as the author’s stance is being made clear to the readers in order that the readers, through their own consideration, can bond with the argument or form opinions against it.

Apart from hedges and boosters, the evaluative nature of the academic writers is portrayed through the use of attitude markers. Results from this study have indicated that the function of attitude markers represents the ways in which the writers choose to disclose either their affection or their aversion. Writers use attitude markers to reveal their attitudinal opinions, rather than the facts, by emphasizing an evaluation within the text. Instead of proffering plain information, writers personally elaborate by presenting their own partiality to the readers. Although the function of these markers is not to construct a conviction, writers resort to expressing their attitudes in order that their forthcoming readers may be able to recognize their authorial stance. In this way, the writers are able to connect their thoughts to those of the readers to a greater degree. In addition, the writers use these markers in response to previously published academic writing by introducing their writer-based sentiments in order to make their positions obvious to their readers. Therefore, the considerable function of attitude markers is to convey a writer's attitudes in both positive and negative manners so that the writer's textual position can be highlighted for his/her readers.

Next, the “indication of self” is one of the vital methods that writers use to relate more intimately with their readers. Therefore, academic writers use self-mentions to present themselves along with the text. According to the current investigation, the results have shown that self-mentions had functioned as a reference of knowledgeable agent. The use of self-mentions entails a sense of possession given that the text in which the readers are engaged has been produced through the individuality of each writer. In other words, it is believed that authenticity of work can be announced by the use of self-mention devices. In addition, since fierce competition to publish internationally has been growing for decades, the norm of self-avoidance in academic texts has been downshifted. Therefore, the mention of self is a tactical method to claim that the exploration and analysis are legitimate because each of the writers can mark his/her contributions through the use of self-mentions and make his/her presence known to the readers.

Finally, according to the current analysis, engagement markers and their functions are hereby described. The main function of these markers, as they were coined, is to have the readers become engaged with the text. Writers use different engagement marker devices to convene readers and imply their entitlement so as to support further writer-reader participation. There are different devices, and in truth, their functions are slightly dissimilar. Yet, based on this study, it was found that their main role had been to interact with the readers and to act as an invitation for the writers, in several contexts, to become more critically engaged in the textual discourse. The determination of the authors had been to perform more effectively than simply acting as an "informer of data". For instance, the authors had used engagement markers to pursue answers before providing the details, and they had also included the readers as members of the context. Based on the results, it appears that the more that the writers can use engagement markers to interact with their readers, the better and more negotiable their academic writing can be.

To sum up, the functions of the five interactional metadiscourse markers have already been described according to the findings from this investigation. Their functions had ranged from detaching the author from certain points made in the text to fostering engagement between the writers and readers. Even though these functions are diverse, interactional metadiscourse markers are used with one important objective: to gain the attention of the readers in order to facilitate the process of the readers' comprehension of the writers' authentic presence as expressed through his/her academic writing.

4.5 A Summary of the Results

The distinctions in the use of interactional metadiscourse markers and devices between the NE and NNE research articles are hereby summarized as follows:

1) Overall, a higher frequency of usage for hedges, boosters, self-mentions, attitude markers, and engagement markers had been reported in the NE research articles than in the NNE's articles. When comparing the other four interactional metadiscourse markers, hedges had been found to be used the most often. The greatest number of hedges had mainly been presented by the NE researchers. Adverb hedges

had also been reported to have the highest frequency specifically in the NE research articles. Next, boosters had been reported as having the second highest frequency and had mainly been used by the NE authors. The results also revealed that the heaviest use of modal verb boosters had been by the NE group, followed by the self-mentions which had been used with greater frequency in the NNE research articles than in the NE articles, particularly with respect to first person pronoun self-mentions. Attitude markers had taken the fourth position in the ranking. NE writers had opted to use these markers more than NNE writers had, specifically the adjective attitude markers. Subsequently, the engagement markers had been shown to have the least usage of all. Moreover, the imperative directive engagement markers had been used more frequently by the NE researchers than by the NNE researchers. In summation, of all the interactional metadiscourse devices in both the NE and NNE research articles, the adverb hedges had been used the most.

2) Cultural differences had been found to exist between the NE and NNE research articles in the use of hedges, attitude markers, and engagement markers. However, some significant differences had been reported in the use of interactional metadiscourse marker devices between the NE and the NNE research articles in the use of hedges (adverbs and nouns), boosters (adverbs), attitude markers (adjectives and verbs), and engagement markers (imperative directives).

3) For differences of interactional metadiscourse makers in IMRD sections, it was found that the NE writers had used boosters and self-mentions differently across the sections. However, an examination of each of the types of interactional metadiscourse marker devices, written by the NE writers, had revealed several findings. Firstly, there had been some significant differences in the use of hedges (adjectives and modal verbs), boosters (modal verbs), and self-mentions (first person pronouns). Meanwhile, in regard to the interactional metadiscourse markers, the NNE writers had used hedges, boosters, attitude markers, and engagement markers differently across the IMRD sections. In addition, the examination of each type of the interactional metadiscourse marker devices, written by the NNE writers, had revealed several findings. There had been some significant differences in the use of hedges (adjectives, modal verbs, and verbs), boosters (adjectives, modal verbs, nouns and verbs), attitude markers (adjectives, nouns and verbs), self-mentions (terms) and

engagement markers (imperative directives and rhetorical questions) across the IMRD sections

4) Each of the interactional metadiscourse markers had functioned dissimilarly. Firstly, hedges had performed as an objective presentation of the writers. At the same time, they had been used to lessen the degree of confrontation when disagreements had occurred within the text. Secondly, the boosters' roles had been to create conviction when the writers were assisting with plausible evidence. Also, they were used when readers had been expected to distribute either harmony or contradiction, so the writers had boosted to further encourage the readers' participation. Thirdly, the attitude markers had functioned as the writers' evaluation (in light of both positive and negative conduct) so that readers could unmistakably recognize and position authorial presence. Fourthly, the function of self-mentions, used in the academic texts, had been to emphasize the writers' ownership of the provided information. Finally, engagement markers had functioned as engaging tools to captivate the readers rather than giving them plain intellectual information.

CHAPTER 5

DISCUSSION, LIMITATIONS, IMPLICATIONS, AND CONCLUSIONS

This chapter consists of four parts. The first part contains the discussion of the results and the interpretation of data. The second, third, and fourth parts include the limitations based on current investigation, the implications for investigation as well as for future research studies, and the conclusions from this study, respectively.

5.1 Discussion

To complete the current study of interactional metadiscourse markers, the researcher has aimed to present discussions based on statistical and functional proof. Differences and similarities between NE and NNE research articles in terms of cultures and the four research article sections have been discussed, respectively.

5.1.1 The Use of Interactional Metadiscourse Markers in Research Articles Written by NE and NNE Writers

The central claim of this investigation is to analyze the use of interactional metadiscourse markers in English research articles written by NE and NNE writers. To start, a discussion of the frequencies and functions of interactional metadiscourse markers by utilizing examples from NE and NNE research articles are presented in the following parts.

From the current research results, the use of interactional metadiscourse markers excessively appeared in the use of hedges (3307.98), and the least usage was in engagement markers (593.91). The reason behind the highest use of hedges was possibly due to their multiple purposes given that hedges perform as detachment tools. Since most users understand them, they serve various objectives allowing writers to initiate discursive space with readers. At the same time, writers can reflect their claims in the form of opinions so that readers are able to accordingly negotiate

the information being presented. The findings, that hedges assist readers in creating their own interpretative space, are consistent with Nasiri (2012b). When the writers were not demonstrating absolute facts, the devices were utilized to propose information in the form of the writer's position. This rhetorical strategy allows for great contributions to the study of research articles because readers can further their interpretations by having an authorial stance as a proposal. Hedges may also be used for a strategy of politeness (Getkham, 2011). Since hedges are used to present a writer's sense of modesty, it can be implied that hedges demonstrate respect when disagreement is being offered. When academic circles are interrelated and new discoveries are frequently being presented, there are chances that the findings from one research study might not be in alignment with another researcher's suggestions or with the assertions of the existing notions. Therefore, to a great extent, the use of hedges can assist writers to evade strong confrontation. In this investigation, apart from hedges, boosters were found to be second (1452.97). This agrees with other empirical findings in which it was reported that hedges and boosters have some significant uses among other markers (Abdi, 2011; Abdi et al., 2010). In short, the highest use of hedges represents the writers' opinions towards their textual information. In the following portion, a discussion of each of the interactional metadiscourse marker devices is presented.

5.1.1.1 Hedges

Beginning with hedging devices, it was clearly observed in the results that adverbs had mainly been used (1271.70) in this investigation. Meanwhile, noun hedges (99.26) had scarcely been used. This could be explained by the fact that adverb hedges had been mainly employed because this device can reveal a writer's stance of tendency in the sense that claims may differ as changes occur (Hyland, 1998). Therefore, it is possible that adverb hedges could assist writers to perform their hedging features in certain aspects. On the other hand, noun hedges (hypothesis, assumption, indication and tendency) in this study were limitedly found given that this device might not allow audiences an adequate interpretation to go beyond the data. Because nouns have specific meaning themselves, they cannot be entirely used to elaborate other kinds of words in research articles. The frequencies of hedging devices are not in alignment with a study by Atai and Sadr (2006) given that they

found that full verbs had been used most frequently, this can be explained through sectional differences given that Atai and Sade's study had merely placed emphasis on the Discussion sections. Therefore, it was found that modal verb hedges had been employed to discuss the ratification of their research findings. Also, Mirzapour and Mahand (2012) found that modal verbs had been used the most. This inconsistency might have happened because their information had been acquired from different sources of information and from different publication years. In addition, the highest occurrence of modal verbs was found in Getkham's (2011) study in which a density of modal verbs was specifically found in the data from the Computational Linguistics journal and which had been compared to four other top journals: Brain and Language; Journal of Memory and Language; Journal of Speech, Language, and Hearing Research; and Studies in Second Language Acquisition. Therefore, this group of linguists, who deal with computers, might have used modal verb hedges as their natural language to recognize others. Therefore, the development or trends in research writing over time might have caused this variation since a dramatic change in rhetorical choices can occur over time (Atkinson, 1996). In addition, the high frequency of adverb hedges can be explained through Hyland's (1998) notion that adverb hedges are used when writers do not need the certainty of hedges which can be used to address existing notions or shared practice in a yielding tone. Therefore, any emphasis is not a compulsory to the readers (Hyland, 1998). When writers intend to deal with widely-accepted information, they can be humble about their work by lessening the level of precision in their writing.

Example 1: Sometimes, evaluative concepts need not be explicitly spelled out as they are commonly shared. [R.NNE13]

In example 1, an adverb, sometimes, is used to lessen the degree of exactness as the text itself demonstrates available facts (Hyland, 1998) which are a shared practice in the disciplinary.

Also, one remarkable function of hedges is that researchers can use hedges to demonstrate likelihood and tentativeness (Davoodifard, 2008). By using hedges, the writers allow themselves to initiate their opinions and to settle their objectivity. In the text, hedges imply to audiences that messages transmit plausible reasons rather than provable facts. Nasiri (2012b) also asserted that rather than

presenting the absolute truth, data (or research results) can be negotiated through the writers' position by using hedging devices as can be seen in the following examples:

Example 2: Given these differences between recognition and production, it is possible to hypothesize that... [I.NNE8]

Example 3: One possible explanation for this is that the families of young people in the provincial town were more acutely aware of the need for English... [R.NE11]

Example 4: ..., and probably also because of the somewhat ambiguous title of the article, this study has, time after time, been presented as strong evidence [I.NNE23]

In example 2, 3 and 4, adjectives, possible, a verb, hypothesize, and an adverb, probably, are used to invite readers to attend writers' opinions because when writers proposed their interpretation with probability, readers can either agree or against with authorial stances without restrictions.

Apart from this, even though, within the academic context, writers should validate their claims in order to gain recognition, hedges are used to mitigate assertions in their writing so as to evade from forceful interface within the text (Andrusenko, 2015). According to Getkham (2011), hedges can also help writers to avoid conflict with other researchers when contradiction or criticism occurs. It is possible that writers may oppose the existing notion, so hedges are used as rhetorical tools to participate in creating dialogues. In other words, hedges are used to reflect doubt, as well as to respect to the norms of the disciplinary pose as can be seen in the following examples:

Example 5: Although there is considerable support for PT, recent studies have questioned some of its predictions, particularly regarding morphology. [D.NE9]

In example 5, an adjective, some, is used to lessen a strong condemnation posted by other researchers. Rather, the example is presented in a yielding tone which can be interpreted that only some is needed to be clarified.

Next, hedges invite readers to reflect on the writer's proposals by creating discursive room in which readers are allowed to speculate and question. To interact with their audiences, writers also hedge by positioning themselves and their

readers as experienced agents, who propose and obtain arguable information (Hyland, 1998, 2008), as can be seen in the following examples:

Example 6: It may be argued that the mere fact that Finnish and Russian have case endings.... [I.NNE21]

In example 6, a modal verb, may, is used to relate with readers by showing that their argument is in writers' concern. Also, this is a notification to readers that their speculation is allowed. Then further elaboration, interpretation and participation to the text can be created.

In conclusion, based on the current investigation, hedges function to allow the writer to detach from his/her certainty, to position his/her objectivity, to evade disagreements, and to attract the readers to participate in the authorial stance. Hedging devices are also used to navigate a writer's stance in a manner of collegial deference. Hyland (2005a, 2005b) claims that researchers use hedges in their academic research writing to soften any robust declarations. Next, boosters and their functions in NE and NNE research articles are discussed.

5.1.1.2 Boosters

From the results, it has been clearly observed that modal verbs had been mainly used (909.65) in this investigation. Meanwhile, adjectives (62.15) had been scarcely used. Purposively, writers use these rhetorical devices to stress any claims, and modal verb boosters might facilitate researchers to assert their arguments to a higher degree and to more considerably put forth their propositions. Also, Hyland (1998) suggested that modal verbs, such as will and must, are used to designate accepted truth meaning and that the writer's participation is lessened as the statement is clearly and generally acknowledged. Researchers can avoid exerting their existence in the text because modal verb boosters compose an adequate conviction of their own practices. Furthermore, adjectives boosters were not used as frequently as other devices in this investigation because these adjectives usually convey a writer's judgment and do probably not allow the readers the adequate space to compromise. Moreover, compared to other devices, adjectives might sound too forceful, and could be viewed as a diminishment of interpersonal solidarity between the writers and their readers. These results are in line with Mirzapour and Mahand's (2012) study in which the researchers found that the highest usage of modal verbs in their corpus had

occurred when the researchers had aimed to designate their degree of confidence and to foster the readers' participation. However, the results from this investigation are not in agreement with Abdollahzadeh (2011) who found that adverb boosters had been most frequently employed in their studies. This can be argued in the view of data differences as the researchers scoped down their investigation to English and Iranian writers merely. Therefore, when examining different studies, it can be seen that degrees of frequency may be inconsistent. Frequently, truth is presented in research writing, and boosters are used to stress this sort of information. As previously mentioned, Hyland (1999) stated that boosting devices are used to cohesively contact readers by highlighting shared knowledge so that readers can create their membership along with the text. This can be seen in the following examples:

Example 7: We believe that insights into cultural, linguistic, and generic conventions will help teachers to guide novice academic writers when writing up their research. [D.NNE17]

In example 7, a verb, believe, is used along with inclusive pronoun, we, to signify the inclusion of writers and readers as in the same context; therefore, verb booster is used to state shared belief.

In addition, boosters are broadly recognized as a rhetorical tool to underline the researcher's certainty when they assert their work (Hyland, 1996). The function of boosters, revealed in this study's findings, was also in line with Abdollahzadeh (2011) in the sense that apart from highlighting writers' stance, boosters also significantly support an author's propositions as can be seen in the following examples:

Example 8: ...which was clearly evident from their high pretest scores on the ungrammatical sentences... [D.NE20]

Example 9: Obviously, the target of analysis must not be the most basic rules, structures, or skills... [D.NNE11]

In example 8 and 9, adverbs, clearly and obviously, and adjective, evident, are used to serve a broadly recognized function of boosters. Writers' confidence is shown in these two examples, specifically for example 8, when writers are supported with sufficient evident, boosters are used dramatically to emphasize their claim.

Besides, boosters are used with the intention to shake a reader's determination. Writers become involved with their audiences by shooting overt statements as boosting devices which are used to draw attention to data presented in the study (Abdollahzadeh, 2011; Hyland & Milton, 1997). Even for general notions, boosters are used to elicit a strong participation toward the text as can be seen in the following examples:

Example 10: The fact that the relationship between length of residence and L2 proficiency might extend well after a decade is important...[M.NE8]

Example 11: In fact, our results coincide with those of some studies in which it has consistently been found that... [D.NNE3]

In example 10 and 11, a noun, fact, and an adverb, consistently, are used to establish explicit statements. According to the function above, this is to draw readers' awareness before providing explanations and reasons.

In short, boosters are widely understood as a tool to convey a writer's certainty and confidence (Hyland, 2004, 2005a, 2005b). Writers might use boosting devices to express their claims as facts without hesitation, as readers suppose. However, frequencies and some other functions underlie the crucial roles of these rhetorical tools. Boosters have been used in this study to demonstrate a writer's confidence, to attract readers with conviction, and to build relationship with their audiences. In the following part, attitude markers and their functions in NE and NNE research articles are discussed.

5.1.1.3 Attitude Markers

In regard to attitudinal devices, it was clearly observed from the results that adjectives had been mainly used (384.35) in this investigation. Meanwhile, verbs (75.78) had been scarcely used. These adjectives had been used to express the writers' admiration in the text. A higher incidence of adjectives might have caused the researchers to bring out their subjective prose. These adjectives were used to compose their stance, while simultaneously, the writers' justifications were being clearly stated. The results were similar to those of Koutsantoni (2004) and Mur-Duenas (2010) who, in their studies, also found that adjectives were mainly being used. As previously mentioned, attitudinal verbs were only limitedly found in this investigation. According to Hyland (1999) and Crismore et al. (1993), all attitudinal devices are

used to signify the writers' preference In addition, the adjectival attitude markers had assisted the researchers to strengthen their claims. It has been stated that adjectives can also be used to highlight the significance of claims (Koutsantoni, 2004). At the same time, writers can authenticate their assertive points by using these rhetorical devices in their research writing. This can be seen in the following examples.

Example 12: ..., it is necessary to present changes in the degree to which the students attempted to reconstruct the original meaning in their own words. [R.NNE6]

Example 13: First and most important, the finding that some aspects of strategy beliefs significantly predict achievement supports the position that kanji instruction should deal not only with words themselves but also with kanji learning strategies. [D.NNE9]

In example 12 and 13, adjectives, necessary and important, are used to embed writers' subjective stance to the presentation of the data in the result section. This is to inform readers that apart from the result itself, writers also convey their judgmental aspect that changes should be mentioned to involve with readers considerably.

Besides, attitude markers were found not only to be used to convey a writer’s' appreciation, but these rhetorical tools were also found to embed familiarity with their prospective audiences by designating affection in their authorial stance to their readers (Blagojevic, 2009).

