

## A Comparative Study of the Use of Metadiscourse Markers in Persian and English Academic Papers

**Saman Ebadi**

Assistant Professor of Applied Linguistics, Razi University, Kermanshah, Iran

**Ahmed Rawdhan Salman**

MA Student of TEFL, Razi University, Kermanshah, Iran

**Bahman Ebrahimi**

MA Student of TEFL, Razi University, Kermanshah, Iran

### Abstract

Metadiscourse (MD) markers help writers present their arguments and research findings and represent themselves more effectively in their academic writings. This study intended to examine the MD features in both the discussion and the conclusion sections of Iranian and native English writers in the hard science of geology. For this purpose we randomly selected two groups of Research Articles written by Persian and English native writers. The MD markers including interactive and interactional devices were manually counted and recorded. The quantitative analysis of the result showed that the native English (NE) writers used more interactional MD devices than the interactive MD features in the argumentative sections of their research articles (RAs). However, native Persian (NP) authors applied more interactive MD resources than the interactional ones in the discussion and conclusion sections of their RAs. The findings implied that although the NP writers well organized their discourse flow, they could not make an effective interpersonal relationship with their own readers.

**Keywords:** metadiscourse features, research articles, conclusion, discussion, geology

### INTRODUCTION

Academic writing perhaps was not most significant in the past; however, due to the rapid scientific advancement in various disciplines, particularly in the second half of the 20<sup>th</sup> century, the ESP researchers turned their attention on effective disciplinary academic writing to enable the academic writers communicate their new findings to the members of their discourse community more effectively. Therefore, today, “academic writing has gradually lost its traditional tag as an objective, faceless and impersonal form of discourse and come to be seen as a persuasive endeavor involving interaction between writers and readers” (Hyland, 2004, p. 173). In other words, academic writing is considered as an act

of identity which not only conveys its ideational message but also carries a representation of the writer (Hyland, 2001). The writers choose particular words so that they could influence, persuade and bring the readers into the discourse flow. More specifically, the academic writers deliberately manipulate language “to construct a credible identity and social relationship with the audience by claiming solidarity with recipients, evaluating their production, and acknowledging alternative viewpoints” (Yang, 2014, p. 63). Therefore, to make the findings, arguments and whatever the writers present both credible and persuasive, the academic writers need to “draw on familiar ways of expressing their arguments, representing themselves, and engaging their audiences” (Hyland, 2001, p. 549).

Being still unknown to many of those who are involved in the field of linguistics and translation (Gholami, Tajalli & Shokrpour, 2014) metadiscourse has actually paved the way for the researchers to build a body of literature in which the main concern is encouraging both the L1 and L2 academic writers to use metadiscourse markers not only to organize and convey their ideas but also to effectively engage and construct an interpersonal relationship with the readers so that the receivers may be appropriately guided in the interpretation of the text and the writer’s precise meaning. Given the academic paper structure, the discussion and conclusion sections are the main sections in which the academic writers present their own propositions along with their interpretations in the manuscripts. Furthermore, the writers often attempt to make interpretative judgments as well as the interpersonal relationship with their own readers. Therefore, there is an overflow of research trying to discover to what extent the L2 academic writers are able to make both an interpersonal and an interpretive relationship with their own audience.

Although the studies of metadiscourse date back to the 1980s, research into metadiscourse has gained ground almost in the past decade in Iran. For example, in the earliest one, Abdi (2000) examined interpersonal metadiscourse categories in the discussion sections of sixty research articles in English from social science and natural science journals published in 1999. Recently, Attaran (2014) also published an article in which she analyzed metadiscourse features in English ESP articles written by Iranian and native English writers. In reviewing the literature it was found that there was not any comparative study to explore the use of metadiscourse markers by Iranian researchers and their native English counterparts working on geology field.