Example 14: Questions regarding the relationships among interaction, age, WM, and L2 development deserve to be pursued further, ... [D.NE12]

Example 15: What is interesting, given our area of interest in this study, is that the two purposes for which Wang and Wen advanced students did continue to use the mother tongue were to retrieve a better L2 word (p. 238) or to evaluate the language the writers had produced... [I.NNE3]

In example 14 and 15, even though the use of attitudinal verbs had been found limitedly in this investigation, deserve is used in the example to relate authorial self with their tentative readers by indicating future study which could be developed by members of the disciplinary including readers of the text. Also, in example 15, the use of an adjective, interesting, created more intriguing approach to the readers within writers' affection.

To conclude, the function of attitude markers is so outstanding in the sense that either affection or aversion can be conveyed through written expression. Apart from demonstrating opinions, facts, detachment, and commitment, writers can also create more intimacy with their readers by using attitude markers. As sensation cannot always be carried out by wording, writers transfer their individuality by accordingly employing attitude marker devices. Subsequently, next type of interactional metadiscourse markers is self-mentions. The uses and their functions in NE and NNE research articles are discussed in the following section.

5.1.1.4 Self-mentions

It was clearly observed in the results that first person pronouns (769.39) had been used more than terms (35.20) in this investigation. This could imply that the researchers had been more assertive in their presence by using a direct approach. For example, researchers had used “I” and “mine” rather than mentioning of themselves less directly, such as using “the writer” and “this author”. First person pronouns had also helped to more precisely express the linguistic realizations of writers' authenticities. An example is when writers claim their work by using “my” or “our”, researchers might signify that they have fully advocated to their studies. Meanwhile, when using terms such as the writer and the researcher team, it is possible to mislead readers. Moreover, these terms could lead the readers to become confused and come to believe that they are referencing some other groups of researchers mentioned in those certain research articles. Thus, the researchers had opted to project the choice of the existence or absence of the authors by using self-mention terms less frequently

than first person pronouns. As reviewed, Mur-Duenas (2007) suggested that first person pronouns were significantly used to claim the legitimacy and authority of writers' works. Therefore, it can be implied that the more writers relate themselves with the text, the better authenticity readers can recognize when they are reading research articles. The result of this study is also in accordance with a study by Kuhi et al. (2012) as the frequencies of self-mentions present a denial of mentioning the convention of "self". The stance of objectivity by the writers was performed less when they were referring to themselves in the text as the owners of their claims. Accordingly, self-mentions and their devices can be seen in the following example:

Example 16: To do so, I empirically investigated differential learning outcomes in monolingual and bilingual older adults learning novel morphosyntax...[D.NE23]

Example 17: This author served as the instructor of the course, which was 15 weeks in length. [M.NNE6]

In example 16 and 17, one first person pronoun, I, and a term, the author, are used to exhibit the highest degree of dedication. The single doer in example 17 ultimately emphasizes on a sole conductor in the research process. Even though self-mention terms had been revealed less incidences, example 18 still demonstrates that the term 'this author' is also used to assure readers of writers' participation in the study. According to Karahan (2013), this function of self-mentions is the most powerful one.

Additionally, as reviewed, Kuo (1999) also stated that writers use first-person pronouns to modestly claim significance for their research. First person pronouns are viewed as rhetorical tactics to proclaim researchers as professionals in academia (Benkenkotter & Huckin, 1995; Harwood, 2005; Hyland, 2001, 2002; Tang & John; 1999). Wu and Zhu's (2015) investigation also supported the findings from this research study by noting that when first person pronouns had been significantly found, the reasons were that these devices had been used to differentiate the role the writers within the given text. First person pronouns are also recognized as an interlocutor in the communication. Also, the devices assist the researchers to present themselves as knowledgeable and accountable members of their disciplines. By omitting the emphasis of writers' presence, the end results can be an obstruction of

the researchers' dedication which can be constructive to their areas of research. For that reason, the "mentioning of self" can be elaborated in that a specific researcher has, to a great extent, devoted himself/herself to academia and should be so regarded by fellow scholars. This can be seen in the following examples:

Example 18: Therefore, we can only continue to recommend that teachers use a combination of these writing tasks in their classrooms to fit the needs of their students. [D.NE30]

Example 19: ...it would be a greater disservice to the scientific process if we, as researchers, chose not to do our best in trying to reject it. [D.NNE11]

In example 18 and 19, the mentioning of self is revealed in the use of first person pronouns, we and our. Even though these examples do not specify the intense procedure of their studies, the writers are seemed to claim themselves as credible members by promoting their stance as a role of researchers, specifically for example 19, who can voice to their disciplinary at large.

Then, self-mentions are also used to prove the originality of claims made in the studies (Mur-Duenas, 2007). Karahan (2013) also asserted that international publications have been gaining tremendous interest from scholars around the world. Therefore, it can be said that stating an authenticity of his/her claims is a challenge each researcher has to encounter. Accordingly, they should be able to establish their territory in academic stance by using self-mentions as can be seen in the following examples:

Example 20: We conclude that comprehensive CF is a useful educational tool that L2 teachers can use to help learners improve their accuracy in writing. [D.NNE7]

Example 21: Because of the importance of vocabulary in my analysis, the results are especially consistent with hypotheses ..., reinforcing the importance of lexical-semantic knowledge for adult readers with adequate decoding skills. [D.NE29]

In example 20 and 21, first person pronouns, we and my, are used to lead their closure. When they consider themselves as expertise in their disciplinary, the establishment of writers' stance is initiated with an credible ability to come with their conclusions.

To sum up, even though in 1934 Robert Einstein once referred to the “mention of self” as something to be avoided in scientific and academic writing (Hyland, 2001), it is now a strategy to include the writer's presence in any kind of text. Self-mention devices are used to facilitate the presence of researchers so that readers can relate their positions to the owners of the text (Tang & John, 1999). This function is believed to create the writer-reader relationship because readers can directly be in contact with their visualized author when self-mentions are being used to make a distinction between the writers and their readers, to indicate the writers as a claim-maker, and to declare researchers to be a reliable allies of the discipline. Next, the last of the interactional metadiscourse markers, the engagement markers, and how their functions are used in NE and NNE research articles is discussed in the following section.

5.1.1.5 Engagement Markers

It has been reported that of the three engaging devices used in this study, imperative directives had been mainly used (418.81). Meanwhile, rhetorical questions (56.79) had scarcely been used. The results are literally interesting in that researchers from the field of applied linguistics had opted to use imperative directives in their research articles. It means that these researchers had highly considered how to engage readers by referring to the existing information in their research articles. The higher use of imperative directives is due to the fact that this strategy can direct responsive practice in ways that writers can expect because their audiences are prompted to engage in other phases in the study. Predictive involvement from readers is then initiated to further interact with readers through additional disciplinary solidarity (Lafuente‐Millan, 2014). By addressing audiences as members of the text, engagement markers had not only been used to make contact and bond, but the devices had been used to point out mutual gains or losses. Therefore, because they had originally been included in the text, the readers can also partially possess the ideas presented by the writers. This can be seen in the following example:

Example 22: Consider the cells contained in the interior rectangle of Table 2. [M.NE8]

In example 22, an imperative directive, consider, is used to lead to the data presented in the table. Rather than demonstrating actual information

straightforwardly, writers engage with their audiences by staging interaction prior to the target information.

Moreover, it was found that engagement markers are an approach, which can be seen as a subjective method and that can be used when the writers wish to point to any information which is significant for them to stress by using words, such as consider or note that (Hyland, 2002). This can be seen in the following example:

Example 23: Note that the above are headings from a short report and that the section of conclusion comes after that of recommendation, ... [R.NNE13]

In example 23, an imperative directive, note that, is used to put more emphasis on specific dialogue. This also helps readers to evade from misunderstanding as, from this example, the source of the data might be repeatedly mentioned in order to remind readers before further interpretation.

However, compared to other devices, rhetorical questions, such as why and is which are used to interest readers were limitedly found. It is possible that rather than posting questions and following them with answers to gain participation from readers, researchers in this investigation had tended to engage their readers by utilizing other engaging devices in order to show the conclusion of what they had previously proposed in their writing. Rhetorical questions might lead to the readers giving impulsive responses. However, this practice is common among some groups of researchers whose culture influences them to post questions in their research writing. Lee (2011) indicated that Japanese researchers had elicited their readers in their English research articles because their culture had played a part in it. Therefore, the justification of this investigation is that rhetorical questions have been significantly used in this study because on the whole, the researchers had explicitly appointed their stances using closed dialogue which can be seen in the following example:

Example 24: Why might our results show some independence between letter-sound knowledge and meta-linguistic phonological awareness? Patterns may reflect the different phonological task used in this and previous studies. [D.NE25]

In example 24, evidently, a result of the study is demonstrated in a rhetorical question structure starting with Why. This strategy seems to invite readers

to further their interpretation of the results in order to convey their participation spontaneously.

Apart from making connections through the text, engagement markers had also been exploited to interrelate with the readers' tentative oppositions or suspicions. Therefore, one more function of engagement markers is to rhetorically engage readers. Readers were invited to the critical stage as they were occasionally questioned or led to comprehension (Hyland, 2005a, 2005b). This can be seen in the following example:

Example 25: Can this be interpreted as evidence for L1 influence? Previous research has shown that cross-linguistic influences can take on a wide variety of forms, ... [D.NNE22]

In example 25, a rhetorical question, Can, is used to discursively inform that readers' interpretation towards 'this' is considered. By identifying readers' tentative inquiry, it is implied that reader-friendly approach is carried out.

In summation, engagement markers had been used in this study to achieve the readers' anticipation and to develop solidarity with them. Additionally, engagement markers had been used to engage readers by inviting them to participate. These markers had also been used to encourage readers to participate in the text. The devices also demonstrate the writers' interpretation of the text when evaluations were made.

In the following part, the significant differences in the usage of interactional metadiscourse markers in English research articles written by native and non-native writers are discussed from the context of cultural differences.

5.1.2 Significant Differences of Interactional Metadiscourse Markers in English Research Articles Written by Native and Non-native Writers

Regarding the issue of cultural dissimilarities and the use of interactional metadiscourse markers in the current investigation, some significant differences were found in the usage of hedges, attitude markers, and engagement markers written by NE and NNE researchers. These dissimilarities implied that the two groups of researchers had made use of the rhetorical devices of detachment, affection, and involvement differently. More precisely, for interactional metadiscourse marker devices, there had been some significant differences in the use of hedges (adverbs and nouns), boosters (adverbs), attitude markers (adjectives and verbs), and engagement markers (imperative directives). It is believed that the differences in a writer's rhetorical choices can be influenced by aspects of culture (e.g. Atai & Sadr, 2006; Burneikaite, 2009; Pooreesfahani, Khajavy, & Vnidnia, 2012; Zarei & Mansoor, 2011). Consequently, these differences are discussed in the following parts.

5.1.2.1 Differences between NE and NNE Research Articles in the Use of Hedges

As might be expected, hedging devices (adverbs and nouns) were found to be used differently by NE and NNE researchers. NE used hedges with greater frequency than NNE writers. The outcomes of the current investigation have suggested that the NE writers had hedged more in order to negotiate the writer's stance with the readers. Even though the data presented by NE researchers can be written in a manner representing a truthful piece of information, they seemingly decided to initiate space with their audiences by presenting their information in opinion form rather than as factual pieces of information. Atai and Sadr (2006) also asserted that “fact” can be considered as a forceful influence to the readers. Therefore, NE writers seemed to allow the readers to make judgments and to become involved in their texts by using various kinds of hedges. NE writers were also able to position themselves in an objective manner rather than in a personal manner when they were conveying their positions in research articles (Nasiri, 2012b). Even though NNE writers revealed a less frequent use of hedges, this group of writers tends to significantly use hedges when they purposefully evade certainty which is similar to

NE writers. In addition, the results of a study by Andrusenko (2015) supports that NNE writers hedge to mitigate from their precision, and their use of hedges helps to lessen their degree of exactness in their research writing. However, the dissimilarities between NE and NNE writers can be explained by the findings from a study by Atai and Sadr (2006) in which it was found that NNE researchers pay more attention to their text than they pay to their audiences. When NNE writers hedged, the conviction was meant to be in less accord with the content. Meanwhile, NE writers had hedged to provoke readers to enter a critical stage. The notion of hedges among NNE researchers does not seem to be concerned with interpersonal relations as much as the NE writers seem to be. This might be due to the fact that NE culture touches upon writer-reader interaction more than NNE culture does (Gholami, Tajalli, & Shokrpour, 2014). Also, results from Davoodifard (2008) are also in agreement with the current findings in that NE researchers use hedging devices in a more reader-oriented approach, while NNE writers have a more content-oriented style. In cultural perspectives, Holliday (1994) stresses that national cultures play important roles in forming the characteristics of scholars which can be conveyed as evidenced through their writing. Moreover, as previously reviewed, Kramsch (2002, p. 276) indicates that culture has become less a nationalized agreement, but more "a consensus built on common ethnic, generational, ideological, occupational, or gender-related interests, within and across national boundaries". In accordance with Holliday (1994) and Kramsch (2002), the different usages of hedges in this investigation have partially been dictated by the NE and NNE cultures with which the writers are associated. The underlying reasons for these differences in the use of hedges seem to stem from the following: 1) culturally driven rhetorical preferences, 2) the intended writer-readership of the two cultures, and 3) the restrictions of using English as an additional language (Dontcheva-Navratilova, 2016).

More specifically, the hedging devices, that had been found to be used differently by NE and NNE writers, were adverbs and nouns. It was reported that adverb hedges had been used more by NE than NNE writers, while noun hedges had been used more by NNE than NE writers. According to the frequencies, NE writers had used more adverb hedges because NE culture allocates the use of adverb hedges to help writers to confirm their data with the least possible degree of conviction. This

can be viewed as a strategy that the NE writers had utilized in order to invite readers to assert more or to reject the discourse. At the same time, their research writing had implied to their audiences that the perceived experiences could help them to understand the manifestation of the text even when it is possible to avoid a full conviction of the truth. Conversely, NNE researchers had not employed as many adverb hedges as the NE writers had. This is possibly because they had mainly used hedges as tools to make implications to past events and to assist readers with the textual presentation. However, NNE writers were found to have a higher usage of noun hedges than the NE writers. To explain, because NNE writers consider textual involvement to be crucial (Atai & Sadr, 2006), they might believe that in order to ensure readers are given credible data, research articles should be written with truthful claims. Accordingly, heavier usages of noun hedges were found in the NNE corpus. Therefore, hedging devices were found to be used differently by NE and NNE researchers because NE had highly considered their readers, while NNE writers had been more concerned with their text.

5.1.2.2 Differences between NE and NNE Research Articles in the Use of Boosters

Overall, the results had almost revealed a significant difference in the use of boosters between NE and NNE research articles (p=.053). However, the results of the individual pairs indicated that there had been a significant difference between NE and NNE research articles in the use of one of the boosting devices (adverbs). It was reported that adverb boosters had been used more frequently by NE than by NNE writers. Given that NE culture might allow the researchers to make the writers' positions more visible than NNE ones, any commitment made in the text could bring a convincing statement to readers. The results of the study are in line with Lee (2006) who indicated that NE culture had displayed a stronger voice and a higher sense of authority than its counterpart. Furthermore, it can be explained that the NE writers had not only boosted to present their convictions, but they had also boosted to relate their contribution of the study to their current knowledge (Abdollahzadeh, 2011). Boosters can also be viewed as a supportive implement to any information presented in which the text can help readers to be clear about the information and to avoid misunderstandings (Nasiri, 2012a). Also, NE writers had boosted to elicit positive

results with readers in order to reach mutual agreement. In contrast, NNE writers had used adverb boosters to highlight general information instead. Hyland and Milton (1997) also found that some NNE culture had promoted indirectness and were concerned about compensating for the indirectness strategy. Possibly, NNE writers might feel uncomfortable when they have to significantly boost their claims by using adverb boosters. Therefore, this has brought about a condition in which adverb boosters are less frequently used. Nonetheless, they might not apply this boosting strategy to refer back to a conventional notion. As reviewed, Loi and Evans (2010) also claimed that some NNE culture had revealed an avoidance approach to information which was “too obvious”. Consequently, adverb boosters had been used differently because the writers' views towards this device were different. These differences can also be explained by noting that any linguistic presentations in research writing can be considered as an implication of identity differences from one culture to another (Davoodifard, 2008).

5.1.2.3 Differences between NE and NNE Research Articles in the Use of Attitude Markers

Apart from hedges and boosters, attitudinal devices (adjectives and verbs) were found to be used differently by NE and NNE researchers in the current investigation. NE used attitude markers with greater frequency than NNE writers. Given that the authors had used attitude markers to assist them in presenting their scholastic evaluative approach based on their knowledge (Koutsantoni, 2004), NE and NNE researchers had used these markers in diverse ways to declare their affection towards their work. The differences in the use of attitude markers between NE and NNE researchers can be viewed as follows: 1) the NE writers had used attitude markers to demonstrate their recognition of academic values, and 2) the NNE researchers had employed attitude markers to represent their textual emotions. This can be explained by the cross-cultural perspective of formality by Nasiri (2012a). Potentially, NE writers had used attitude markers with formality (a writer’s awareness of scholastic implication). Also, the findings of Millan (2012) demonstrated a higher use of attitude markers among NE as compared to NNE writers because of different implications due to the writer's intention to publish. A writer's purpose of publication plays a vital role in rhetorical choices, particularly in the use of attitude markers. To

illustrate, researchers, aspiring to publish internationally, would usually be faced with greater challenges due to the size of their audiences as compared to those who aim for national publication. Evidently, researchers who are more highly involved with publishing internationally usually have English as their native language. Therefore, NE writers had used rhetorical tools to complete their publications, specifically at the international level (Mur-Duenas, 2010). Dissimilarly, NNE writers had been offered the opportunity to change the language of their publications from English to their first language, so the attitude markers might have been used less frequently when writing their research articles in English. These factors are possibly responsible for causing differences to occur in the sense that NNE writers had used attitude markers to express the atmosphere and nature of their studies rather than positing the highest degree of affective expression for their work. It should also be noted that the different uses of these devices was possibly influenced by NE and NNE culture which has been proven by Koutsantoni (2004) who asserted that the use of attitude markers can either be interpreted as being positive or negative based on the accumulative prospects of the community. Therefore, writers from different cultures have been dramatically drawn by the connotations of these devices. NE writers gain advantages from having English as their first language. Thus, the appropriate usage and suitable presentation of the linguistic realization of NE writers' appreciation can be conveyed in a more effortless manner than the NNE writers. Accordingly, the differences in the use of attitude markers are not limited to the competitiveness of global publications. Rather, these devices have been reported to be dissimilar because culture is uncontrollably attached to the connotations of these rhetorical tools (Blagojevic, 2009; Mur-Duenas, 2010).

More precisely, with respect to the NE and NNE research articles in this investigation, the adjective and verb attitude markers were found to be used dissimilarly. It was reported that adjective and verb attitude markers had been used more by NE than NNE writers. It could, therefore, be implied that NE writers had been more capable of using the English vocabulary which is better suited to their expressions, which would mean that the use of these devices is embedded in the NE writers' cultural backgrounds. They might find adjectives, such as clear and evident and nouns such as contribution and support, that can complete the contributions of

their work when they have to contend with other researchers in research publications. Because the NNE writers had revealed a less frequent use of attitude markers, it can also be implied that NNE writers had intended to demonstrate their affections towards their work (particularly to elaborate their textual emotions) in order to convey their thoughts from their native languages to English rather than succinctly competing for credible local and international publications.