## **REVIEW OF THE LITERATURE**

### **Metadiscourse**

In the words of Vande Kopple and Crismore (as cited in Gholami, Tajalli & Shokrpour, 2014), writing involves two levels: discourse level and metadiscourse (MD) level. On the first level the writer provides the propositional content and in the second level the writer attempts to guide the reader to make interpretation and extract the meaning out of the text. MD is particularly of great importance in the advanced level of academic writing

since this rhetorical feature could assist the readers to process and negotiate the meaning specific to the members of a particular disciplinary community. According to Hyland (2004), MD is the interpersonal resources which the writers use to organize a discourse. He further argued that MD refers to the linguistic devices writers employ to shape their arguments to the needs and expectations of their target readers. MD is the *discourse about discourse* (Vande Kopple, 1985) or *talk about talk* which is “the author’s linguistic manifestation in a text” (Hyland, 1999, p. 5). Elsewhere, Hyland (2000) considers the MD as interpersonal resources to organize a discourse or a writer's stance toward either its content or the reader. “MD embodies the idea that communication is more than just the exchange of information, goods or services, but also involves the personalities, attitudes and assumptions of those who are communicating” (Hyland, 2005, p. 3).

In sum, MD can be defined as whatever doesn’t refer to the subject matter being addressed and does not add propositional information, however signals the presence of an author (Vande Kopple, 1985) and the ways writers project themselves in their texts to interact with their receivers.

### **Review of previous studies**

Research on written academic discourse has been extensive in the past few decades. The main concern of these studies is to further understand how written academic socialization takes place. More specifically, the researchers are interested to discover how academic writers “deliberately manipulate language to construct a credible identity and social relationship with the audience by claiming solidarity with recipients, evaluating their production, and acknowledging alternative viewpoints” (Yang, 2014, p. 63).

Given the rapid advancement of science in the modern world, this issue is of great significance, of course, for non-English academic stakeholders attempting not to lag behind this worldwide competition of contributing in the development of knowledge due to the fact that English language is the current dominant lingua franca for disseminating the new scientific findings to the members of a particular disciplinary community. Considering this fact, therefore, a considerable amount of academic textual analysis studies have dedicated themselves to further investigate whether the non-English academic writers are able to create an appropriate discursive space in presenting their voice, judgments, opinions, commitments as well as acknowledgment of the presence of their own audience.

Since the turn of the millennium, this issue has also drawn the attention of Iranian academic writing analysts. For example, Abdi, (2000) used the Vande Kopple (1985) model to analyze the interpersonal MD categories of hedges, emphatics and attitude markers in the discussion sections of sixty research articles in English from social science and natural science journals. The findings showed that emphatics were used almost as

frequently as hedges. The writers used emphatics to show humility and reveal their limitations. They used hedges to further discuss their findings.

Using the Quirk et al. (1985) framework, Beighmohammadi (2003) examined the introductions of the 75 research articles in three domains of (a) the hard sciences, (b) social sciences, and (c) TEFL. He wanted to investigate the extent to which the use of intensity markers varies across these sets of articles. He found that social science writers used twice as many intensity markers as hard science writers. The TEFL writers' performance was similar to that of hard science writers. He argued that social science writers depend more on discursive and rhetorical strategies in presenting their findings rather than on the mere reporting of facts. In a further study, Simin (2004) investigated the MD used in the writing of ninety undergraduate Iranian EFL learners. The purpose of the study was to examine the impact of MD knowledge and use on students' writing skill across upper-intermediate, intermediate, and lower intermediate proficiency levels. Using Vande Kopple's (1985) model, she found that the more proficient the learners were, the more they used MD in their writing. All students in the three proficiency groups used both textual and interpersonal MD in their argumentative writing.

Hyland (2004) proposed a comprehensive MD framework which is being currently used to explore how advanced second language writers deploy the metadiscoursal resources in a high stake research genre. Therefore, since then, almost all of the studies have used this model to further evaluate the Iranian English argumentative writing across academic research papers.