5.1.2.4 Differences between NE and NNE Research Articles in the Use of Self-mentions

From Results section, self-mentions and devices were not found to be used differently by NE and NNE researchers in this investigation. Possibly, both NE and NNE writers had been aware of the presentation of self in research articles and referred their visible position in the discourse to identify their attribution in scholarly effort. However, the most intriguing aspect of self-mentions and devices usage is that NE writers had demonstrated less use of self-mentions than NNE writers. Comparing to other four interactional metadiscourse markers, self-mentions are the only type of Hyland's (2005a) interactional metadiscourse markers with higher frequency from NNE than NE writers. These results were very different from previous findings of Martinez (2005), Mur-Duenas (2007) and Munoz (2013) as these researchers had revealed that NE writers presented the authorial self greater than the frequency of NNE writers because, according to their investigations, NE culture tends to portray more researchers' parts and intrusion in the text as positive orientation to the readers. However, the results of the current investigation agrees with Kuhi et al's (2012) and Wu and Zhu's (2015) investigation when NNE writers' self-mentions outnumbered NE writers' self-mentions. This is evident that NNE scholars are in denial of the introvert convention in academic writing. Possibly, because the NNE discourse community is undoubtedly larger than NE ones, NNE writers have more demands to place their authority and reliability on their work to compete with other NNE scholars as well as NE writers who has naturally embedded English proficiency. Seemingly, a sense of academic culture plays a vital role in NNE culture when composing academic text. NNE writers could probably believe that when it comes to academic publication, the fundamental nature of the authors' cultures and their pragmatic orientation should be set aside. Even though background culture had directed to

various linguistic preferences (Kuhi et al., 2012), NNE writers demonstrated that academic discourse may possibly be put in a straight forward manner so that readers would not be misled, and full legitimacy could be entirely referred back to the writers of the text. Then the preconceived notion of distant academic discourse is decreasing.

In more details, even though self-mention devices were not found to be used differently by NE and NNE researchers in this investigation, both devices, first person pronouns and terms, had also been used with greater frequency by NNE than NE writers.As reviewed, first person pronouns are seen as rhetorical strategies to declare researchers as professionals in academic circles (Benkenkotter & Huckin, 1995; Harwood, 2005; Hyland, 2001, 2002; Tang & John; 1999). At the same time, terms are also seen as writers' tactics to the mentioning of self in more indirect conduct. NNE researchers had used these two devices with greater frequency meaning that NNE writers embedded better authenticate their work with noticeable separation between writers and other related agents. These representations of self reveal that NNE writers had lessened their objectivity and impersonality to establish their academic terrain significantly.

In conclusion, the distinction in the use of self-mentions and devices has revealed that NNE writers put more consideration to the main discourse function of self-mentions which is to authenticate their significance in the investigation. The higher frequency in the degree of writer presence found in NNE research writing has shown that NNE culture is negotiating with academic culture in posting authorial stance in the text. The convention of international publication might cause this transition. Meanwhile, NE researchers were found with less use of self-mentions and devices. It should also be noted that the results of this study should not be interpreted as negative use of self-mentions among NE writers as NE writers might have less paradoxical nature between their background culture and academic culture. Therefore, NE writers might balance the need to claim themselves in the study with other significant aspects in the research writing.

5.1.2.5 Differences between NE and NNE Research Articles in the Use of Engagement Markers

Finally, the results reported that there had been some significant differences in the use of engagement markers and in one of the engaging devices

(imperative directive) between NE and NNE research articles. NE had used engagement markers with greater frequency than NNE writers. This can be explained through the notion of culture as NE culture could possibly allow writers to bring forth interactions and elicit their future readers to become more involved. Moreover, most NE writers had utilized this rhetorical structure in order to lead the readers to the authors' viewpoint, and this notion agrees with Hyland (2002). Meanwhile, NNE writers had partially employed engagement markers to lead their stance. Rather, they had seemed to employ these markers in a greater aspect when their native language was playing a part. In other words, NNE scholars had deployed rhetorical forms which were simply consistent with their own cultures. Lafuente-Millan (2014) also pointed out that language and national culture had revealed various effects on the usage of engagement markers. As might be expected, NE culture could possibly influence the ways in which the writers give more involvement to readers as if the interaction helps to visualize the author's existence in the text. As reviewed, Lee (2011) also elaborated that NNE researchers had engaged with their audiences in ways they were familiar with, specifically in their spoken language. They might not aim to interrelate with their readers via their cultures. In all probability, the researchers approach them as informers, rather than communicators, in research writing. This can be viewed as a barrier for NNE writers who could be less involved in academic English than their NE counterparts if their native cultures do not assist them to write their investigations and to intermingle with their audiences. This can also be explained from the viewpoint of Atkinson (2004) in which the NE and NNE researchers, shaped by professional-academic and national culture, overlap. Thus, the use of these rhetorical tools differs according to each researcher's academic background, as well as his/her first language stimuli.

To further emphasize this point, there was one engaging device for which a significant difference between NE and NNE research articles has been reported. This device is the imperative directive. It was reported that imperative directives had been used with greater frequency by NE than by NNE writers. The reason might be that on the whole, NE scholars have been found to initiate more interactions with their audiences in the text than NNE writers have demonstrated. As reviewed, Hyland (2005b) also proposed three main activities in which imperative

directives are involved, and these are textual, physical, and cognitive acts. Based on NE culture, the scholars in this study had appeared to use many of physical and cognitive acts. For example, when NE writers performed, they had referred to information outside of the text in order to relate the readers' experiences with the writing. Simultaneously, the NE scholars had used this engaging device to clarify reasons because they had wanted to attempt to predict any understanding the readers might have experienced when they were reading the text by themselves. Meanwhile, NNE culture allowed many textual acts for their writers because they had opted to engage the readers by enticing them with newer information. Conversely, the current results are inconsistent with a previous investigation by Lee (2011) who reported that rhetorical questions had been differently used by NE and NNE writers. This could be explained by the fact that the subjects in Lee's investigation had been Japanese and English, and that Japanese culture had played a more essential role in defining the use of these strategies. However, my exploration was not limited to any NNE culture and various NNE cultures were investigated as one category. Therefore, NNE culture and its diversity in my study would have reflected larger applications of the usage of engaging devices. Lafuente-Millan (2014) also concluded that cultural values have had their influence on researchers to a greater degree with respect to using engagement marker devices. Consequently, it can be understood that the cultural aspects of this investigation had played a crucial role in the differences in writing between NE and NNE articles.

In summary, the interpretation of the analysis when the distinctions occur in the use of interactional metadiscourse markers and their devices is based mainly on statistical data reported in the study. Frequency counts demonstrating higher and lower incidents of each type of interactional metadiscourse markers and devices also assist the interpretation and the relation between nativeness and non-nativeness when the greater use implies the greater concern towards the function of each rhetorical tool and vice versa. As discussed, the NE and NNE writers had used hedges and some hedging devices differently because the NE writers had aimed at the writer-reader relationship, while the NNE writers had placed emphasis on the in-text evaluation. In regard to boosting devices, the NE writers had boosted to essentially support their claims; however, the NNE writers had boosted to underscore the general

information within their texts. With respect to attitude markers, the NE writers had used these rhetorical devices to posit ownership in their studies. However, the NNE writers had demonstrated their appreciation in their texts in order to express the tone of their work. Even though there were no significant differences in the use of self-mentions and devices, the remarkable point is that NNE writers portrayed more self-presentation in the text than NE writers. Finally, the NE writers had utilized engagement markers and some engaging devices to initiate space with their readers. Conversely, the NNE writers had opted to use fewer of these linguistic tools because this group of researchers had been more connected to their textual acts.

In the next section, the cross-sectional differences in the use of interactional metadiscourse markers between NE and NNE writers in English research articles are discussed.

5.1.3 Significant Differences of Interactional Metadiscourse Markers in English Research Articles across IMRD Sections

With respect to the differences in the use of interactional metadiscourse markers in research articles, some significant differences have been shown across the four research article sections: Introduction, Methodology, Results, and Discussion (IMRD) (Swales, 1990). NE and NNE researchers were found to have diversely employed these rhetorical devices. To begin, the NE writers had used boosters and one boosting device (modal verbs), as well as self-mentions and one self-mention device (first person pronouns) differently across the IMRD sections. Even though no differences had existed in their uses of hedges and attitude markers, the post hoc test revealed that hedging devices (adjectives and modal verbs) and attitudinal devices (nouns) had been used differently across the IMRD sections. In addition, the NNE writers had used hedges and some hedging devices (adjectives, modal verbs and verbs); boosters and some boosting devices (adjectives, modal verbs, nouns and verbs); attitude markers and some attitudinal devices (adjectives, nouns and verbs); and engagement markers and some engaging devices (imperative directives and rhetorical questions) differently across the IMRD sections. Even though differences in the use of self-mentions were found not to exist, the post hoc test revealed that self-

mention device (term) was used differently across IMRD sections. As a result, these differences are discussed in the following parts.

5.1.3.1 Different Uses of Interactional Metadiscourse Markers and Devices in NE Research Articles across IMRD Sections

For NE researchers, there are some significant differences in the usages of boosters and self-mentions across the IMRD sections. Boosters were reported to have a higher incidence in Discussion than Result sections. Also, a higher incidence of boosting devices (modal verbs) was reported in the Discussion section than in the Methodology and Result sections. The reasons for the occurrence of these differences can be explained because the NE writers had seemed to place their emphasis on the relationship between their findings and other empirical evidence in Discussion sections by using boosters and boosting devices, such as will and must. The relationship between the NE writers and their modal verb boosters signified that NE researchers had been certain about their statements even though any comparisons to studies, carried out by others, had been made in their Discussion sections. Salek (2014), as well as Mirzapour and Mahand (2012), also suggested that in the NE writers' Discussion and Conclusion sections, boosters had mainly been used. Perhaps, these high frequencies indicated the distinctive use of boosters in the Discussion sections of NE writers when they had been aiming to specifically strengthen their claims with respect to the empirical evidence of other researchers. Therefore, it might be possible that the NE writers had boosted greatly in their Discussion sections in order to confirm their findings in accordance with other supportive information. Moreover, by doing so, the use of boosters would differ in the Results section. Since the differences were evident, the boosters had not merely been used as a strengthener of the results. Instead, they had been used to declare to their readers that their findings were evident, truthful, and consistent (Hyland, 1998; Skelton, 1997; Vassileva, 2001). More precisely, modal verb boosters had performed in the Methodology section to present accepted truth (Hyland, 1998). For instance, will and must had been used to lessen the NE writers' involvement by indicating that their research procedures had been generally acknowledged by academic members.

However, a less frequent incidence in the Methodology and Result sections can be explained by the fact that the NE researchers had allowed readers to

elaborate and to participate in the research process and findings before the discussions had taken place. Furthermore, the writers' degree of commitment in the Methodology and Result sections might be less emphasized as compared to their commitment in the Discussion section which would be required in order to match the NE writers' original claims with their research findings. Moreover, modal verb boosters had been less frequently used in the Methodology Results, and Discussion sections due to the writers' critiques and evaluations. When making their own claims and when comparing their results to the empirical findings of others, the writers were far more confined by their degree of confidence than by the course of the research examination (Vassileva, 2001).

Additionally, a higher incidence of self-mentions had been reported in the Methodology sections than in the Introduction and Result sections. Also, a higher incidence of one self-mention device (first person pronouns) had been reported in the Methodology sections than in the Introduction and Result sections. This can be explained by the fact that in their Methodology sections, the NE writers had attempted to present their sense of “ownership” by using self-mentions, as well as those devices which would reveal their involvement and demonstrate what they had accomplished in their studies through their participation in the research process. This process brings about the mentioning of “self” in this section, specifically first person pronouns, such as me and we. This can be viewed as the full contribution of researchers who aim to noticeably display their manifestations within their research articles. To elaborate and to reference other empirical evidence, Munoz (2013) also suggested that the NE writers had greatly elicited the use of self-mentions, specifically the use of I, in their Methodology sections in order to indirectly refer to themselves as credentialed performers in the research process which is similar to the findings of the current investigation. Conversely, from the smaller numbers of self-mentions and the usage of one device (first person pronouns) in the Introduction and Result sections, it can be implied that the NE researchers had been less concerned with their stance in establishing their research backgrounds or in asserting their research assumptions at the very initial stage, as well as in declaring the authenticity of their claims.

However, even though no differences had been reported with respect to hedges and attitude markers, some hedging devices (adjectives and modal verbs) had

been used differently across IMRD sections. It was found that adjective hedges had been used with greater frequency in the Methodology sections, rather than the Result sections. NE writers might believe that some adjectives, such as some and possible, assist them in proposing research methodology rather than instructing their readers how to conduct their studies. Meanwhile, adjective hedges were used less in the Results because the NE writers had possibly aimed to be more precise with their findings. Therefore, this detachment tool should have been used less frequently in this section. Also, modal verb hedges had been most often used in Discussion sections as compared to the Methodology and Result sections. This could explain why modal verbs, such as may, might, and would, had been used by NE writers to compare their findings with previous investigations. NE writers might have considered that being humble when comparing and contrasting their own findings with works of others could create more space for the readers to advance their elaboration towards their writing. On the other hand, more precision had been attached in the Methodology and Result sections as the NE writers had employed modal verb hedges to a lesser degree. Nevertheless, multiple comparisons had not report the use of noun attitude markers in pairs, the devices had been used differently across sections.

In short, the results demonstrated that NE writers had used boosters and one boosting device (modal verbs), as well as self-mentions and one self-mention device (first person pronouns) differently across research sections. Specifically, the highest incidence of boosters had been reported in the Discussion sections because in order to authenticate their findings, NE culture allows the writers to boost when they are discussing their studies in reference to other empirical evidence. Meanwhile, self-mentions were mainly found in the Methodology sections because the NE writers had believed that portraying their presence in the research procedures would help them to convey their devoted participation and would, therefore, lead their readers to become involved in the research. Even though no statistical differences were reported for hedges, hedging devices (adjectives and modal verbs) had mainly been used in the Methodology and Discussion sections, respectively. The reason is that these two devices can help NE writers to initiate their stances in a less forceful direction.

5.1.3.2 Different Uses of Interactional Metadiscourse Markers and Devices in NNE Research Articles across IMRD Sections

With respect to the NNE researchers, there are some significant differences in the use of hedges, boosters, attitude markers, and engagement markers across the IMRD sections. Starting with hedges, higher incidences were reported in the Discussion sections as compared to the Introduction, Methodology, and Results sections. In addition, adjective hedges were reported to have a higher incidence in the Discussion sections rather in than the Results sections. Simultaneously, modal verb hedges were reported to have had the highest incidence in Discussion sections compared to the Introduction, Methodology, and Results sections. Moreover, a higher incidence of verb hedges was reported in the Discussion sections than in the Introduction and Methodology sections. However, only one difference was noted; a higher incidence of verb hedges had been reported in the Results sections than in Methodology sections. Overall, hedges and some hedging devices had mostly been used in the Discussion sections. These three types of hedging devices (adjectives, modal verbs, and verb hedges) have been categorized by Hyland (1998) as “Reliability-hedges”. These types of hedges had been used in the Discussion sections to confirm the present state of the research findings by deducing the available facts and demonstrating them in opinion form. Also, adjectives, modal verbs, and verb hedges had been used in this section to refer to previous incidents which could have been related to the NNE researchers' outcomes. Therefore, it appears that the NNE writers had seemed to follow the norms of research writing by creating an appropriate stance and by discussing their own claims with others. It is evident that the NNE writers had employed these rhetorical devices to avoid confrontation (Getkham, 2011) and that they had presented their assertions in softening approach (Hyland, 2005a, 2005b). These findings, in fact, are aligned with Mirzapour and Mahand's (2012) investigation. It is quite possible that the NNE writers might find themselves challenging other scholars in their research writing. Therefore, apart from being fully certain about their own positions or questioning the studies of other researchers, some rhetorical approaches might support them to modestly propose their stances. Also, it was found that the NNE writers had hedged to lessen their “degree of certainty and subjectivity” in order to invite readers to explore the content throughout their textual

participation. To illustrate, it is possible that hedges, such as potential and possible, had been used to humbly posit the writers' opinions. NNE writers were found to hedge in their Discussion sections as a strategy of politeness when they had been required to discuss their work in relation to the findings of others by using words like relative and tend. Compared to the results from Getkham (2011), it was reported that hedges had been greatly used in the Introduction sections, followed by the Discussion sections. Getkham (2011) suggested that hedges had been used in the first rhetorical section to mention the importance of previous investigations to avoid acts that would threaten losing face. Whereas in the Discussion sections of this investigation, the NNE researchers had cautiously touched upon their results, as well as had mitigated with other studies to gain acceptance in the field because the NNE writers had not only hedged when their findings had contradicted previous investigations, but they had also used hedges when their findings had been consistent with former empirical evidence. According to Hyland (1998), they had done this to gain acceptance by elaborating beyond what they had found in common in order to create an invitational space for their audiences to agree upon the research outcomes, as well as to challenge false interpretations. This was used to evade from being too exact about prior explorations. They hedged in order to present the fact that there may have been some differences or even slight differences that had occurred during the discussion. Also, the NNE researchers had used hedges, such as may and might, to propose alternative opinions, which possibly suited other considerations, rather than proposing forceful ideas. Regarding the less frequent occurrence of hedges and some hedging devices in the Introduction sections, it is possible that the NNE writers had considered these rhetorical tools to be less significant in positing the writers' opinions by putting across existing problems as well as the significance of the study to their audiences. Yet, hedges and hedging devices had not been used as often in Discussion sections. For example, potential and possible had been used less frequently in the Introduction sections. Also, NNE writers had used hedges, such as may and might, in the Methodology sections less than they had in the Discussion sections quite possibly because the NNE researchers might have aimed to propose methods in as precise a manner as possible in order to clarify such methods with their audiences. Apart from that, NNE writers had used fewer hedges and hedging devices in the Results sections

because they might have intended to verify their findings by avoiding words, such as appear and seem, in their results.

Apart from hedges, boosters had been used the most often in the Discussion sections as compared to the Introduction, Methodology, and Result sections. Evidently, this result is similar to the NE writers' uses of boosters. Also, for boosting devices, a higher incidence of adjectives and modal verbs had been reported in the Discussion sections when compared to the Introduction, Methodology, and Results sections. Similarly, the NE and NNE writers had reported a greater usage of modal verb boosters, particularly in the Discussion sections. Also, a higher incidence of noun boosters had been reported in the Discussion sections than in the Methodology and Results sections. Moreover, a higher incidence of verb boosters had been reported in Results section than in the Introduction and Methodology sections. Therefore, similar to hedges, the overall results revealed that the highest reported incidences of boosters and some boosting devices had been in the Discussion sections. NNE writers had used boosters, such as well-established and considerable, to not only attract the attention of their readers by giving strong remarks, but had also used them to state that the points were well-explained and to relate to information that had already addressed as issues in the Discussion sections. Therefore, boosters, such as widely-accepted, were found to have mainly been used in this part. Salek (2014) also stated that boosters had extensively been found in Discussion sections. With this distinctive usage of boosters in the rhetorical section, their usage was found to differ from the ways in which the other writers had used boosters to reveal subjective evaluations and interpersonal negotiations. This type of usage can be considered as an influential feature to expand the recognition of the claims.