As an instance, Rahimpour (2006) investigated the MD use in the discussion section of three types of articles: those written in English by Iranians as non-native speakers of English; those in Persian written by Iranians; and those written by native speakers of English. Using the Hyland's (2004) model, she analyzed the MD features in 30 discussion sections by each group of applied linguistics writers published between 1998 and 2005. She found that native speakers of English used significantly more interactive MD than the two groups of Iranian writers did. Furthermore, textual MD was used significantly more than interpersonal MD by all groups. She also found that transitions and hedges were the most frequently used resources in the three groups.

In a further study Shokouhi and Talati Baghsiahi (2009; as cited in Gholami, Tajalli & Shokrpour (2014) studied the MD functions in English and Persian sociology articles and their results revealed a higher number of MD elements in the English texts. Moreover, Pooresfahani, Khajavy and Vahidnia (2012) investigated the use of interactive and interactional metadiscoursal features using the model suggested by Hyland (2005) in two disciplines, applied linguistics and engineering, and their results showed that in both groups the writers used interactive MD markers more than interactional ones.

In a most recent one, Attaran (2014) conducted a study in which she examined MD features in English ESP articles written by Iranian and native English writers. The purpose of the study was to explore any existing similarities or differences of the Iranian

and native writers in using the interactive and interactional MD. The study revealed that both of the writers enjoyed the transition, frame markers, and code glosses similarly however, they used the endophoric markers and evidential markers differently.

Investigating the MD features has also been done through other languages. For example, in his investigation of interactional MD in discussion sections (in the field of education) of Turkish MA students' dissertations written both in Turkish and English, Akbas (2014) found that Turkish writers of Turkish used MD resources more than that of Turkish English writers in their discussion sections. Turkish writers used more instances of MD when writing in Turkish than when writing in English. Sultan (2011) also examined 70 discussion sections of research articles, written by English and Arabic linguistics research articles. The results showed that there was an exaggerated tendency among Arab writers to use MD markers. He justified that Arab writers usually pay as excessive attention to the formal aspects of the text as to the content. Therefore, we can conclude that the use of MD markers is a universal feature for all of the languages; however, they may vary in the frequency and the type of MD markers they apply in academic writing.

## **THIS STUDY**

Along with these studies, the current research is to examine the MD features in both the discussion and the conclusion sections of Iranian and native English writers in the hard science of geology to answer the following questions:

- Which kinds of metadiscourse features are common in the argumentative sections of geology articles written by Iranian writers and their English native counterparts?
- Do Iranian writers use the metadiscourse features in the same way as the native English writers in geology articles?

## **METHOD**

### **Materials**

The materials used in this study were two groups of Research Articles (RAs) (15 English articles written by Native English (NE) geology's researchers and 15 English articles written by Native Persian (NP) Geology researchers). An attempt was made to choose the RAs whose authors were native speakers of English judged by the author's name and affiliation. All English RAs written by NE writers were published in leading international journals in Geology science (e.g., *Journal of Structural Geology*, *Tectonics*, and *Tectonophysics*) whereas English RAs written by NP authors were published in peer reviewed journals in Iran (e.g., *Journal of Engineering Geology* and *Geodynamics Research International Bulletin*). The articles were published between 2013 and 2014. The criteria for journal selection were representativeness, reputation, and accessibility. The journals were nominated by expert informants as among the leading publications in their fields.

## Procedure

The sample was formed by the random selection of 30 articles in the field of Geology. Since discussion and conclusion are the main sections in which the interpersonal and evaluative aspects of an academic manuscript are more prevalent than other sections, we examined the MD features in these sections of two groups of the research articles. The MD markers (interactive and interactional markers) were manually counted and recorded. A quantitative analysis approach was carried out to investigate how both NE and NP researchers in the field of geology apply MD resources in the argumentative sections of their RAs written in English. This study used the Hyland' (2004) model for examining the MD markers in the discussion and conclusion sections of the selected articles.

## RESULTS

The quantitative analysis allowed us to investigate the variations in using the metadiscourse markers across these two groups of articles.

### Interactive Metadiscourse Resources

The frequency and percentage of interactive metadiscourse (MD) markers in the RAs authored by NP writers are presented in the following table (Table 1):

**Table 1.** Frequency and Percentage of Interactive MD Markers in Native Persian Writers

Interactive Metascourse Markers	Frequency	Percentage
Transitions	245	56
Frame Markers	37	8.58
Endophorics	94	21.8
Evedentials	36	8.35
Code Glosses	19	4.40
Total	431	100

Based on Table 1, transitions were the most frequent interactive MD markers. They consisted of 56% of the whole instances of MD markers in the Iranian native Persian writers. There were 94 instances of endophorics (21.8) in Iranian RAs. There were 37 instances of frame markers consisting 8.58% of the whole instances of MD markers in these RAs. Finally, code glosses (4.40) were the least frequent MD markers in these RAs.

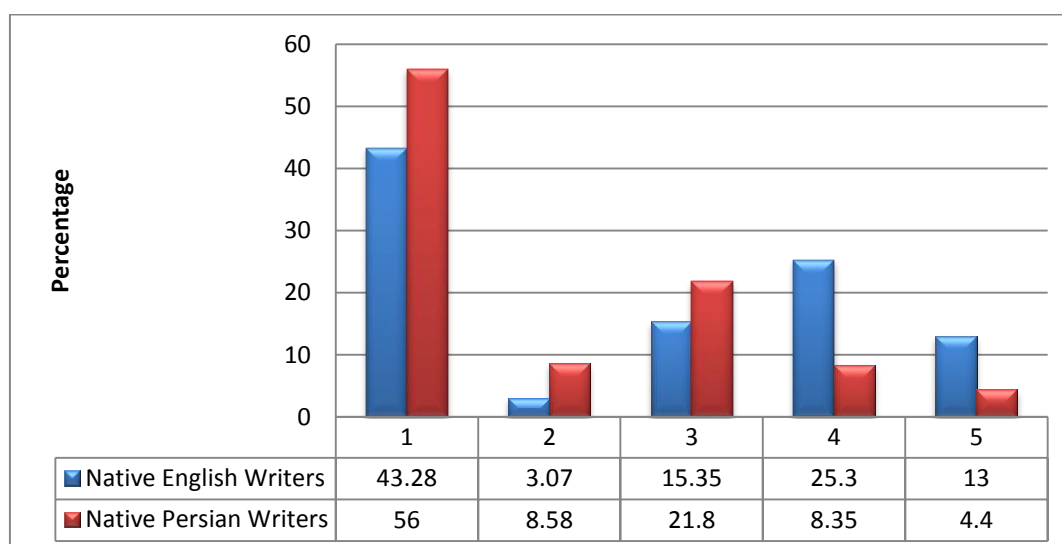
Table 2 shows the frequency and percentage of interactive MD resources counted in the discussions and conclusions sections RAs of the English native writers. As depicted in Table 2, there were 451 instances of transition MD markers in theses RAs. They consisted of 43.28% of the whole instances of interactive MD markers. In addition, there were 264 evedentials (25.3%) and 160 endophorics (15.35%) in these RAs. Moreover, there were

135 instances of code glosses (13%). The frame markers were the least interactive MD features found in this set of RAs (32 instances, 3.07 %).

**Table 2.** Frequency and Percentage of Interactive MD Markers in Native English Writers

Interactive Metacourse Markers	Frequency	Percentage
Transitions	451	43.28
Frame Markers	32	3.07
Endophorics	160	15.35
Evedentials	264	25.3
Code Glosses	135	13
Total	1042	100

Figure 1 shows the frequency and Percentage of different types of interactive MD markers both in the RAs authored by Persian native writers and the RAs written by native English researchers.