NNE writers had used these markers to be as precise as possible. Consequently, words like must and will were used to relate to other empirical evidence. At the same time, NNE writers had boosted by using words like believe and reveal to declare their findings as credible and as reliable sources of information when comparing themselves to others. Regarding the Introduction sections, NNE writers had used fewer boosters and boosting devices since they might have aimed to negotiate with readers in terms of the backgrounds of their studies, as well as its significance and the problems investigated. At the same time, more boosters and

boosting devices had been found in Methodology sections than in the Discussion sections. Words, such as must and will, had been used with less frequency in the Methodology sections. Rather than broaching certainty in this section, the NNE writers had purposively presented procedures which could be of benefit to their readers. Lastly, fewer boosters and some boosting devices had been found in the Results sections than in the Discussion sections. A possible reason is that the NNE writers might not have had to undergo competitive presentations in this section given that they had been expected to only present their data rather than to compare and contrast it as they would have had to do in the Discussion sections.

Next, for attitude markers, NNE writers had also used attitude markers with greater frequency in their Methodology sections than in their Discussion sections. Moreover, for attitudinal devices, a higher incidence of adjectives and verbs had been reported in the Methodology sections rather than in the Results sections. Also, a higher incidence of nouns had also been reported in the Methodology sections than in the Discussion sections. Overall, the highest incidences of attitude markers and some attitudinal devices, used by the NNE researchers, had been reported in Methodology sections. A possible explanation is that the NNE writers had used attitude markers, such as interesting and necessary, in their Methodology sections to attach textual emotions through the tools (Zarei & Mansoori, 2011). NNE writers might have believed that these markers and devices could help them to suggest their steps by pointing the essence of each phase that had been conducted in the study. In so doing, the NNE researchers had conveyed their positions by using attitudinal adjectives and nouns, such as significant and importance, to manifest subjective prose when the NNE writers were putting forth their emotions in their statements. Rather than presenting forceful information to communicate their research methods, the NNE writers had also opted to use attitudinal verbs; such as extend, support, and ensure; to unite readers with the procedures being offered by inserting their emotions, as well as their affections, in their arguments. Apart from that, attitude markers and devices had been less used in the Results and Discussion sections because the NNE writers might have aimed to propose data and discuss it as opposed to presenting their affection as it relates to their and the work of others.

Although no overall differences were reported with respect to self-mentions, a higher incidence of one self-mention device (terms) had been reported in the Methodology sections more often than in the Introduction and Results sections. This can be explained by the fact that the NNE writers had used terms, such as this/ the writer, in their Introduction sections to integrate the on-going information with the perceptible involvement of researchers. By using self-mention terms in the very first section of their research articles, the NNE writers had seemed to gain self-confidence by elaborating the significance of their research studies and other aspects of their studies through to the end of the section. Self-mention terms, such as this/the author and this/the research team, had also assisted NNE writers to state their claims by positing the subjective prose of the writers into the text. Consequently, their readers were able, at the earliest stage, to be informed of the writers' participation. However, Martinez (2005) found that the NNE writers had employed self-mentions the most in their Introduction sections. This contradiction might occur when the participants are dissimilar. In a study by Martinez (2005), the NNE writers were specified as solely Spanish researchers, but in the current investigation the NNE writers had been drawn from various nationalities. As a result, the writers' intrusions into the research sections might have been affected by the cultural differences between the two explorations.

Lastly, a higher incidence of engagement markers had been reported in the Discussion sections as compared to the Methodology and Results sections. Also, for the engaging devices, a higher incidence of imperative directives had been reported in the Discussion sections than in the Results sections. Moreover, in the NNE research articles, a higher incidence of rhetorical questions had been reported in the Discussion sections than in Methodology sections. Therefore, engagement markers and some engaging devices had been dramatically used by the NNE writers in their Discussion sections. This is because the NNE writers had attempted to unite the outcomes of their studies with other empirical evidence so that the readers could be welcomed into the in-text participation. Also, imperative directives, such as notice and consider, had been used by NNE writers in the Discussions to lead the readers to react or to consent in the way that was being offered by the writers. Rhetorical questions, such as why and is, which were significantly found in Discussion sections had also been used by the NNE writers to pique readers' attention before the

Discussion. These engaging devices were used as a research writing strategy to gain the readers' attention and to offer a critical stage in which to share some thoughts prior to closing the dialogue. Furthermore, these devices had made use of engagement markers in the Discussion sections in ways that had differed from others. However, for the Methodology and Results sections, a smaller incidence of engagement markers and engaging devices were reported for the NNE writers because both sections had been meant to report the procedures, as well as the research findings. Accordingly, NNE writers might not have found it as essential to achieve engagement with readers as much as they had achieved engagement in the Discussion parts.

In short, NNE writers had greatly used hedges and hedging devices (adjectives, modal verbs, and verbs), boosters and boosting devices (adjectives, modal verbs, nouns and verbs), attitude markers and attitudinal devices (adjectives, nouns, and verbs) and engagement markers and engaging devices (imperative directives and rhetorical questions) in their Discussion sections. NNE writers had used diverse rhetorical devices in their Discussion sections partly because, the writers and their cultures may believe that hedging is a strategy to be humbly used to propose their claims in this section. Also, boosters had helped the NNE writers to clearly state their point when comparing their own stances with the stances of others. Simultaneously, attitude markers had been used to help the NNE writers to express their affections which would have been derived from their first language, as well as from their cultural backgrounds. Engagement markers had also been used when NNE cultures were used to affect the bonding of the writers and the readers in the text. Even though no differences were found to exist in the use of self-mentions, self-mention devices (terms) had been found in their greatest frequency in Methodology sections to address the significance of the researchers as the dedicated doers in the study.

To compare NE and NNE researchers with respect to their interactional metadiscourse markers and their usage of devices, it was found that dissimilarities had occurred across all four research article sections. Differences had also occurred in the usages of these markers and devices between the NE and NNE writers. For the Introduction, some differences had been reported for the NE writers in the use of self-mentions (terms). Whilst, some differences had been reported for the NNE writers in the use of hedges (modal verbs and verbs), boosters (adjectives, modal verbs, and

verbs), and self-mentions (terms). The similarities in this rhetorical section had been found in the use of one self-mention device (terms). From this, it can be implied that both the NE and NNE researchers had shown concern for their self-representation by reflecting their conduct in their studies. Because the very first section of a research article can be viewed as a summary of the investigation, it was found that both groups of researchers had put their emphasis on self-construction. By using self-mention terms as a method of intervening, the researchers had been able to form solidarity between them and their readers. In doing so, the self-mention terms had been used to state the significance of the researcher's study, as well as to specify any lacunas in the field by addressing the researchers in order to conform their stance to the stance of their audiences.

For Methodology, some differences had been reported for the NE writers in the use of boosters (modal verbs) and self-mentions (first person pronouns). Whilst, for the NNE writers some differences had been reported in the use of hedges (modal verbs and verbs), boosters (adjectives, modal verbs, nouns, and verbs), attitude markers (adjectives, verbs, and nouns), self-mentions (terms), and engagement markers (rhetorical questions). The similarity, that was found in this rhetorical section, had been the use of one boosting device (modal verbs). As previously reviewed, modal verb boosters are used to propose accepted truth (Hyland, 1998). From this, it can be implied that both NE and NNE researchers had revealed self-assurance when proclaiming the phases of their investigations as valid. At the same time, modal verb boosters had demonstrated the writers' research practice as recognized by the disciplinary members at large.

For Results, some differences in the use of boosters (modal verbs) and self-mentions (first person pronouns) had been reported for the NE writers. Whilst, some differences in the use of hedges (adjectives, modal verbs, and verbs), boosters (adjectives, modal verbs, nouns, and verbs), attitude markers (adjectives and verbs), self-mentions (terms), and engagement markers (imperative directives) had been reported for the NNE writers. Similar to the Methodology sections, the similarity in this rhetorical section was also found in the use of one boosting device (modal verbs). From this, it can be implied that both NE and NNE researchers had used this rhetorical device to declare their certainty in reporting their research findings. When

modal verb boosters were used in findings, representing the results of investigations had seemed to have a “degree of certainty”, rather than simply expressing the proposals of the writers. In this section, modal verb boosters had also been used by the NE and NNE researchers to announce their degree of confidence with respect to supporting their pre-suppositions prior to uncovering their findings.

For the Discussion sections, some differences in the use of boosters (modal verbs) among the NE writers had been reported. Whilst, for the NNE writers, some differences in the use of hedges (adjectives, modal verbs, and verbs), boosters (adjectives, modal verbs, and nouns), attitude markers (nouns), and engagement markers (imperative directives and rhetorical questions) had been reported. As in the Methodology and Results sections, a similarity in this rhetorical section was also found with the use of one boosting device (modal verbs). From this, it could be implied that both the NE and NNE researchers had used modal verb boosters to underline the importance of their research findings. Researchers had also boosted by using modal verbs to indicate their outcomes in regard to current knowledge, as well as to elicit the readers' affirmative evaluations. As stated, modal verb boosters are used to categorize information/results as accepted truth. Therefore, in the Discussion sections, the NE and NNE writers had employed this device to consolidate their results with other sources of evidential data. Evidently, in the use of interactional metadiscourse markers, the NE writers had reported fewer occurrences of differences than the NNE writers. The more consistent use of these by the NE writers can be explained by the fact that in NE culture more emphasis is placed on their use of rhetorical choices when each section of the research article is being written. The devices were used purposively to suggest the writers' stances in a straightforward manner. As reviewed, Kaplan (1966) once claimed that Anglo-European authors developed their writing linearly, whereas in other NNE cultures, such as in the Oriental and Russians writing styles, other approaches were preferred, in which there were less direct approaches to the conclusion. Wu and Rubin (2000) also suggested that NE culture seems to express ideas in a more straightforward manner and to convey more personal direction than the NNE cultures. Additionally, NNE writers were found to have a flexible nature in their rhetorical practices because their rhetorical, as well as their discursive choices, had mainly been influenced by their

cultural backgrounds (Liu & Furneaux, 2014). This inconsistency might also have occurred because the NNE writers had attempted to combine their investigations with their textual participation, while the NE writers had aimed at interactions connecting readers with their authors (Zarei & Mansoori, 2011).

In fact, this investigation is a proof that writers from different cultural background employ interactional metadiscourse markers differently as their national as well as professional-academic culture play essential role in assigning characteristics of writers. Therefore, the rhetorical patterns which can represent the use of interactional metadiscourse markers for each group of culture should also be mentioned. For NE writers, the patterns signify rhetorical approach in writing research articles with interactional metadiscourse markers can be elaborated as a constant style. To elaborate, the overall research article sections were found extensive use of interactional metadiscourse markers as hedges were found greatest in Methodology, boosters were found greatest in Discussion, attitude markers were found greatest in Introduction, self-mentions were found greatest in Methodology and engagement markers were found greatest in Discussion. As seen, NE writers had chosen to relate with their readers throughout the writing. They might also use research article organization along with interactional metadiscourse markers to develop relationship with their potential readers. Meanwhile, among the four research sections, these five stances were mostly used in the discussions. Therefore, it can be described the NNE writers' pattern as a heavy end style. These heaviest uses in Discussion can be interpreted that NNE writers put their highest concern on the discussion part by engaging with their audiences with solid writers' stance. They might also aim to appeal readers considerably when debating with other studies. NNE writers seemed to believe that when it comes to discussion, interactional metadiscourse markers can help drawing readers' attention and might invite their readers to apprehend writers' position.

Moreover, the interventions of their native cultures had partially influenced the application of their English research writing. The linguistic patterns and rhetorical conventions of their first languages are often re-assigned. Therefore, the native culture is generally found in the L2 writing interference (Kaplan, 1966; Kubota, 1998). At the same time, cultural values and conventions reveal the reasons

behind rhetorical usage in English research writing (Soler-Monreal et al., 2011). However, it is important to note that the variations of the languages between English and the mother tongue do not always have a negative effect on English research writing (Connor, 1996; Wu & Rubin, 2000). Furthermore, professional-academic culture partly overlaps with national culture (Holliday, 1994, as cited in Atkinson, 2004) as demonstrated by the fact that the NE and NNE writers had revealed similar uses of self-mention terms in their Introduction sections which means that apart from background culture, researchers in the field of applied linguistics are aware of the writers' existence in the initiating phase of research justification. Furthermore, the modal verb boosters had been used similarly by the NE and NNE researchers in the Methodology, Discussion, and Results sections. From this, it could be implied that the researchers of English applied linguistic research articles had been certain when they were mirroring their research procedures, pointing out their research outcomes, and developing their claims with the overlying influence of disciplinary and background culture. Therefore, the usages of interactional metadiscourse markers and devices had been so various that these rhetorical tools should be suitable for usage both in the researchers' native languages and in the English language. Finally, these various tools will bring about differences in the usage of interactional metadiscourse markers between NE and NNE writers across the IMRD

5.2 Limitations of the Study

Even though the researcher believes that the findings are reasonable and represent interactional metadiscourse markers across cross-cultural and cross-sectional boundaries, the researcher does not claim that all of the data is applicable for all disciplines because, firstly, the researcher has only conducted the study within the scope of research articles in the field of applied linguistics. In regard to interactional metadiscourse markers, other fields should suggest other perspectives. Secondly, in this investigation, the researcher has not studied the differences of every language within the discipline of applied linguistics. Rather, NE and NNE language were explored as two single unit of study. Also, the researcher has only examined English

applied linguistics research articles written by NE and NNE researchers. Hence, a generalization of the results of this study to other contexts should be considered.

5.3 Implications

5.3.1 Implications for Future Research

This study represents one aspect of research studies on interactional metadiscourse markers to which quantitative and qualitative analysis has been applied in order to explore frequencies, significant differences, and functions of the data. Future research can construct a larger corpus to further investigate the cultural and sectional diversity in research writing. In addition, future research studies can examine the differences in some other languages by comparing them to English in order to explore more of the cultural and sectional perspectives. In addition, the scope of the data can place emphasis upon Thai researchers and their research writing. In this way, the results would shed some light on the growing numbers of research-based studies and would proffer great benefits to Thai researchers.

Future research might also be conducted in order to examine research articles, published at the national and international levels, so that in-depth investigations into the linguistic choices can be made to compare the usages of interactional metadiscourse markers between these two types of publications. This could help readers to recognize similarities and differences when analyzing rhetorical tools and could also assist the researchers when seeking to publish internationally.

Additional aspects of investigation should be undertaken in relation to individual interactional metadiscourse markers, specifically engagement markers, which had been reported the minimum incidents comparing to the four other interactional metadiscourse markers in this investigation. Evidently, engagement markers have been scarcely explored. To elaborate the in-depth aspect in the use of engagement markers, alternative approach with engaging rhetorical purpose could assist researchers to expand authoritative preference in research articles. Future examinations could be developed to expand the recognition of these linguistic devices to primarily explain the inadequate use of engaging tools among NE researchers, NNE researchers, and/or any specific cultures. Investigations could be conducted to

accentuate the importance of the “act of engagement” in research writing to encourage the most effective usage of these markers.

Interestingly, future research recommendation can also be carried out under the topic of readers' preferences. The investigation of interactional between writers and readers within research articles should also be explored from readers' perspectives as to shed some light on reader-writer intimacy in the text. Readers might reflect preferences which are culturally affected towards the data. Also, interactional metadiscourse markers can be suitably used to meet readers' need in some specific contexts.

Also, the current study of interactional metadiscourse markers and related future research could contribute to a new genre of research writing schema as well as language and communication disciplinary. Adequate empirical data in relation to interactional metadiscourse makers could assist both writers to overcome any rhetorical standard and incorporate themselves in expanding academic discourse community notably.

5.3.2 Pedagogical Recommendations

The researcher recommends that the findings from this investigation be applied to reinforcing research writing courses and supporting academic publications. To illustrate, students should be assisted to recognize the importance of the interactions between the writers of the research articles and their readers. Due to the scarcity of studies conducted on engagement markers and their limited usage, which has been particularly revealed by the current investigation, the indications are that researchers in the field of Applied Linguistics have not paid much attention to how well or how much they have interacted with their readers. Therefore, to further pedagogical advancement, instructors should put more consideration into the methodologies needed to educate learners to be equipped with alternative approach to professionally engage with their audiences. This would also lead to teaching collaboration between NE and NNE teachers, so that the production of variety rhetorical approach in research writing would be observed and ingrained in nature. Apart from that, teachers' professional development for foreign language teacher

education should make aware of authorial existence and learn to grow from different cultures, rhetoric and others' specificity.

Simultaneously, the differences in the usages of these rhetorical devices should be elaborated to elucidate the crucial implications of using interactional metadiscourse markers in research writing for future publications. Evidently, the overall frequency demonstrated that NNE writers had used fewer interactional metadiscourse markers than NE ones. This can be considered as a potential aspect to assist second language writers in developing the usage of interactional metadiscourse markers when they are required to more deliberately make contact with their readers in English. Also, this could be supported by implementing the proper usages of interactional metadiscourse markers in research writing classes in order to enhance the more effective use of these markers, as well as to expand the repertoire of vocabulary to NNE writers in particular. To be more specific about the curriculum, it should be stressed that there had been only a few incidences of the usage of noun hedges, adjective boosters, attitudinal verbs, self-mention terms, and rhetorical questions of engagement markers. When the students have learned how to more effectively use these devices, considerably better negotiations could be promoted between the researchers and their readers. Moreover, in order to better prepare students to express their positions in their texts, instructions should be given in the relative usages of these markers across four research sections.

5.4 Conclusion

In conclusion, this study has sought to examine the use of interactional metadiscourse markers in English applied linguistics research articles written by NE and NNE writers. The results of the study have shown that both group of writers had most frequently used hedges followed by boosters, self-mentions, attitude markers, and engagement markers, respectively. Regarding hedging devices, adverbs were found to have had the highest frequency followed by adjectives, modal verbs, adjectives, verbs, and nouns. With respect to boosting devices, modal verbs were found to have the highest frequency followed by adverbs, verbs, nouns, and adjectives. For attitudinal devices, adjectives were found to have been used with the

highest frequency followed by adverbs, nouns, and verbs. For self-mention devices, first person pronouns had been used considerably more often than terms. For engaging devices, imperative directives were found to have had the highest frequency followed by reader pronouns and rhetorical questions. Additionally, the results from the independent sample t-tests indicated that there had been some significant differences between the two groups in their usages of the interactional metadiscourse markers and their devices. Regarding the interactional metadiscourse markers, some significant differences were found in hedges, attitude markers, and engagement markers. Regarding interactional metadiscourse marker devices, there had been some significant differences in hedges (adverbs and nouns), boosters (adverbs), attitude markers (adjectives and verbs), and in engagement markers (imperative directives). Furthermore, the results from the ANOVA and the Post Hoc Scheffe test showed that there had been some significant differences across the four research article sections. NE writers had used boosters and boosting devices (modal verbs), as well as self-mentions and self-mention devices (first person pronouns), differently across the IMRD sections. Even though no significant differences were reported for hedges and attitude markers, hedging devices (adjectives and modal verbs) and attitudinal devices (nouns) had been used differently by the NE writers across the IMRD sections. In addition, NNE writers had used hedges and hedging devices (adjectives, modal verbs, and verbs), boosters and boosting devices (adjectives, modal verbs, nouns, and verbs), attitude markers and attitudinal devices (adjectives, nouns, and verbs), and engagement markers and engaging devices (imperative directives and rhetorical questions) differently across the IMRD sections. Even though no significant differences were reported for self-mentions, self-mention devices (terms) had been used differently by the NNE writers across the IMRD sections.

With respect to the functional analysis, each of the interactional metadiscourse markers had functioned dissimilarly. Firstly, hedges had performed as an objective presentation of the writers. At the same time, they were used to lessen the degree of confrontation when disagreements had occurred within the text. Secondly, role of the boosters had been to make a conviction when the writers were assisting with plausible evidence. In addition, they were used when it had been anticipated that the readers would distribute either harmony or contradiction. In such cases, the writers had

boosted to encourage further participation. Thirdly, attitude markers had functioned as an evaluation of both the writers' positive conduct and negative conduct in order that the readers could unmistakably sense the writers' positions of authorial presence. Fourthly, within the academic text, self-mentions had performed their function of emphasizing the ownership of the information being provided. Finally, the engagement markers functioned as tools of engagement that had served to draw in the readers rather than to simply give them plain intellectual information.

These results of this investigation reveal that interactional metadiscourse markers can greatly assist writers in developing interpersonal and constructive approaches to the readers of English research articles. This investigation also demonstrates that NE and NNE writers in the discipline of applied linguistics draw differently from the features that organize a scholar’s position. Also, the transference of the metadiscourse conventions from the first language into English is commonly set aside. Therefore, not only has this study aimed at pointing out the differences between the NE and NNE writers' presentations within the texts, it can also afford researchers, lecturers, novice writers, and students opportunities to gain insights from studying this investigation. Furthermore, recognizing the cultural differences in English research writing would broaden the global intellect with respect to writing communicative and effective research articles. More importantly, a cultural perspective towards research writing can be developed in terms of the linguistic tools and the backgrounds of the writers to specifically assist the NNE writers at both the macro-level and the micro-level. Because the differences between the interplay between NNE and English culture are considerable, this investigation has aspired to lessen the difficulties that are experienced when writers compose relationships with readers through cross-cultural lenses.

As stated, even though English is typically recognized as a dominant language for global communication, no specific culture should be prioritized as a prototype when writing English research articles because there are far more scholars worldwide. Moreover, researchers should not be obliged to pursue any particular culture. Consequently, this investigation has attempted to compare and contrast two main groups of researchers, NE and NNE writers, in the field of applied linguistics. The research has been carried out with the belief that when writing English research

articles, having a better understanding of cultural diversity would be an especially applicable tool for every researcher. Apart from that, this investigation brings about a new broader cultural comprehension in rhetorical writing, specifically in applied linguistic English research articles. Thus being researcher writers in multicultural era, researchers' rhetorical preferences should also be able to be prepared for adjustment in order to meet gatekeepers' and readers' expectation in both national and international context.

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APPENDICES

Appendix A

Research Articles Written by Native English Writers

Journal of Second Language Writing

NE1 Frear, M. W., & Bitchener, J. (2015). The effects of cognitive task complexity on writing complexity. *Journal of Second Language Writing, 30,* 45-57. doi:10.1016/j.jslw.2015.08.009

NE2 Hyland, K. (2013). Faculty feedback: Perceptions and practices in L2 disciplinary writing. *Journal of Second Language Writing, 22*(3), 240-253. doi:10.1016/j.jslw.2013.03.003

NE3 Storch, N. (2009). The impact of studying in a second language (L2) medium university on the development of L2 writing. *Journal of Second Language Writing, 18*(2), 103-118. doi:10.1016/j.jslw.2009.02.003

NE4 James, M. A. (2010). An investigation of learning transfer in English-for-general-academic-purposes writing instruction. *Journal of Second Language Writing, 19*(4), 183-206. doi:10.1016/j.jslw.2010.09.003

NE5 Davis, M., & Morley, J. (2015). Phrasal intertextuality: The responses of academics from different disciplines to students' re-use of phrases. *Journal of Second Language Writing, 28,* 20-35. doi: 10.1016/j.jslw.2015.02.004

NE6 Wette, R. (2010). Evaluating student learning in a university-level EAP unit on writing using sources. *Journal of Second Language Writing, 19*(3), 158-177. doi:10.1016/j.jslw.2010.06.002

Language Learning

NE7 Sparks, R. L., & Patton, J. (2013). Relationship of L1 skills and L2 aptitude to L2 anxiety on the Foreign Language Classroom Anxiety Scale. *Language Learning, 63*(4), 870-895. doi: 10.1111/lang.12025

NE8 Derwing, T. M., & Munro, M. J. (2013). The Development of L2 Oral Language Skills in Two L1 Groups: A 7‐Year Study. *Language Learning, 63*(2), 163-185. doi: 10.1111/lang.12000

NE9 Spinner, P. (2013). Language production and reception: A Processability Theory study. *Language Learning, 63*(4), 704-739. doi : 10.1111/lang.12022

NE10 Crossley, S., Salsbury, T., & McNamara, D. (2010). The development of polysemy and frequency use in English second language speakers. *Language Learning, 60*(3), 573-605 doi: 10.1111/j.1467 9922.2010.00568.x.

NE11 Lamb, M. (2012). A self system perspective on young adolescents' motivation to learn English in urban and rural settings. *Language learning,62*(4), 997-1023. doi: 10.1111/j.1467-9922.2012.00719.x

NE12 Mackey, A., & Sachs, R. (2012). Older learners in SLA research: A first look at working memory, feedback, and L2 development. *Language Learning,62*(3), 704-740. doi: 10.1111/j.1467-9922.2011.00649.x

English for Specific Purposes

NE13 Bruce, I. (2009). Results sections in sociology and organic chemistry articles: A genre analysis. *English for Specific Purposes, 28*(2), 105-124. doi: 10.1016/j.esp.2008.12.005

NE14 Bremner, S. (2010). Collaborative writing: Bridging the gap between the textbook and the workplace. *English for Specific Purposes, 29*(2), 121-132. doi: 10.1016/j.esp.2009.11.001

NE15 Warren, M. (2013). "Just spoke to…": the types and directionality of intertextuality in professional discourse. *English for Specific Purposes, 32*(1), 12-24. doi: 10.1016/j.esp.2012.07.001

NE16 James, M. A. (2010). Transfer climate and EAP education: Students' perceptions of challenges to learning transfer. *English for Specific Purposes, 29*(2), 133-147. doi: 10.1016/j.esp.2009.09.002

NE17 Morton, J. (2009). Genre and disciplinary competence: A case study of contextualisation in an academic speech genre. *English for Specific Purposes, 28*(4), 217-229. doi: 10.1016/j.esp.2009.04.005

NE18 Parkinson, J. (2011). The Discussion section as argument: The language used to prove knowledge claims. *English for Specific Purposes, 30*(3), 164-175. doi:10.1016/j.esp.2011.03.001

Studies in Second Language Acquisition

NE19 Foote, R. (2015). The storage and processing of morphologically complex words in L2 Spanish. *Studies in Second Language Acquisition*, 1-33. doi: 10.1017/S0272263115000376

NE20 Ellis, R., Loewen, S., & Erlam, R. (2006). Implicit and explicit corrective feedback and the acquisition of L2 grammar. *Studies in second language acquisition, 28*(02), 339-368. doi:10.1017/S0272263106060141

NE21 Tremblay, A. (2011). Proficiency assessment standards in second language acquisition research. *Studies in Second Language Acquisition*, *33*(03), 339-372. doi:10.1017/S0272263111000015

NE22 Miller, A. K. (2015). Intermediate traces and intermediate learners. *Studies in Second Language Acquisition*, *37*(03), 487-516. doi: 10.1017/S0272263114000588

NE23 Cox, J. G. (2015). Explicit instruction, bilingualism, and the older adult learner. *Studies in Second Language Acquisition*, 1-30.doi: 10.1017/S0272263115000364

NE24 White, J. P., & DeMil, A. J. (2013). Transfer-of-training effects in processing instruction. *Studies in Second Language Acquisition*, *35*(03), 519-544. doi: 10.1017/S0272263113000120

Reading and Writing

NE25 Blair, R., & Savage, R. (2006). Name writing but not environmental print recognition is related to letter-sound knowledge and phonological awareness in pre-readers. *Reading and Writing*, *19*(9), 991-1016. doi:10.1007/s11145-006-9027-9

NE26 Corrigan, R. (2011). Effects of pre-service teachers' receptive vocabulary knowledge on their interactive read-alouds with elementary school students. *Reading and Writing*, *24*(7), 749-771. doi: 10.1007/s11145-009-9223-5

NE27 Ritchey, K. D. (2008). The building blocks of writing: Learning to write letters and spell words. *Reading and writing*, *21*(1-2), 27-47. doi:10.1007/s11145-007-9063-0

NE28 Olinghouse, N. G. (2008). Student-and instruction-level predictors of narrative writing in third-grade students. *Reading and Writing*, *21*(1-2), 3-26. doi:10.1007/s11145-007-9062-1

NE29 Landi, N. (2010). An examination of the relationship between reading comprehension, higher-level and lower-level reading sub-skills in adults. *Reading and Writing*, *23*(6), 701-717. doi:10.1007/s11145-009-9180-z

NE30 Hebert, M., Simpson, A., & Graham, S. (2013). Comparing effects of different writing activities on reading comprehension: A meta-analysis. *Reading and Writing*, *26*(1), 111-138. doi:10.1007/s11145-012-9386-3

Appendix B

Research Articles Written by Non-native English Writers

Journal of Second Language Writing

NNE1 Ruiz-Funes, M. (2015). Exploring the potential of second/foreign language writing for language learning: The effects of task factors and learner variables. *Journal of Second Language Writing*, *28*, 1-19. doi:10.1016/j.jslw.2015.02.001

NNE2 Yang, W., Lu, X., & Weigle, S. C. (2015). Different topics, different discourse: Relationships among writing topic, measures of syntactic complexity, and judgments of writing quality. *Journal of Second Language Writing*, *28*, 53-67. doi:10.1016/j.jslw.2006.01.003

NNE3 Murphy, L., & de Larios, J. R. (2010). Searching for words: One strategic use of the mother tongue by advanced Spanish EFL writers. *Journal of Second Language Writing*, *19*(2), 61-81. doi:10.1016/j.jslw.2010.02.001

NNE4 Ong, J., & Zhang, L. J. (2010). Effects of task complexity on the fluency and lexical complexity in EFL students' argumentative writing. *Journal of Second Language Writing*, *19*(4), 218-233. doi:10.1016/j.jslw.2010.10.003

NNE5 Yang, C., Hu, G., & Zhang, L. J. (2014). Reactivity of concurrent verbal reporting in second language writing. *Journal of Second Language Writing*,*24*, 51-70. doi: 10.1016/j.jslw.2014.03.002

NNE6 Yasuda, S. (2015). Exploring changes in FL writers' meaning-making choices in summary writing: A systemic functional approach. *Journal of Second Language Writing*, *27*, 105-121. doi:10.1016/j.jslw.2014.09.008

Language Learning

NNE7 Van Beuningen, C. G., De Jong, N. H., & Kuiken, F. (2012). Evidence on the effectiveness of comprehensive error correction in second language writing. *Language Learning*, *62*(1), 1-41. doi: 10.1111/j.1467-9922.2011.00674.x

NNE8 Kaushanskaya, M., & Marian, V. (2007). Bilingual language processing and interference in bilinguals: Evidence from eye tracking and picture naming. *Language Learning*, *57*(1), 119-163. doi: 10.1111/j.1467-9922.2007.00401.x

NNE9 Mori, Y., Sato, K., & Shimizu, H. (2007). Japanese language students' perceptions on kanji learning and their relationship to novel kanji word learning ability. *Language Learning*, *57*(1), 57-85. doi: 10.1111/j.1467-9922.2007.00399.x

NNE10 Dörnyei, Z., & Chan, L. (2013). Motivation and vision: An analysis of future L2 self images, sensory styles, and imagery capacity across two target languages. *Language Learning, 63*(3), 437-462. doi: 10.1111/lang.12005

NNE11 Abrahamsson, N., & Hyltenstam, K. (2009). Age of onset and nativelikeness in a second language: Listener perception versus linguistic scrutiny. *Language Learning, 59*(2), 249-306. doi: 10.1111/j.1467-9922.2009.00507.x

NNE12 Hamada, M., & Koda, K. (2008). Influence of first language orthographic experience on second language decoding and word learning. *Language Learning*, *58*(1), 1-31.doi: 10.1111/j.1467-9922.2007.00433.x

English for Specific Purposes

NNE13 Yeung, L. (2007). In search of commonalities: Some linguistic and rhetorical features of business reports as a genre. *English for Specific Purposes,26*(2), 156-179. doi:10.1016/j.esp.2006.06.004

NNE14 Ozturk, I. (2007). The textual organisation of research article introductions in applied linguistics: Variability within a single

discipline. *English for Specific Purposes*, *26*(1), 25-38. doi:10.1016/j.esp.2005.12.003

NNE15 Cho, D. W. (2009). Science journal paper writing in an EFL context: The case of Korea. *English for Specific Purposes*, *28*(4), 230-239. doi: 10.1016/j.esp.2009.06.002

NNE16 Hirano, E. (2009). Research article introductions in English for specific purposes: A comparison between Brazilian Portuguese and English. *English for specific purposes*, *28*(4), 240-250. doi:10.1016/j.esp.2009.02.001

NNE17 Soler-Monreal, C., Carbonell-Olivares, M., & Gil-Salom, L. (2011). A contrastive study of the rhetorical organisation of English and Spanish PhD thesis introductions. *English for Specific Purposes*, *30*(1), 4-17. doi:10.1016/j.esp.2010.04.005

NNE18 Kwan, B. S., Chan, H., & Lam, C. (2012). Evaluating prior scholarship in literature reviews of research articles: A comparative study of practices in two research paradigms. *English for Specific Purposes*, *31*(3), 188-201. http://dx.doi.org/10.1016/j.esp.2012.02.003

Studies in Second Language Acquisition

NNE19 Stæhr, L. S. (2009). Vocabulary knowledge and advanced listening comprehension in English as a foreign language. *Studies in second language acquisition*, *31*(04), 577-607. doi:10.1017/S0272263109990039

NNE20 Coyle, Y., & de Larios, J. R. (2014). Exploring the role played by error correction and models on children's reported noticing and output production in a L2 writing task. *Studies in Second Language Acquisition*, *36*(03), 451-485. doi:10.1017/S0272263113000612.

NNE21 Vainio, S., Pajunen, A., & Hyönä, J. (2014). L1 and L2 word recognition in Finnish. *Studies in Second Language Acquisition*, *36*(01), 133-162. doi:10.1017/S0272263113000478.

NNE 22 Gut, U., & Pillai, S. (2014). FPPSodic marking of information structure by Malaysian speakers of English. *Studies in Second Language Acquisition*, *36*(02), 283-302. doi:10.1017/S0272263113000739.

NNE23 Abrahamsson, N., & Hyltenstam, K. (2008). The robustness of aptitude effects in near-native second language acquisition. *Studies in second language acquisition*, *30*(04), 481-509. doi:10.1017/S027226310808073X.

NNE24 Jäschke, K., & Plag, I. (2016). The dative alternation in German-English interlanguage. *Studies in Second Language Acquisition*, 1-37. doi: 10.1017/S0272263115000261

Reading and Writing

NNE25 Pawlowski, J., Remor, E., Parente, M. A. D. M. P., de Salles, J. F., Fonseca, R. P., & Bandeira, D. R. (2012). The influence of reading and writing habits associated with education on the neuropsychological performance of Brazilian adults. *Reading and Writing*, *25*(9), 2275-2289. doi: 10.1007/s11145-012-9357-8

NNE26 Chan, D. W., Ho, C. S. H., Tsang, S. M., Lee, S. H., & Chung, K. K. (2006). Exploring the reading–writing connection in Chinese children with dyslexia in Hong Kong. *Reading and Writing*, *19*(6), 543-561. doi: 10.1007/s11145-006-9008-z

NNE27 Mateos, M., Martín, E., Villalón, R., & Luna, M. (2008). Reading and writing to learn in secondary education: Online processing activity and written products in summarizing and synthesizing tasks. *Reading and Writing*, *21*(7), 675-697. doi: 10.1007/s11145-007-9086-6

NNE28 Rispens, J. E., McBride-Chang, C., & Reitsma, P. (2008). Morphological awareness and early and advanced word recognition and spelling in Dutch. *Reading and Writing*, *21*(6), 587-607. doi: 10.1007/s11145-007-9077-7

NNE29 Uno, A., Wydell, T. N., Haruhara, N., Kaneko, M., & Shinya, N. (2009). Relationship between reading/writing skills and cognitive abilities among Japanese primary-school children: normal readers versus poor readers (dyslexics). *Reading and writing*, *22*(7), 755-789. doi: 10.1007/s11145-008-9128-8

NNE30 Levin, I., & Aram, D. (2012). Mother–child joint writing and storybook reading and their effects on kindergartners' literacy: An intervention study. *Reading and Writing*, *25*(1), 217-249. doi: 10.1007/s11145-010-9254-y

Appendix C

Reliability Check of Interactional Metadiscourse Markers Found in the Articles

The three intercoders made a consensus regarding functions based on Hyland's (2005a) interactional metadiscourse model according to the following procedure.

Intercoder 1: Jantarawan Samransamruajkit (Ph.D.)

	YES	NO
1. The researcher of this study was in charge of a trainer and ran a hands-on training by providing the interactional metadiscourse markers notions prior to the validity and reliability evaluation.	✓	
2. The three researchers assessed the results of the frequency count and functions by randomly drawing half of the two corpora, 15 NEs and 15 NNEs research articles	✓	
3. The three researchers verified the occurrence and the functions of each marker from sentence level	✓	
4. The three researchers discussed the functions of each marker.	✓	
5. When disagreement occurred, the notion of that certain interactional metadiscourse marker was revisited.	✓	
6. The three researchers were invited to the discussion to make a consensus in indentifying functions until 100% agreement was achieved.	✓	

Intercoder 2: Woravit Kitjaroenpaiboon (Ph.D.)

	YES	NO
1. The researcher of this study was in charge of a trainer and ran a hands-on training by providing the interactional metadiscourse markers notions prior to the validity and reliability evaluation.	✓	
2. The three researchers assessed the results of the frequency count and functions by randomly drawing half of the two corpora, 15 NEs and 15 NNEs research articles	✓	
3. The three researchers verified the occurrence and the functions of each marker from sentence level	✓	
4. The three researchers discussed the functions of each marker.	✓	
5. When disagreement occurred, the notion of that certain interactional metadiscourse marker was revisited.	✓	
6. The three researchers were invited to the discussion to make a consensus in indentifying functions until 100% agreement was achieved.	✓	

Intercoder 3: Thapanee Musiget (Ph.D. Candidate)

	YES	NO
1. The researcher of this study was in charge of a trainer and ran a hands-on training by providing the interactional metadiscourse markers notions prior to the validity and reliability evaluation.	✓	
2. The three researchers assessed the results of the frequency count and functions by randomly drawing half of the two corpora, 15 NEs and 15 NNEs research articles	✓	
3. The three researchers verified the occurrence and the functions of each marker from sentence level	✓	
4. The three researchers discussed the functions of each marker.	✓	
5. When disagreement occurred, the notion of that certain interactional metadiscourse marker was revisited.	✓	
6. The three researchers were invited to the discussion to make a consensus in indentifying functions until 100% agreement was achieved.	✓	

Each intercoder randomly selects FIVE research articles from NE column (5x3=15) and FIVE articles from NNE column (5x3=15) to verify interactional metadiscourse markers and their functions.