**Figure 1.** The Percentage of Interactive MD Markers in NE and NP English RAs (1: Transitions, 2: Frame Markers, 3: Endophorics, 4: Evedentials, 5: Code Glosses)

Figure 1 shows the frequency of different types of interactive MD markers RAs written by both the NE writers and the NP researchers. As demonstrated in this figure, transitions and evedentials are the most MD markers with highest frequencies, respectively. However, NE researchers have favored endophorics more than the Persian RAs writers.

### Interactional MD Resources

Table 3, indicates the frequency and percentage of interactional MD devices in the RAs written by PN writers. Table 3 demonstrates that hedges (38.8%) the most frequent and self-mention were the least frequent interactional metadiscourse marker applied by PN researchers. There were 27 instances of engagements (25%) along with 22 instances of boosters (20.37%). However, there was not any record regarding the attitude markers.

**Table 3.** Frequency and Percentage of Interactional MD Markers in Native Persian Writers

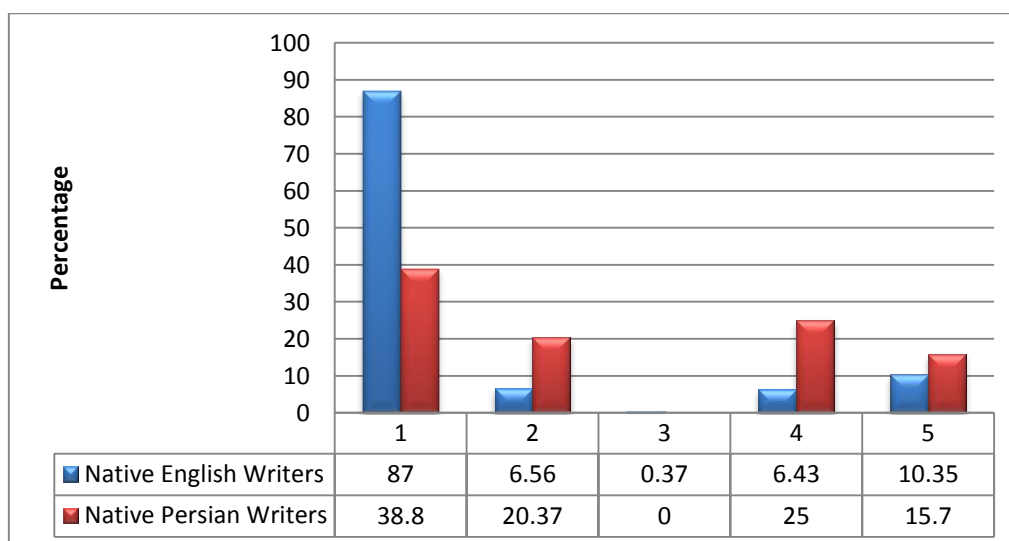
Interactional Metadiscourse markers	Frequency	Percentage
Hedges	42	38.8
Boosters	22	20.37
Attitude Markers	0	0
Engagements	27	25
Self-mentions	17	15.7
Total	108	100

The following table (Table 4) depicts the interactional MD markers across the Native English RAs. According to Table 4, the NE writers applied the hedges (87%) as the highest and attitude markers as the lowest interactional MD in the discussions and conclusions sections of their RAs. It was observed that NE researchers used 85 instances of self-mention (10.35%), 52 instances of boosters (6.56%) and 51 instances of engagement markers (6.43%) in their ARs, respectively.

**Table 4.** Frequency and Percentage of Interactional MD Markers in Native English Writers

Interactional Metadiscourse markers	Frequency	Percentage
Hedges	601	87
Boosters	52	6.56
Attitude Markers	3	.37
Engagements	51	6.43
Self-mentions	85	10.35
Total	792	100

Figure 2 illustrates the percentage of the different types of interactional MD features.