Intercoder 1: Jantarawan Samransamruajkit (Ph.D.)

NE1	✓	NNE1	✓
NE2		NNE2	
NE3	✓	NNE3	✓
NE4		NNE4	
NE5	✓	NNE5	✓
NE6		NNE6	
NE7	✓	NNE7	✓
NE8		NNE8	
NE9	✓	NNE9	✓
NE10		NNE10	

Intercoder 2: Woravit Kitjaroenpaiboon (Ph.D.)

NE11		NNE11	
NE12	✓	NNE12	✓
NE13		NNE13	
NE14	✓	NNE14	✓
NE15		NNE15	
NE16	✓	NNE16	✓
NE17		NNE17	
NE18	✓	NNE18	✓
NE19		NNE19	
NE20	✓	NNE20	✓

Intercoder 3: Thapanee Musiget (Ph.D. Candidate)

NE21	✓	NNE21	
NE22		NNE22	✓
NE23	✓	NNE23	
NE24		NNE24	✓
NE25	✓	NNE25	
NE26		NNE26	✓
NE27	✓	NNE27	
NE28		NNE28	✓
NE29	✓	NNE29	
NE30		NNE30	✓

Appendix D

List of Linguistic Devices

Hedges

Adjectives: *apparent, possible, potential, relative, some, typical*

Adverbs: *apparently, likely, perhaps, possibly, potentially, probably, seemingly, commonly, frequently, generally, in general, normally, often, on some occasions, overall, primarily, typically, usually, fairly, in most cases, in some cases, in some ways, largely, predominantly, quite, relatively, sometimes, somewhat, to some degree, to some extent*

Modals: *may, might, would*

Noun: *hypothesis, assumption, indication, tendency*

Verbs: *appear, assume, hypothesize, indicate, seem, suggest, tend*

Boosters

Adjectives: *clear, considerable, demonstrable, evident, noticeable, obvious, significant, well-established, widely-accepted*

Adverbs: *actually, always, certainly, clearly, in fact, indeed, noticeably, obviously, of course, vividly, completely, considerably, entirely, especially, fully, greatly, heavily, highly, necessarily, overly, particularly, significantly, so, strongly, too, very, wholly,*

Modals: *must, should, will*

Noun: *fact*

Verbs: *believe, be going to, highlight, know, mean, reveal, show*

Attitude markers

Adjective: *important, consistent, significant, critical, interesting, difficult, key, necessary, robust*

Adverbs: *calmly , fully, partly, separately, individually , collectively, specifically, slightly, relatively, strongly, separately, directly, primarily, essentially, discursive statically, dynamically, clearly, obliquely, actually, punctually, grammatically, violently, nonviolently, metonymically, precisely, dynamically, statically, fully, literally, metaphorically ,congruently, critically, critically, grammatically, linguistically, directly, clearly, symbolically, typically, uniquely, selectively, miserably, technically highly, probably, contextually, socially, strongly, generically, normally, entirely, necessarily*

Noun: *support, importance, limitation, insight, contribution*

Verbs: *support, extend, contribute, fail, deserve, ensure*

Self-mentions

First person pronouns: *I, me, my, mine, exclusive we, us, our, ours*

Terms: *this/ the writer, this/the author, this/the researcher, this/the research team*

Engagement markers

Reader pronouns: *inclusive we, us, our, one, you*

Imperative Directives: *should, need to, must, note that, compare, consider, think about, notice that*

Rhetorical Questions: *how, what, when, where, why, can, could, is, am, are, was, were, do, does, did*

Appendix E

Statistical Tables for a Comparison in the Use of Five Interactional Metadiscourse Markers between NE and NNE Research Articles

Group Statistics

	Culture	N	Mean	Std. Deviation	Std. Error Mean
H	NE	120	15.9390	19.64698	1.79352
	NNE	120	11.6275	8.33486	.76087
B	NE	120	6.8204	7.62612	.69617
	NNE	120	5.2877	4.02903	.36780
A	NE	120	3.5017	4.50965	.41167
	NNE	120	2.1731	1.72088	.15709
S	NE	120	3.3124	5.82640	.53188
	NNE	120	3.3925	4.33262	.39551
E	NE	120	2.9894	3.76291	.34351
	NNE	120	1.9598	1.91836	.17512

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
H	Equal variances assumed	8.301	.004	2.213	238	*.028	4.31159	1.94823	.47360	8.14957
	Equal variances not assumed			2.213	160.489	.028	4.31159	1.94823	.46411	8.15907
B	Equal variances assumed	12.101	.001	1.947	238	.053	1.53268	.78735	-.01839	3.08375
	Equal variances not assumed			1.947	180.630	.053	1.53268	.78735	-.02091	3.08627
A	Equal variances assumed	16.707	.000	3.015	238	**.003	1.32859	.44063	.46056	2.19662
	Equal variances not assumed			3.015	152.938	.003	1.32859	.44063	.45809	2.19910
S	Equal variances assumed	1.476	.226	-.121	238	.904	-.08018	.66281	-1.38591	1.22555
	Equal variances not assumed			-.121	219.788	.904	-.08018	.66281	-1.38646	1.22610
E	Equal variances assumed	10.681	.001	2.670	238	**.008	1.02959	.38557	.27003	1.78916
	Equal variances not assumed			2.670	176.943	.008	1.02959	.38557	.26869	1.79050

Appendix F

Statistical Tables for a Comparison in the Use of Interactional Metadiscourse Marker Devices between NE and NNE Research Articles

Group Statistics

	Culture	N	Mean	Std. Deviation	Std. Error Mean
AdjH	NE	120	2.9741	3.76352	.34356
	NNE	120	2.3077	2.08379	.19022
AdvH	NE	120	6.6369	12.19882	1.11360
	NNE	120	3.9606	3.21812	.29377
MH	NE	120	4.2453	4.60409	.42029
	NNE	120	3.3507	3.28287	.29968
NH	NE	120	.2219	.46240	.04221
	NNE	120	.6052	1.63754	.14949
VH	NE	120	1.8609	2.90212	.26493
	NNE	120	1.4032	1.53573	.14019
AdjB	NE	120	.2250	.55881	.05101
	NNE	120	.2929	.95953	.08759
AdvB	NE	120	1.1443	2.51000	.22913
	NNE	120	.6509	.95944	.08758
MB	NE	120	4.1896	4.62806	.42248
	NNE	120	3.3908	3.50553	.32001
NB	NE	120	.4992	1.29676	.11838
	NNE	120	.4675	.92904	.08481
VB	NE	120	.7622	1.47042	.13423
	NNE	120	.4856	.80283	.07329

	Culture	N	Mean	Std. Deviation	Std. Error Mean
AdjA	NE	120	2.0084	3.17036	.28941
	NNE	120	1.1946	1.32684	.12112
AdvA	NE	120	.6052	.97054	.08860
	NNE	120	.4436	.66235	.06046
NA	NE	120	.4427	.98485	.08990
	NNE	120	.3490	.62179	.05676
VA	NE	120	.4455	.85972	.07848
	NNE	120	.1860	.35229	.03216
FPPS	NE	120	3.1775	5.72632	.52274
	NNE	120	3.2341	4.22943	.38609
TS	NE	120	.1349	.64629	.05900
	NNE	120	.1585	.58313	.05323
RPE	NE	120	.6192	1.51809	.13858
	NNE	120	.3725	.74126	.06767
IDE	NE	120	2.0328	2.56475	.23413
	NNE	120	1.4573	1.60435	.14646
RQE	NE	120	.3375	1.03414	.09440
	NNE	120	.1358	.47517	.04338

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
AdjH	Equal variances assumed	10.624	.001	1.697	238	.091	.66641	.39271	-.10722	1.44003
	Equal variances not assumed			1.697	185.694	.091	.66641	.39271	-.10834	1.44115
AdvH	Equal variances assumed	9.016	.003	2.324	238	*.021	2.67628	1.15169	.40747	4.94510
	Equal variances not assumed			2.324	135.483	.022	2.67628	1.15169	.39866	4.95390
MH	Equal variances assumed	5.759	.017	1.733	238	.084	.89450	.51620	-.12239	1.91140
	Equal variances not assumed			1.733	215.149	.085	.89450	.51620	-.12295	1.91195
NH	Equal variances assumed	8.525	.004	-2.468	238	*.014	-.38336	.15533	-.68936	-.07736
	Equal variances not assumed			-2.468	137.857	.015	-.38336	.15533	-.69050	-.07622
VH	Equal variances assumed	5.141	.024	1.527	238	.128	.45776	.29973	-.13271	1.04822
	Equal variances not assumed			1.527	180.800	.128	.45776	.29973	-.13367	1.04918
AdjB	Equal variances assumed	1.800	.181	-.670	238	.504	-.06791	.10136	-.26759	.13178
	Equal variances not assumed			-.670	191.393	.504	-.06791	.10136	-.26784	.13203

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
AdvB	Equal variances assumed	11.443	.001	2.011	238	*.045	.49342	.24530	.01018	.97665
	Equal variances not assumed			2.011	153.048	.046	.49342	.24530	.00881	.97803
MB	Equal variances assumed	4.445	.036	1.507	238	.133	.79878	.53000	-.24530	1.84287
	Equal variances not assumed			1.507	221.732	.133	.79878	.53000	-.24569	1.84326
NB	Equal variances assumed	.556	.457	.218	238	.827	.03178	.14562	-.25509	.31865
	Equal variances not assumed			.218	215.687	.827	.03178	.14562	-.25524	.31881
VB	Equal variances assumed	6.883	.009	1.809	238	.072	.27660	.15293	-.02468	.57788
	Equal variances not assumed			1.809	184.158	.072	.27660	.15293	-.02513	.57833
AdjA	Equal variances assumed	11.629	.001	2.594	238	*.010	.81383	.31374	.19578	1.43189
	Equal variances not assumed			2.594	159.446	.010	.81383	.31374	.19422	1.43345
AdvA	Equal variances assumed	5.651	.018	1.507	238	.133	.16165	.10726	-.04966	.37295
	Equal variances not assumed			1.507	210.088	.133	.16165	.10726	-.04980	.37310
NA	Equal variances assumed	2.987	.085	.881	238	.379	.09363	.10632	-.11582	.30308
	Equal variances not assumed			.881	200.862	.380	.09363	.10632	-.11602	.30328

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
VA	Equal variances assumed	16.759	.000	3.059	238	**.002	.25948	.08481	.09240	.42657
	Equal variances not assumed			3.059	157.869	.003	.25948	.08481	.09197	.42700
FPPS	Equal variances assumed	1.669	.198	-.087	238	.931	-.05657	.64986	-1.33679	1.22365
	Equal variances not assumed			-.087	219.058	.931	-.05657	.64986	-1.33736	1.22421
TS	Equal variances assumed	.181	.671	-.297	238	.767	-.02361	.07946	-.18015	.13294
	Equal variances not assumed			-.297	235.526	.767	-.02361	.07946	-.18015	.13294
RPE	Equal variances assumed	11.395	.001	1.599	238	.111	.24664	.15422	-.05717	.55045
	Equal variances not assumed			1.599	172.692	.112	.24664	.15422	-.05776	.55104
IDE	Equal variances assumed	6.304	.013	2.084	238	*.038	.57545	.27616	.03142	1.11949
	Equal variances not assumed			2.084	199.764	.038	.57545	.27616	.03089	1.12002
RQE	Equal variances assumed	10.670	.001	1.941	238	.053	.20167	.10389	-.00300	.40633
	Equal variances not assumed			1.941	167.105	.054	.20167	.10389	-.00344	.40678

Appendix G

Statistical Tables for NE Interactional Metadiscourse Markers in ANOVA Comparison and Post Hoc Scheffe Test

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
H	Between Groups	2459.674	3	819.891	2.188	.093
	Within Groups	43474.791	116	374.783		
	Total	45934.465	119			
B	Between Groups	587.312	3	195.771	3.586	*.016
	Within Groups	6333.453	116	54.599		
	Total	6920.765	119			
A	Between Groups	90.458	3	30.153	1.501	.218
	Within Groups	2329.633	116	20.083		
	Total	2420.091	119			
S	Between Groups	614.459	3	204.820	6.936	***.000
	Within Groups	3425.233	116	29.528		
	Total	4039.692	119			
E	Between Groups	75.112	3	25.037	1.804	.150
	Within Groups	1609.871	116	13.878		
	Total	1684.983	119			

Multiple Comparisons

Scheffe

Dependent Variable	(I) Section	(J) Section	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
H		M	-5.50379	4.99855	.750	-19.6846	8.6770
		R	5.78713	4.99855	.720	-8.3936	19.9679
		D	-4.83619	4.99855	.817	-19.0170	9.3446
	M	I	5.50379	4.99855	.750	-8.6770	19.6846
		R	11.29092	4.99855	.171	-2.8898	25.4717
		D	.66761	4.99855	.999	-13.5132	14.8484
	R	I	-5.78713	4.99855	.720	-19.9679	8.3936
		M	-11.29092	4.99855	.171	-25.4717	2.8898
		D	-10.62331	4.99855	.217	-24.8041	3.5575
	D	I	4.83619	4.99855	.817	-9.3446	19.0170
		M	-.66761	4.99855	.999	-14.8484	13.5132
		R	10.62331	4.99855	.217	-3.5575	24.8041
B	I	M	.05287	1.90786	1.000	-5.3597	5.4654
		R	2.86042	1.90786	.525	-2.5521	8.2730
		D	-3.38342	1.90786	.374	-8.7960	2.0291
	M	I	-.05287	1.90786	1.000	-5.4654	5.3597
		R	2.80756	1.90786	.541	-2.6050	8.2201
		D	-3.43628	1.90786	.360	-8.8488	1.9763
	R	I	-2.86042	1.90786	.525	-8.2730	2.5521
		M	-2.80756	1.90786	.541	-8.2201	2.6050
		D	-6.24384*	1.90786	*.016	-11.6564	-.8313
	D	I	3.38342	1.90786	.374	-2.0291	8.7960
		M	3.43628	1.90786	.360	-1.9763	8.8488
		R	6.24384*	1.90786	*.016	.8313	11.6564

Dependent Variable	(I) Section	(J) Section	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
A	I	M	.57774	1.15710	.969	-2.7049	3.8604
		R	2.35281	1.15710	.253	-.9298	5.6355
		D	.87055	1.15710	.904	-2.4121	4.1532
	M	I	-.57774	1.15710	.969	-3.8604	2.7049
		R	1.77507	1.15710	.505	-1.5076	5.0577
		D	.29280	1.15710	.996	-2.9898	3.5755
	R	I	-2.35281	1.15710	.253	-5.6355	.9298
		M	-1.77507	1.15710	.505	-5.0577	1.5076
		D	-1.48226	1.15710	.651	-4.7649	1.8004
	D	I	-.87055	1.15710	.904	-4.1532	2.4121
		M	-.29280	1.15710	.996	-3.5755	2.9898
		R	1.48226	1.15710	.651	-1.8004	4.7649
S	I	M	-5.13023*	1.40304	**.005	-9.1106	-1.1498
		R	.69181	1.40304	.970	-3.2886	4.6722
		D	-2.05756	1.40304	.544	-6.0380	1.9228
	M	I	5.13023*	1.40304	**.005	1.1498	9.1106
		R	5.82204*	1.40304	**.001	1.8416	9.8024
		D	3.07266	1.40304	.194	-.9077	7.0531
	R	I	-.69181	1.40304	.970	-4.6722	3.2886
		M	-5.82204*	1.40304	**.001	-9.8024	-1.8416
		D	-2.74938	1.40304	.285	-6.7298	1.2310
	D	I	2.05756	1.40304	.544	-1.9228	6.0380
		M	-3.07266	1.40304	.194	-7.0531	.9077
		R	2.74938	1.40304	.285	-1.2310	6.7298
E	I	M	.76301	.96188	.889	-1.9658	3.4918
		R	1.62462	.96188	.419	-1.1042	4.3534
		D	-.45974	.96188	.973	-3.1886	2.2691
	M	I	-.76301	.96188	.889	-3.4918	1.9658
		R	.86161	.96188	.849	-1.8672	3.5904
		D	-1.22275	.96188	.657	-3.9516	1.5061

Dependent Variable	(I) Section	(J) Section	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
	R	I	-1.62462	.96188	.419	-4.3534	1.1042
		M	-.86161	.96188	.849	-3.5904	1.8672
		D	-2.08436	.96188	.202	-4.8132	.6445
	D	I	.45974	.96188	.973	-2.2691	3.1886
		M	1.22275	.96188	.657	-1.5061	3.9516
		R	2.08436	.96188	.202	-.6445	4.8132

*. The mean difference is significant at the 0.05 level

Appendix H

Statistical Tables for NE Interactional Metadiscourse Marker Devices in ANOVA Comparison and Post Hoc Scheffe Test

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
AdjH	Between Groups	183.600	3	61.200	4.727	**.004
	Within Groups	1501.928	116	12.948		
	Total	1685.528	119			
AdvH	Between Groups	521.939	3	173.980	1.174	.323
	Within Groups	17186.602	116	148.160		
	Total	17708.541	119			
MH	Between Groups	475.543	3	158.514	8.983	***.000
	Within Groups	2046.981	116	17.646		
	Total	2522.525	119			
NH	Between Groups	.251	3	.084	.385	.764
	Within Groups	25.193	116	.217		
	Total	25.443	119			
VH	Between Groups	25.124	3	8.375	.994	.398
	Within Groups	977.128	116	8.424		
	Total	1002.252	119			
AdjB	Between Groups	1.570	3	.523	1.706	.170
	Within Groups	35.589	116	.307		
	Total	37.160	119			
AdvB	Between Groups	28.752	3	9.584	1.542	.207
	Within Groups	720.962	116	6.215		
	Total	749.714	119			

		Sum of Squares	df	Mean Square	F	Sig.
MB	Between Groups	450.697	3	150.232	8.306	***.000
	Within Groups	2098.158	116	18.088		
	Total	2548.855	119			
NB	Between Groups	8.148	3	2.716	1.641	.184
	Within Groups	191.960	116	1.655		
	Total	200.108	119			
VB	Between Groups	2.657	3	.886	.404	.751
	Within Groups	254.638	116	2.195		
	Total	257.295	119			
AdjA	Between Groups	27.048	3	9.016	.895	.446
	Within Groups	1169.041	116	10.078		
	Total	1196.088	119			
AdvA	Between Groups	.084	3	.028	.029	.993
	Within Groups	112.007	116	.966		
	Total	112.091	119			
NA	Between Groups	8.141	3	2.714	2.934	*.036
	Within Groups	107.280	116	.925		
	Total	115.421	119			
VA	Between Groups	3.925	3	1.308	1.806	.150
	Within Groups	84.029	116	.724		
	Total	87.954	119			
FPPS	Between Groups	540.014	3	180.005	6.211	***.001
	Within Groups	3362.079	116	28.983		
	Total	3902.093	119			
TS	Between Groups	2.461	3	.820	2.014	.116
	Within Groups	47.245	116	.407		
	Total	49.705	119			
RPE	Between Groups	16.414	3	5.471	2.462	.066
	Within Groups	257.834	116	2.223		
	Total	274.249	119			

		Sum of Squares	df	Mean Square	F	Sig.
IDE	Between Groups	46.233	3	15.411	2.427	.069
	Within Groups	736.541	116	6.349		
	Total	782.773	119			
RQE	Between Groups	.288	3	.096	.088	.967
	Within Groups	126.975	116	1.095		
	Total	127.264	119			

Multiple Comparisons

Scheffe

Dependent Variable	(I) Section	(J) Section	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
AdjH	I	M	-1.88175	.92907	.256	-4.5175	.7540
		R	1.39187	.92907	.526	-1.2439	4.0276
		D	-1.14426	.92907	.679	-3.7800	1.4915
	M	I	1.88175	.92907	.256	-.7540	4.5175
		R	3.27362*	.92907	**.008	.6379	5.9094
		D	.73749	.92907	.889	-1.8983	3.3732
	R	I	-1.39187	.92907	.526	-4.0276	1.2439
		M	-3.27362*	.92907	**.008	-5.9094	-.6379
		D	-2.53613	.92907	.064	-5.1719	.0996
	D	I	1.14426	.92907	.679	-1.4915	3.7800
		M	-.73749	.92907	.889	-3.3732	1.8983
		R	2.53613	.92907	.064	-.0996	5.1719
AdvH	I	M	-4.54536	3.14283	.556	-13.4615	4.3708
		R	.89870	3.14283	.994	-8.0174	9.8148
		D	-.52017	3.14283	.999	-9.4363	8.3960
	M	I	4.54536	3.14283	.556	-4.3708	13.4615
		R	5.44407	3.14283	.395	-3.4721	14.3602
		D	4.02519	3.14283	.651	-4.8909	12.9413

Dependent Variable	(I) Section	(J) Section	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
	R	I	-.89870	3.14283	.994	-9.8148	8.0174
		M	-5.44407	3.14283	.395	-14.3602	3.4721
		D	-1.41887	3.14283	.977	-10.3350	7.4972
	D	I	.52017	3.14283	.999	-8.3960	9.4363
		M	-4.02519	3.14283	.651	-12.9413	4.8909
		R	1.41887	3.14283	.977	-7.4972	10.3350
MH	I	M	1.31494	1.08463	.690	-1.7621	4.3920
		R	2.82509	1.08463	.085	-.2520	5.9022
		D	-2.59567	1.08463	.132	-5.6727	.4814
	M	I	-1.31494	1.08463	.690	-4.3920	1.7621
		R	1.51015	1.08463	.587	-1.5669	4.5872
		D	-3.91061*	1.08463	**.006	-6.9877	-.8335
	R	I	-2.82509	1.08463	.085	-5.9022	.2520
		M	-1.51015	1.08463	.587	-4.5872	1.5669
		D	-5.42076*	1.08463	***.000	-8.4978	-2.3437
	D	I	2.59567	1.08463	.132	-.4814	5.6727
		M	3.91061*	1.08463	**.006	.8335	6.9877
		R	5.42076*	1.08463	***.000	2.3437	8.4978
NH	I	M	.08479	.12033	.919	-.2566	.4262
		R	.12245	.12033	.793	-.2189	.4638
		D	.04349	.12033	.988	-.2979	.3849
	M	I	-.08479	.12033	.919	-.4262	.2566
		R	.03766	.12033	.992	-.3037	.3790
		D	-.04130	.12033	.990	-.3827	.3001
	R	I	-.12245	.12033	.793	-.4638	.2189
		M	-.03766	.12033	.992	-.3790	.3037
		D	-.07896	.12033	.934	-.4203	.2624
	D	I	-.04349	.12033	.988	-.3849	.2979
		M	.04130	.12033	.990	-.3001	.3827
		R	.07896	.12033	.934	-.2624	.4203

Dependent Variable	(I) Section	(J) Section	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
VH	I	M	-.47641	.74938	.939	-2.6024	1.6496
		R	.54901	.74938	.911	-1.5770	2.6750
		D	-.61958	.74938	.877	-2.7455	1.5064
	M	I	.47641	.74938	.939	-1.6496	2.6024
		R	1.02542	.74938	.601	-1.1005	3.1514
		D	-.14317	.74938	.998	-2.2691	1.9828
	R	I	-.54901	.74938	.911	-2.6750	1.5770
		M	-1.02542	.74938	.601	-3.1514	1.1005
		D	-1.16859	.74938	.490	-3.2946	.9574
	D	I	.61958	.74938	.877	-1.5064	2.7455
		M	.14317	.74938	.998	-1.9828	2.2691
		R	1.16859	.74938	.490	-.9574	3.2946
AdjB	I	M	.05321	.14302	.987	-.3525	.4589
		R	-.21464	.14302	.524	-.6204	.1911
		D	.07333	.14302	.967	-.3324	.4791
	M	I	-.05321	.14302	.987	-.4589	.3525
		R	-.26786	.14302	.325	-.6736	.1379
		D	.02012	.14302	.999	-.3856	.4259
	R	I	.21464	.14302	.524	-.1911	.6204
		M	.26786	.14302	.325	-.1379	.6736
		D	.28798	.14302	.261	-.1178	.6937
	D	I	-.07333	.14302	.967	-.4791	.3324
		M	-.02012	.14302	.999	-.4259	.3856
		R	-.28798	.14302	.261	-.6937	.1178
AdvB	I	M	-.77167	.64370	.697	-2.5978	1.0545
		R	.60293	.64370	.831	-1.2232	2.4291
		D	-.16519	.64370	.996	-1.9913	1.6610
	M	I	.77167	.64370	.697	-1.0545	2.5978
		R	1.37460	.64370	.213	-.4516	3.2008
		D	.60648	.64370	.828	-1.2197	2.4326

Dependent Variable	(I) Section	(J) Section	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
	R	I	-.60293	.64370	.831	-2.4291	1.2232
		M	-1.37460	.64370	.213	-3.2008	.4516
		D	-.76812	.64370	.701	-2.5943	1.0580
	D	I	.16519	.64370	.996	-1.6610	1.9913
		M	-.60648	.64370	.828	-2.4326	1.2197
		R	.76812	.64370	.701	-1.0580	2.5943
MB	I	M	1.18042	1.09811	.764	-1.9349	4.2957
		R	2.75200	1.09811	.105	-.3633	5.8673
		D	-2.55545	1.09811	.150	-5.6708	.5598
	M	I	-1.18042	1.09811	.764	-4.2957	1.9349
		R	1.57158	1.09811	.564	-1.5437	4.6869
		D	-3.73587*	1.09811	*.011	-6.8512	-.6206
	R	I	-2.75200	1.09811	.105	-5.8673	.3633
		M	-1.57158	1.09811	.564	-4.6869	1.5437
		D	-5.30745*	1.09811	***.000	-8.4228	-2.1922
	D	I	2.55545	1.09811	.150	-.5598	5.6708
		M	3.73587*	1.09811	*.011	.6206	6.8512
		R	5.30745*	1.09811	***.000	2.1922	8.4228
NB	I	M	-.14361	.33215	.980	-1.0859	.7987
		R	.13026	.33215	.985	-.8120	1.0725
		D	-.56310	.33215	.415	-1.5054	.3792
	M	I	.14361	.33215	.980	-.7987	1.0859
		R	.27387	.33215	.878	-.6684	1.2162
		D	-.41949	.33215	.661	-1.3618	.5228
	R	I	-.13026	.33215	.985	-1.0725	.8120
		M	-.27387	.33215	.878	-1.2162	.6684
		D	-.69336	.33215	.231	-1.6357	.2489
	D	I	.56310	.33215	.415	-.3792	1.5054
		M	.41949	.33215	.661	-.5228	1.3618
		R	.69336	.33215	.231	-.2489	1.6357

Dependent Variable	(I) Section	(J) Section	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
VB	I	M	-.26549	.38255	.923	-1.3508	.8198
		R	-.41012	.38255	.765	-1.4954	.6752
		D	-.17300	.38255	.977	-1.2583	.9123
	M	I	.26549	.38255	.923	-.8198	1.3508
		R	-.14463	.38255	.986	-1.2299	.9406
		D	.09249	.38255	.996	-.9928	1.1778
	R	I	.41012	.38255	.765	-.6752	1.4954
		M	.14463	.38255	.986	-.9406	1.2299
		D	.23712	.38255	.943	-.8482	1.3224
	D	I	.17300	.38255	.977	-.9123	1.2583
		M	-.09249	.38255	.996	-1.1778	.9928
		R	-.23712	.38255	.943	-1.3224	.8482
AdjA	I	M	-.01228	.81967	1.000	-2.3377	2.3131
		R	1.15262	.81967	.579	-1.1728	3.4780
		D	.47220	.81967	.954	-1.8532	2.7976
	M	I	.01228	.81967	1.000	-2.3131	2.3377
		R	1.16490	.81967	.570	-1.1605	3.4903
		D	.48449	.81967	.950	-1.8409	2.8099
	R	I	-1.15262	.81967	.579	-3.4780	1.1728
		M	-1.16490	.81967	.570	-3.4903	1.1605
		D	-.68042	.81967	.876	-3.0058	1.6450
	D	I	-.47220	.81967	.954	-2.7976	1.8532
		M	-.48449	.81967	.950	-2.8099	1.8409
		R	.68042	.81967	.876	-1.6450	3.0058
AdvA	I	M	.01213	.25372	1.000	-.7077	.7319
		R	.05430	.25372	.997	-.6655	.7741
		D	-.01769	.25372	1.000	-.7375	.7021
	M	I	-.01213	.25372	1.000	-.7319	.7077
		R	.04216	.25372	.999	-.6776	.7619
		D	-.02983	.25372	1.000	-.7496	.6900

Dependent Variable	(I) Section	(J) Section	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
	R	I	-.05430	.25372	.997	-.7741	.6655
		M	-.04216	.25372	.999	-.7619	.6776
		D	-.07199	.25372	.994	-.7918	.6478
	D	I	.01769	.25372	1.000	-.7021	.7375
		M	.02983	.25372	1.000	-.6900	.7496
		R	.07199	.25372	.994	-.6478	.7918
NA	I	M	.49099	.24831	.277	-.2134	1.1954
		R	.66865	.24831	.070	-.0358	1.3731
		D	.18175	.24831	.911	-.5227	.8862
	M	I	-.49099	.24831	.277	-1.1954	.2134
		R	.17766	.24831	.916	-.5268	.8821
		D	-.30923	.24831	.671	-1.0137	.3952
	R	I	-.66865	.24831	.070	-1.3731	.0358
		M	-.17766	.24831	.916	-.8821	.5268
		D	-.48689	.24831	.284	-1.1913	.2175
	D	I	-.18175	.24831	.911	-.8862	.5227
		M	.30923	.24831	.671	-.3952	1.0137
		R	.48689	.24831	.284	-.2175	1.1913
VA	I	M	.08690	.21976	.984	-.5365	.7103
		R	.47725	.21976	.200	-.1462	1.1007
		D	.23428	.21976	.768	-.3892	.8577
	M	I	-.08690	.21976	.984	-.7103	.5365
		R	.39034	.21976	.373	-.2331	1.0138
		D	.14738	.21976	.930	-.4761	.7708
	R	I	-.47725	.21976	.200	-1.1007	.1462
		M	-.39034	.21976	.373	-1.0138	.2331
		D	-.24296	.21976	.748	-.8664	.3805
	D	I	-.23428	.21976	.768	-.8577	.3892
		M	-.14738	.21976	.930	-.7708	.4761
		R	.24296	.21976	.748	-.3805	.8664

Dependent Variable	(I) Section	(J) Section	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
FPPS	I	M	-4.77532*	1.39005	**.010	-8.7188	-.8318
		R	.70732	1.39005	.967	-3.2362	4.6508
		D	-1.88851	1.39005	.606	-5.8320	2.0550
	M	I	4.77532*	1.39005	**.010	.8318	8.7188
		R	5.48264*	1.39005	**.002	1.5391	9.4262
		D	2.88681	1.39005	.235	-1.0567	6.8303
	R	I	-.70732	1.39005	.967	-4.6508	3.2362
		M	-5.48264*	1.39005	**.002	-9.4262	-1.5391
		D	-2.59583	1.39005	.327	-6.5394	1.3477
	D	I	1.88851	1.39005	.606	-2.0550	5.8320
		M	-2.88681	1.39005	.235	-6.8303	1.0567
		R	2.59583	1.39005	.327	-1.3477	6.5394
TS	I	M	-.35490	.16478	.206	-.8224	.1126
		R	-.01550	.16478	1.000	-.4830	.4520
		D	-.16905	.16478	.789	-.6365	.2984
	M	I	.35490	.16478	.206	-.1126	.8224
		R	.33940	.16478	.242	-.1281	.8069
		D	.18586	.16478	.736	-.2816	.6533
	R	I	.01550	.16478	1.000	-.4520	.4830
		M	-.33940	.16478	.242	-.8069	.1281
		D	-.15354	.16478	.833	-.6210	.3139
	D	I	.16905	.16478	.789	-.2984	.6365
		M	-.18586	.16478	.736	-.6533	.2816
		R	.15354	.16478	.833	-.3139	.6210
RPE	I	M	.81470	.38494	.220	-.2774	1.9068
		R	.97412	.38494	.100	-.1179	2.0662
		D	.55755	.38494	.554	-.5345	1.6496
	M	I	-.81470	.38494	.220	-1.9068	.2774
		R	.15943	.38494	.982	-.9326	1.2515
		D	-.25715	.38494	.930	-1.3492	.8349

Dependent Variable	(I) Section	(J) Section	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
	R	I	-.97412	.38494	.100	-2.0662	.1179
		M	-.15943	.38494	.982	-1.2515	.9326
		D	-.41657	.38494	.760	-1.5086	.6755
	D	I	-.55755	.38494	.554	-1.6496	.5345
		M	.25715	.38494	.930	-.8349	1.3492
		R	.41657	.38494	.760	-.6755	1.5086
IDE	I	M	-.17406	.65061	.995	-2.0198	1.6717
		R	.62309	.65061	.821	-1.2227	2.4689
		D	-1.10982	.65061	.410	-2.9556	.7360
	M	I	.17406	.65061	.995	-1.6717	2.0198
		R	.79715	.65061	.683	-1.0486	2.6429
		D	-.93576	.65061	.560	-2.7815	.9100
	R	I	-.62309	.65061	.821	-2.4689	1.2227
		M	-.79715	.65061	.683	-2.6429	1.0486
		D	-1.73292	.65061	.075	-3.5787	.1129
	D	I	1.10982	.65061	.410	-.7360	2.9556
		M	.93576	.65061	.560	-.9100	2.7815
		R	1.73292	.65061	.075	-.1129	3.5787
RQE	I	M	.12237	.27014	.977	-.6440	.8887
		R	.02740	.27014	1.000	-.7390	.7938
		D	.09253	.27014	.990	-.6738	.8589
	M	I	-.12237	.27014	.977	-.8887	.6440
		R	-.09497	.27014	.989	-.8613	.6714
		D	-.02984	.27014	1.000	-.7962	.7365
	R	I	-.02740	.27014	1.000	-.7938	.7390
		M	.09497	.27014	.989	-.6714	.8613
		D	.06513	.27014	.996	-.7012	.8315
	D	I	-.09253	.27014	.990	-.8589	.6738
		M	.02984	.27014	1.000	-.7365	.7962
		R	-.06513	.27014	.996	-.8315	.7012

*. The mean difference is significant at the 0.05 level

Appendix I

Statistical Tables for NNE Interactional Metadiscourse Markers in ANOVA Comparison and Post Hoc Scheffe Test

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
H	Between Groups	1472.089	3	490.696	8.377	***.000
	Within Groups	6794.828	116	58.576		
	Total	8266.916	119			
B	Between Groups	448.615	3	149.538	11.696	***.000
	Within Groups	1483.126	116	12.786		
	Total	1931.741	119			
A	Between Groups	33.416	3	11.139	4.051	**.009
	Within Groups	318.995	116	2.750		
	Total	352.411	119			
S	Between Groups	113.785	3	37.928	2.075	.107
	Within Groups	2120.031	116	18.276		
	Total	2233.816	119			
E	Between Groups	58.894	3	19.631	6.008	**.001
	Within Groups	379.038	116	3.268		
	Total	437.932	119			

Multiple Comparisons

Scheffe

Dependent Variable	(I) Section	(J) Section	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
H	I	M	3.09087	1.97613	.488	-2.5153	8.6971
		R	1.63835	1.97613	.876	-3.9679	7.2446
		D	-6.10796*	1.97613	*.027	-11.7142	-.5017
	M	I	-3.09087	1.97613	.488	-8.6971	2.5153
		R	-1.45252	1.97613	.910	-7.0587	4.1537
		D	-9.19883*	1.97613	***.000	-14.8051	-3.5926
	R	I	-1.63835	1.97613	.876	-7.2446	3.9679
		M	1.45252	1.97613	.910	-4.1537	7.0587
		D	-7.74631*	1.97613	**.002	-13.3525	-2.1401
	D	I	6.10796*	1.97613	*.027	.5017	11.7142
		M	9.19883*	1.97613	***.000	3.5926	14.8051
		R	7.74631*	1.97613	**.002	2.1401	13.3525
B	I	M	1.46255	.92324	.476	-1.1567	4.0818
		R	-.59997	.92324	.935	-3.2192	2.0192
		D	-3.82794*	.92324	***.001	-6.4471	-1.2087
	M	I	-1.46255	.92324	.476	-4.0818	1.1567
		R	-2.06252	.92324	.179	-4.6817	.5567
		D	-5.29049*	.92324	***.000	-7.9097	-2.6713
	R	I	.59997	.92324	.935	-2.0192	3.2192
		M	2.06252	.92324	.179	-.5567	4.6817
		D	-3.22797*	.92324	**.009	-5.8472	-.6088
	D	I	3.82794*	.92324	***.001	1.2087	6.4471
		M	5.29049*	.92324	***.000	2.6713	7.9097
		R	3.22797*	.92324	**.009	.6088	5.8472

Dependent Variable	(I) Section	(J) Section	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
A	I	M	.91259	.42817	.215	-.3021	2.1273
		R	-.26677	.42817	.942	-1.4815	.9479
		D	-.46679	.42817	.756	-1.6815	.7479
	M	I	-.91259	.42817	.215	-2.1273	.3021
		R	-1.17937	.42817	.061	-2.3941	.0353
		D	-1.37939*	.42817	*.019	-2.5941	-.1647
	R	I	.26677	.42817	.942	-.9479	1.4815
		M	1.17937	.42817	.061	-.0353	2.3941
		D	-.20002	.42817	.974	-1.4147	1.0147
	D	I	.46679	.42817	.756	-.7479	1.6815
		M	1.37939*	.42817	*.019	.1647	2.5941
		R	.20002	.42817	.974	-1.0147	1.4147
S	I	M	-2.29721	1.10382	.234	-5.4287	.8343
		R	-1.20079	1.10382	.757	-4.3323	1.9307
		D	-2.40559	1.10382	.197	-5.5371	.7259
	M	I	2.29721	1.10382	.234	-.8343	5.4287
		R	1.09641	1.10382	.804	-2.0351	4.2279
		D	-.10839	1.10382	1.000	-3.2399	3.0231
	R	I	1.20079	1.10382	.757	-1.9307	4.3323
		M	-1.09641	1.10382	.804	-4.2279	2.0351
		D	-1.20480	1.10382	.755	-4.3363	1.9267
	D	I	2.40559	1.10382	.197	-.7259	5.5371
		M	.10839	1.10382	1.000	-3.0231	3.2399
		R	1.20480	1.10382	.755	-1.9267	4.3363
E	I	M	.69276	.46673	.534	-.6313	2.0169
		R	.98461	.46673	.223	-.3395	2.3087
		D	-.83209	.46673	.369	-2.1562	.4920
	M	I	-.69276	.46673	.534	-2.0169	.6313
		R	.29185	.46673	.942	-1.0323	1.6160
		D	-1.52486*	.46673	*.017	-2.8490	-.2008

Dependent Variable	(I) Section	(J) Section	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
	R	I	-.98461	.46673	.223	-2.3087	.3395
		M	-.29185	.46673	.942	-1.6160	1.0323
		D	-1.81671*	.46673	**.003	-3.1408	-.4926
	D	I	.83209	.46673	.369	-.4920	2.1562
		M	1.52486*	.46673	*.017	.2008	2.8490
		R	1.81671*	.46673	**.003	.4926	3.1408

*. The mean difference is significant at the 0.05 level.