**Figure 2.** The Percentage of Interactional MD Markers in NE and NP English RAs

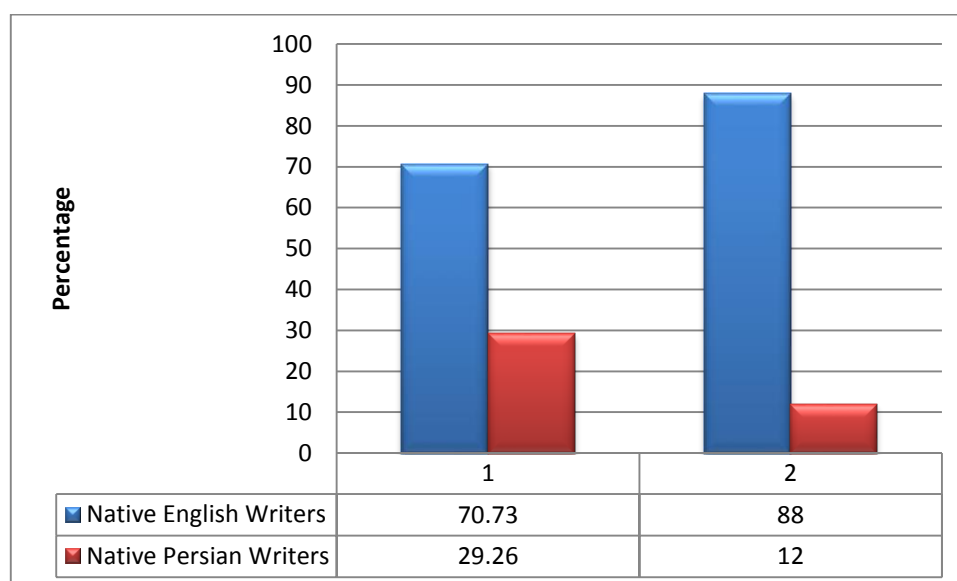


(1: Hedges, 2: Boosters, 3: Attitude markers, 4: Engagemnets markers, 5: Self-mention markers)

According to Figure 2, NE writers used a higher number of hedges (87%) as the salient MD markers in their RAs than do the NP researchers. The figure also shows that NE writers applied the attitude markers (.38%) as the least frequent interactional MD resource while the NP writers did not use any attitude markers in the discussion or conclusion sections of their RAs.

### Metadiscourse in Macro-level

Figure 3 shows the MD in macro-level: interactive and interactional MD markers.



**Figure 3.** Metadiscourse in Macro-level

(1: Interactive MD features, 2: Interactional MD features)

Considering the whole counted MD markers in the selected articles, the figure 3 shows that NE writers applied both the interactive and interactional MD devices more frequent than the NP researchers in the discussion and conclusion sections of their RAs. It also indicates that NE researchers used more interactional resources than interactive ones. It further shows that the NP writers used interactive MD resources more frequently than the interactional MD devices in the discussion and conclusion sections of their RAs.

### DISCUSSION AND CONCLUSION

In this study, we investigated the interactive and interactional metadiscourse (MD) devices in the discussion and conclusion sections of the RAs authored by Native English (NE) researchers and also Native Persian (NP) writers in the field of Geology. The purpose of the study was to discover whether the NP researchers use adequate MD features in the

argumentative parts of their own RAs both in presenting their ideational information and making interpersonal relationship with their own reader.

Analyzing the interactive MD features from a micro-level point of view, the result of the study showed that both NE (43.28%) and NP writers (56%) employed the *transition* markers as the most salient and frequent device in the discussion and conclusion sections of their own academic manuscripts. This might be due to the fact that both Iranian and English academics in the field of geology have attempted to ensure that their readers correctly understand their intentions (Hyland, 2012). The findings are in line with the Rahimpour's (2006) study in which she found that the transition was the frequent interactive resource in three groups of Persian and English RAs in field of applied linguistics.