Appendix J

Statistical Tables for NNE Interactional Metadiscourse Marker Devices in ANOVA Comparison and Post Hoc Scheffe Test

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
AdjH	Between Groups	36.087	3	12.029	2.903	*.038
	Within Groups	480.632	116	4.143		
	Total	516.719	119			
AdvH	Between Groups	42.779	3	14.260	1.390	.249
	Within Groups	1189.622	116	10.255		
	Total	1232.401	119			
MH	Between Groups	375.140	3	125.047	15.987	***.000
	Within Groups	907.347	116	7.822		
	Total	1282.488	119			
NH	Between Groups	18.022	3	6.007	2.315	.080
	Within Groups	301.082	116	2.596		
	Total	319.105	119			
VH	Between Groups	60.651	3	20.217	10.660	***.000
	Within Groups	220.006	116	1.897		
	Total	280.657	119			
AdjB	Between Groups	14.328	3	4.776	5.817	**.001
	Within Groups	95.236	116	.821		
	Total	109.564	119			
AdB	Between Groups	5.019	3	1.673	1.857	.141
	Within Groups	104.523	116	.901		
	Total	109.543	119			

		Sum of Squares	df	Mean Square	F	Sig.
MB	Between Groups	400.391	3	133.464	14.578	***.000
	Within Groups	1061.968	116	9.155		
	Total	1462.359	119			
NB	Between Groups	12.323	3	4.108	5.271	**.002
	Within Groups	90.388	116	.779		
	Total	102.711	119			
VB	Between Groups	11.811	3	3.937	7.038	***.000
	Within Groups	64.889	116	.559		
	Total	76.700	119			
AdjA	Between Groups	24.663	3	8.221	5.159	**.002
	Within Groups	184.835	116	1.593		
	Total	209.499	119			
AdvA	Between Groups	1.924	3	.641	1.480	.224
	Within Groups	50.281	116	.433		
	Total	52.205	119			
NA	Between Groups	4.015	3	1.338	3.697	*.014
	Within Groups	41.993	116	.362		
	Total	46.008	119			
VA	Between Groups	1.362	3	.454	3.929	**.010
	Within Groups	13.407	116	.116		
	Total	14.769	119			
FPPS	Between Groups	90.028	3	30.009	1.708	.169
	Within Groups	2038.653	116	17.575		
	Total	2128.681	119			
TS	Between Groups	4.125	3	1.375	4.389	**.006
	Within Groups	36.340	116	.313		
	Total	40.464	119			
RPE	Between Groups	1.308	3	.436	.789	.502
	Within Groups	64.079	116	.552		
	Total	65.387	119			
IDE	Between Groups	29.684	3	9.895	4.149	**.008
	Within Groups	276.617	116	2.385		
	Total	306.301	119			

		Sum of Squares	df	Mean Square	F	Sig.
RQE	Between Groups	2.408	3	.803	3.806	*.012
	Within Groups	24.461	116	.211		
	Total	26.869	119			

Multiple Comparisons

Scheffe

Dependent Variable	(I) Section	(J) Section	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
AdjH	I	M	-.19361	.52557	.987	-1.6846	1.2974
		R	.59209	.52557	.737	-.8989	2.0831
		D	-.94282	.52557	.364	-2.4339	.5482
	M	I	.19361	.52557	.987	-1.2974	1.6846
		R	.78570	.52557	.527	-.7053	2.2767
		D	-.74922	.52557	.568	-2.2402	.7418
	R	I	-.59209	.52557	.737	-2.0831	.8989
		M	-.78570	.52557	.527	-2.2767	.7053
		D	-1.53491*	.52557	*.041	-3.0259	-.0439
	D	I	.94282	.52557	.364	-.5482	2.4339
		M	.74922	.52557	.568	-.7418	2.2402
		R	1.53491*	.52557	*.041	.0439	3.0259
AdvH	I	M	.57126	.82686	.924	-1.7745	2.9170
		R	-.28295	.82686	.990	-2.6287	2.0628
		D	-1.08558	.82686	.633	-3.4313	1.2602
	M	I	-.57126	.82686	.924	-2.9170	1.7745
		R	-.85421	.82686	.785	-3.2000	1.4916
		D	-1.65683	.82686	.265	-4.0026	.6889
	R	I	.28295	.82686	.990	-2.0628	2.6287
		M	.85421	.82686	.785	-1.4916	3.2000
		D	-.80262	.82686	.815	-3.1484	1.5431

Dependent Variable	(I) Section	(J) Section	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
	D	I	1.08558	.82686	.633	-1.2602	3.4313
		M	1.65683	.82686	.265	-.6889	4.0026
		R	.80262	.82686	.815	-1.5431	3.1484
MH	I	M	1.17566	.72212	.452	-.8730	3.2243
		R	1.21676	.72212	.421	-.8319	3.2654
		D	-3.12679*	.72212	***.001	-5.1754	-1.0781
	M	I	-1.17566	.72212	.452	-3.2243	.8730
		R	.04110	.72212	1.000	-2.0075	2.0898
		D	-4.30245*	.72212	***.000	-6.3511	-2.2538
	R	I	-1.21676	.72212	.421	-3.2654	.8319
		M	-.04110	.72212	1.000	-2.0898	2.0075
		D	-4.34355*	.72212	***.000	-6.3922	-2.2949
	D	I	3.12679*	.72212	***.001	1.0781	5.1754
		M	4.30245*	.72212	***.000	2.2538	6.3511
		R	4.34355*	.72212	***.000	2.2949	6.3922
NH	I	M	1.00227	.41598	.128	-.1778	2.1824
		R	.81391	.41598	.286	-.3662	1.9940
		D	.39481	.41598	.825	-.7853	1.5749
	M	I	-1.00227	.41598	.128	-2.1824	.1778
		R	-.18835	.41598	.977	-1.3685	.9918
		D	-.60745	.41598	.547	-1.7876	.5727
	R	I	-.81391	.41598	.286	-1.9940	.3662
		M	.18835	.41598	.977	-.9918	1.3685
		D	-.41910	.41598	.798	-1.5992	.7610
	D	I	-.39481	.41598	.825	-1.5749	.7853
		M	.60745	.41598	.547	-.5727	1.7876
		R	.41910	.41598	.798	-.7610	1.5992

Dependent Variable	(I) Section	(J) Section	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
VH	I	M	.53530	.35558	.521	-.4735	1.5441
		R	-.70146	.35558	.279	-1.7102	.3073
		D	-1.34758*	.35558	**.004	-2.3564	-.3388
	M	I	-.53530	.35558	.521	-1.5441	.4735
		R	-1.23676*	.35558	**.009	-2.2455	-.2280
		D	-1.88288*	.35558	***.000	-2.8917	-.8741
	R	I	.70146	.35558	.279	-.3073	1.7102
		M	1.23676*	.35558	**.009	.2280	2.2455
		D	-.64612	.35558	.352	-1.6549	.3627
	D	I	1.34758*	.35558	**.004	.3388	2.3564
		M	1.88288*	.35558	***.000	.8741	2.8917
		R	.64612	.35558	.352	-.3627	1.6549
AdjB	I	M	-.18512	.23395	.890	-.8488	.4786
		R	-.87280*	.23395	**.004	-1.5365	-.2091
		D	-.08281	.23395	.989	-.7465	.5809
	M	I	.18512	.23395	.890	-.4786	.8488
		R	-.68768*	.23395	*.039	-1.3514	-.0240
		D	.10231	.23395	.979	-.5614	.7660
	R	I	.87280*	.23395	**.004	.2091	1.5365
		M	.68768*	.23395	*.039	.0240	1.3514
		D	.78998*	.23395	*.012	.1263	1.4537
	D	I	.08281	.23395	.989	-.5809	.7465
		M	-.10231	.23395	.979	-.7660	.5614
		R	-.78998*	.23395	*.012	-1.4537	-.1263
AdvB	I	M	.10659	.24509	.979	-.5887	.8019
		R	.18312	.24509	.906	-.5122	.8784
		D	-.35122	.24509	.563	-1.0465	.3441
	M	I	-.10659	.24509	.979	-.8019	.5887
		R	.07653	.24509	.992	-.6188	.7719
		D	-.45781	.24509	.327	-1.1531	.2375

Dependent Variable	(I) Section	(J) Section	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
	R	I	-.18312	.24509	.906	-.8784	.5122
		M	-.07653	.24509	.992	-.7719	.6188
		D	-.53435	.24509	.197	-1.2297	.1610
	D	I	.35122	.24509	.563	-.3441	1.0465
		M	.45781	.24509	.327	-.2375	1.1531
		R	.53435	.24509	.197	-.1610	1.2297
MB	I	M	1.11943	.78123	.563	-1.0969	3.3358
		R	1.24774	.78123	.469	-.9686	3.4641
		D	-3.27776*	.78123	***.001	-5.4941	-1.0614
	M	I	-1.11943	.78123	.563	-3.3358	1.0969
		R	.12831	.78123	.999	-2.0880	2.3447
		D	-4.39718*	.78123	***.000	-6.6135	-2.1808
	R	I	-1.24774	.78123	.469	-3.4641	.9686
		M	-.12831	.78123	.999	-2.3447	2.0880
		D	-4.52549*	.78123	***.000	-6.7418	-2.3092
	D	I	3.27776*	.78123	***.001	1.0614	5.4941
		M	4.39718*	.78123	***.000	2.1808	6.6135
		R	4.52549*	.78123	***.000	2.3092	6.7418
NB	I	M	.34798	.22792	.509	-.2986	.9946
		R	-.45973	.22792	.260	-1.1063	.1869
		D	.29436	.22792	.645	-.3522	.9410
	M	I	-.34798	.22792	.509	-.9946	.2986
		R	-.80770*	.22792	**.007	-1.4543	-.1611
		D	-.05361	.22792	.997	-.7002	.5930
	R	I	.45973	.22792	.260	-.1869	1.1063
		M	.80770*	.22792	**.007	.1611	1.4543
		D	.75409*	.22792	**.015	.1075	1.4007
	D	I	-.29436	.22792	.645	-.9410	.3522
		M	.05361	.22792	.997	-.5930	.7002
		R	-.75409*	.22792	**.015	-1.4007	-.1075

Dependent Variable	(I) Section	(J) Section	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
VB	I	M	.07368	.19311	.986	-.4742	.6215
		R	-.69831*	.19311	**.006	-1.2462	-.1505
		D	-.41052	.19311	.217	-.9584	.1373
	M	I	-.07368	.19311	.986	-.6215	.4742
		R	-.77199*	.19311	**.002	-1.3198	-.2241
		D	-.48419	.19311	.105	-1.0320	.0637
	R	I	.69831*	.19311	**.006	.1505	1.2462
		M	.77199*	.19311	**.002	.2241	1.3198
		D	.28779	.19311	.530	-.2601	.8356
	D	I	.41052	.19311	.217	-.1373	.9584
		M	.48419	.19311	.105	-.0637	1.0320
		R	-.28779	.19311	.530	-.8356	.2601
AdjA	I	M	.57677	.32593	.376	-.3479	1.5014
		R	-.65002	.32593	.269	-1.5747	.2746
		D	-.32708	.32593	.800	-1.2517	.5976
	M	I	-.57677	.32593	.376	-1.5014	.3479
		R	-1.22679*	.32593	**.004	-2.1514	-.3021
		D	-.90385	.32593	.058	-1.8285	.0208
	R	I	.65002	.32593	.269	-.2746	1.5747
		M	1.22679*	.32593	**.004	.3021	2.1514
		D	.32294	.32593	.806	-.6017	1.2476
	D	I	.32708	.32593	.800	-.5976	1.2517
		M	.90385	.32593	.058	-.0208	1.8285
		R	-.32294	.32593	.806	-1.2476	.6017
AdvA	I	M	.33523	.16999	.279	-.1470	.8175
		R	.26041	.16999	.506	-.2219	.7427
		D	.25279	.16999	.532	-.2295	.7351
	M	I	-.33523	.16999	.279	-.8175	.1470
		R	-.07482	.16999	.978	-.5571	.4074
		D	-.08244	.16999	.972	-.5647	.3998

Dependent Variable	(I) Section	(J) Section	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
	R	I	-.26041	.16999	.506	-.7427	.2219
		M	.07482	.16999	.978	-.4074	.5571
		D	-.00762	.16999	1.000	-.4899	.4746
	D	I	-.25279	.16999	.532	-.7351	.2295
		M	.08244	.16999	.972	-.3998	.5647
		R	.00762	.16999	1.000	-.4746	.4899
NA	I	M	.14465	.15535	.833	-.2961	.5854
		R	-.03046	.15535	.998	-.4712	.4103
		D	-.35577	.15535	.161	-.7965	.0850
	M	I	-.14465	.15535	.833	-.5854	.2961
		R	-.17512	.15535	.736	-.6158	.2656
		D	-.50042*	.15535	*.019	-.9411	-.0597
	R	I	.03046	.15535	.998	-.4103	.4712
		M	.17512	.15535	.736	-.2656	.6158
		D	-.32531	.15535	.229	-.7660	.1154
	D	I	.35577	.15535	.161	-.0850	.7965
		M	.50042*	.15535	*.019	.0597	.9411
		R	.32531	.15535	.229	-.1154	.7660
VA	I	M	-.14406	.08778	.445	-.3931	.1050
		R	.15330	.08778	.388	-.0957	.4023
		D	-.03673	.08778	.981	-.2858	.2123
	M	I	.14406	.08778	.445	-.1050	.3931
		R	.29736*	.08778	*.012	.0483	.5464
		D	.10733	.08778	.684	-.1417	.3564
	R	I	-.15330	.08778	.388	-.4023	.0957
		M	-.29736*	.08778	*.012	-.5464	-.0483
		D	-.19003	.08778	.202	-.4391	.0590
	D	I	.03673	.08778	.981	-.2123	.2858
		M	-.10733	.08778	.684	-.3564	.1417
		R	.19003	.08778	.202	-.0590	.4391

Dependent Variable	(I) Section	(J) Section	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
FPPS	I	M	-1.83558	1.08242	.415	-4.9064	1.2352
		R	-1.17483	1.08242	.758	-4.2456	1.8960
		D	-2.30589	1.08242	.215	-5.3767	.7649
	M	I	1.83558	1.08242	.415	-1.2352	4.9064
		R	.66075	1.08242	.946	-2.4101	3.7316
		D	-.47031	1.08242	.979	-3.5411	2.6005
	R	I	1.17483	1.08242	.758	-1.8960	4.2456
		M	-.66075	1.08242	.946	-3.7316	2.4101
		D	-1.13106	1.08242	.779	-4.2019	1.9397
	D	I	2.30589	1.08242	.215	-.7649	5.3767
		M	.47031	1.08242	.979	-2.6005	3.5411
		R	1.13106	1.08242	.779	-1.9397	4.2019
TS	I	M	-.46163*	.14452	*.020	-.8716	-.0516
		R	-.02596	.14452	.998	-.4360	.3840
		D	-.09970	.14452	.924	-.5097	.3103
	M	I	.46163*	.14452	*.020	.0516	.8716
		R	.43567*	.14452	*.032	.0257	.8457
		D	.36193	.14452	.105	-.0481	.7719
	R	I	.02596	.14452	.998	-.3840	.4360
		M	-.43567*	.14452	*.032	-.8457	-.0257
		D	-.07374	.14452	.967	-.4837	.3363
	D	I	.09970	.14452	.924	-.3103	.5097
		M	-.36193	.14452	.105	-.7719	.0481
		R	.07374	.14452	.967	-.3363	.4837
RPE	I	M	.11913	.19190	.943	-.4253	.6636
		R	.09337	.19190	.971	-.4511	.6378
		D	-.14743	.19190	.898	-.6919	.3970
	M	I	-.11913	.19190	.943	-.6636	.4253
		R	-.02576	.19190	.999	-.5702	.5187
		D	-.26656	.19190	.589	-.8110	.2779

Dependent Variable	(I) Section	(J) Section	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
	R	I	-.09337	.19190	.971	-.6378	.4511
		M	.02576	.19190	.999	-.5187	.5702
		D	-.24080	.19190	.666	-.7852	.3036
	D	I	.14743	.19190	.898	-.3970	.6919
		M	.26656	.19190	.589	-.2779	.8110
		R	.24080	.19190	.666	-.3036	.7852
IDE	I	M	.53815	.39872	.612	-.5930	1.6693
		R	.91018	.39872	.163	-.2210	2.0413
		D	-.38950	.39872	.812	-1.5206	.7417
	M	I	-.53815	.39872	.612	-1.6693	.5930
		R	.37202	.39872	.832	-.7591	1.5032
		D	-.92765	.39872	.150	-2.0588	.2035
	R	I	-.91018	.39872	.163	-2.0413	.2210
		M	-.37202	.39872	.832	-1.5032	.7591
		D	-1.29967*	.39872	*.017	-2.4308	-.1685
	D	I	.38950	.39872	.812	-.7417	1.5206
		M	.92765	.39872	.150	-.2035	2.0588
		R	1.29967*	.39872	*.017	.1685	2.4308
RQE	I	M	.03548	.11857	.993	-.3009	.3719
		R	-.01893	.11857	.999	-.3553	.3174
		D	-.31849	.11857	.071	-.6549	.0179
	M	I	-.03548	.11857	.993	-.3719	.3009
		R	-.05442	.11857	.976	-.3908	.2820
		D	-.35398*	.11857	*.035	-.6903	-.0176
	R	I	.01893	.11857	.999	-.3174	.3553
		M	.05442	.11857	.976	-.2820	.3908
		D	-.29956	.11857	.100	-.6359	.0368
	D	I	.31849	.11857	.071	-.0179	.6549
		M	.35398*	.11857	*.035	.0176	.6903
		R	.29956	.11857	.100	-.0368	.6359

*. The mean difference is significant at the 0.05 level.

BIOGRAPHY

NAME	Thapanee Musiget
ACADEMIC BACKGROUND	Bachelor's Degree with a major in English from Khon Kaen University, Khon Kaen, Thailand in 2007 and a Master's Degree in Profession Communication from The University of Sydney, Sydney, Australia in 2009
PRESENT POSITION	University lecturer in Bangkok, Thailand
EXPERIENCES	Lecturer at Khon Kaen University for Khon Kaen University Language Institute
	Lecturer at Mahidol University for College of Music
	Lecturer for universities in Bangkok, Thailand