Regarding the *evidential* markers, it is axiomatic that citation is "a key element of persuasion in academic writing" (Hyland, 2012, p. 10). Because citation in academic writing, as Hyland argued, provides justification for arguments and helps display originality, particularly in the high stakes paper. On the other hand, due to the exact nature of the natural/hard science disciplines such as geology the researchers often "rely more on clear criteria to establish or refute the hypotheses" (Yang, 2014, p. 64). Furthermore, according to Yang (2014), since knowledge in this domain presumed to be relatively analytical, structured and cumulative to establish empirical uniformities, it is logical that the natural science researchers employ *evidential markers* as a common means for organizing and supporting their arguments. Based on our findings, we can claim that unlike NP writers, NE writers have considered this fact in their RAs in the field of geology. This is perhaps due to the reason that NE writers were aware of benefiting this interactive MD marker to construct an audience by drawing on their knowledge of earlier texts and relying on readers' abilities to recognize intertextuality between texts (Hyland, 2001).

*Code gloss markers* signal the restatement of ideational information (Hyland, 2012). The NE researchers in the field of geology used this interactive element more than the NP counterparts in their RAs' discussions and conclusions. Since the English language is a more writer-responsible language as compared with Persian language (Talebinejad & Ghadyani, 2012) therefore, for achieving a successful communication with the readers, the NE writers have attempted to avoid any misunderstanding during the process of persuasion.

*Frame marker* is another interactive feature which enables the academic writers to organize their discourse acts, sequences, or text stages (Hyland, 2004, 2005, 2012). Generally, as Paltridge (2006, p. 4) elaborated, people often organize what they say in a piece of writing or conversation and this is something that varies across different cultures. Scrutinizing the discussion and conclusion sections of the chosen RAs, however, the researchers found that both English (8.58%) and Persian (3.07%) writers applied this MD resource almost similarly (Table 1). This might be due to the strict and exact nature

of the hard sciences in which the researchers must follow procedures in conducting their studies. Therefore, they may need to make references to text boundaries or elements of schematic text structure to label text stages or announce their discourse goals (Hyland, 2012). This result supports the Attaran's (2012) study in which she discovered that both the Iranian and NE writers enjoyed the frame markers similarly in the selected ESP articles.

*Endophoric* is an interactive MD marker (such as, *noted above, see Fig, in section*) which refers to information in other parts of the text. This MD feature enables the academic writers to "make additional material salient and available to the reader in recovering the writer's intentions by referring to other parts of the text" (Hyland, 2004, p. 139). Examining the discussion and conclusion parts of the two groups of the Iranian and Anglo-Saxon RAs in the field of geology sciences, it was discovered that there was not a significant difference in using the endophoric markers both by NE and NP writers (Figure 1). This is probably due to the reason that the argumentative sections of the exact sciences' RAs are often accompanied by illustrations, diagrams or figures. Therefore, the large proportion of the endophorics markers of the scrutinized RAs included the terms such as *see Fig., as mentioned/depicted/indicated in Fig.* as the researchers attempted to "relate [their] current discourse to discourse as a whole" (Burneikaite, 2009, p. 12) and therefore, make the text more interactive and accessible to the readers.

In brief, we can conclude that the NE writers attempted to well organize their discourse flow since they benefited the interactive MD resources more than their NP counterparts. This finding supports the Rahimpour (2006) and Pooresfahani, khajavy and Vahidnia's (2012) studies, but contradicts Sultan's (2011) research.

The interactional MD markers were also analyzed in the 30 selected RAs. In the words of Hyland (2004, 2012), this set of MD features emphasize on the participants of the interaction and seek to display the writer's persona a tenor consistent with the norms of the disciplinary community. As depicted in Table 4, this set of MD included hedges, boosters, attitude markers, engagements and self-mentions. Perhaps, hedges and boosters are the most frequent interactional devices which the academic writers enjoy in making the interpersonal relationship with their own readers since "the expression of doubt and certainty is central to the rhetorical and interactive character of academic writing" (Hyland, 1998, p. 1). Reviewing the argumentative sections of the selected RAs, it was found that the EN researchers (87%) benefited hedges more than the NP writers (38.8%); however, they employed boosters less than their NP counterparts (Figure 2). The high proportion of the hedges implies that the NE researchers employ hedges to minimize the potential threat new claims make on other researchers (Mayer, 1989; as cited in Hyland, 1998). At the other hand, the lower level of boosters in native RAs indicates that NE writers have attempted to refrain themselves from further commitment to their statements and therefore they had enabled the readers to take the opportunity of the negotiating space created by the NE writers. However, the NP writers did not consider the readers as the audience who might refute the claim of academic writers (Hyland,

2001). Hyland (1998) declared that making an appropriate level of claim for one's findings is a critical aspect of research, particularly, in the physical hard sciences. However, it seems that the NP researchers were not aware of this fact to evaluate their propositions as accurately and objectively as possible and engage effectively with their own readers.

*Attitude marker* is another interactional MD feature which often helps the writers to make interpersonal relationship with their audience. Scrutinizing the argumentative parts of the selected RAs, the researchers found that NP writers did not use any attitude marker in their academic manuscripts; however, the NE researchers just used three instances (.37%) in their RAs (Figure 2). This might be due to the fact that the exact nature of the hard science warrants the researchers to interpret their own findings based on conventional criteria universal in their own fields and as Hyland (2012) suggested the writers in hard sciences are often able to draw on empirical and trusted quantitative methods to build up a relationship with their own readers rather than asserting explicit personal interpretations.

*Engagement* is yet another interactional feature which is probably the most obvious indication of a writer's dialogic awareness (Hyland, 2001). Using imperatives, second person pronouns and evaluating commentary, writers engage their audience as the real players in the discourse rather than merely as implied observers of the discussion. The NP (25%) used this feature more than the NE writers (6.43%) in their English RAs in the field of geology. As Hyland (2012) mentioned, writers in different disciplines see their readers in quite different ways; thus, we can claim that the NE researchers in the field of geology as a hard science might have considered the members of their discourse community knowledgeable enough to further provide them with evaluating commentary. Or the Anglo-Saxon academic writing style may consider the imperatives or second person pronouns as face threatening acts on the self-image of readers in academic writing. Finally, reviewing the selected RAs, we came up with the more frequent use of *self-mention* in the NP writing than the NE researchers' (Figure 2). In the words of Hyland (1998), usually in the hard sciences, the authority of the individual is subordinate to the authority of the text. He further elaborates that the writers in the hard sciences often seek to disguise their rhetorical identities and they "produce accurate depictions of the real world, and their textual representation are best designed to be faceless and agentless, claiming an appearance of objectivity and neutrality" (P. 16). To conclude, it seems that the NE writers have emphasized their own invisibility in the text allowing the facts speak transparently for themselves.

By and large, NE writers used more interactional MD devices than the interactive MD features in the argumentative sections of their RAs (Figure 3); however, NP researchers, conversely, applied interactive MD resources than the interactional ones in the discussion and conclusion sections of their RAs (Figure 3). Based on our findings, we can claim that NP writers were not able to make an effective interpersonal relationship with their own readers in the argumentative sections of the RAs in the field of geology as an exact science

whereas they did almost well in organizing their propositions. Therefore, the results of this study would call upon the authorities who are responsible for teaching English writing to the foreign language learners to improve the quality of the academic writing through the appropriate use of MD features to further persuade and motivate their audience particularly in the discussion and conclusion sections of their high stake academic genres. Furthermore, the findings of this study points out to this fact that there is an imperative need to make both the Iranian teachers and learners of academic writing aware of these markers and their functions in the text.

To further explore this issue, future studies could be carried out using interviews to further understand whether the Persian academic writers are aware of using different MD elements in their RAs. As Crismore and Abdollehzadeh (2012) mentioned, recent corpus-based studies such as Ädel's (2006) demonstrate that cultural conventions may differ even within the English-speaking world. Therefore, as this study considered US and British conventions as similar in terms of their argumentation patterns and rhetorical conventions, the further studies could investigate and compare the MD features either in the US or British RAs comparing with the NP writers' RAs.

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