

Contrastive rhetoric of English and Persian written texts: Metadiscourse in applied linguistics research articles

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Abstract

The present study¹ examines a corpus of ninety discussion sections of applied linguistics research articles, with the goal of analyzing different aspects of academic written discourse. Three types of texts were considered: English texts written by native speakers of English, English texts written by Iranians (as non-natives of English), and Persian texts written by Iranians. In order to understand the cultural differences between Persian and English-speaking researchers, the following metadiscourse sub-types adapted from Hyland's (2004) model were examined: transitions, frame markers, endophoric markers, evidentials, code glosses, hedges, boosters, attitude markers, engagement markers, and self-mentions. The first five comprise interactive metadiscourse, and the rest comprise interactional metadiscourse. After the detailed analysis of the metadiscourse types in question, chi-square tests were carried out to clarify the probable differences. The analysis revealed how academic writings of these groups differed in their rhetorical strategies using metadiscourse type because of their respective mother tongues. However, the different groups were found to use all sub-types of metadiscourse. Yet, some subcategories were used differently by the writers of these two languages. In addition, interactive metadiscoursal factors (those resources which help to guide the reader through the text such as transitions, frame markers, etc.) were used significantly more than interactional metadiscoursal factors (those resources involve the reader in the argument such as hedges, boosters, etc.) by both groups.

Keywords: contrastive rhetoric, interactive metadiscourse, interactional metadiscourse, applied linguistics research articles

1 Introduction

In the practices of teaching and learning foreign languages, for several centuries written language was regarded as being primary; and literature was viewed as an example of linguistic excellence, which was mediated through written language. The elucidation and teaching of rules of language, accordingly, was restricted to written texts. In the last two decades, however, interest in the written language has been extended to almost all kinds of writing which are dealt with in the field of teaching foreign languages. Texts, according to Widdowson (2007), are the noticeable traces of the process

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of mediating a message. In conversation, these traces are disjointed and vanish. They can be taped but they do not need to be, and are not recorded. Consequently, texts are produced by participants in spoken communication without making a recording, and their negotiation is regulated on-line. Written text, however, is recorded by the writer and is interpreted as a separate process.

Hyland (2000:2) suggests that, “the written genres of the academy have attracted increasing attention from fields as diverse as philosophy, sociology of sciences, history, rhetoric, and applied linguistics.” To clarify the motives of shifting interest to academic writing, he provides us with two reasons: a) from a theoretical perspective, this trend has been prompted by the very fact that it is the writing which produces different characteristics of various disciplines; and texts are usually considered to manifest the way of constructing and negotiating knowledge in each discipline; b) from a pedagogical perspective, he points out that what attracts attention to academic writing is that writing is one of the principal responsibilities of academics.

University instructors publish articles, books and research notes; they correspond with colleagues by e-mail; they submit applications for conferences; they subscribe to different publications; they interact with students mainly by writing; and they develop a field of interest in order to exchange their knowledge with other scholars and academic communities as in conferences, seminars, etc. In fact academic centers all over the world are usually related to one another through academic communication and cooperation systems. The knowledge produced through effective research in one institute is exchanged within the members of different academic communities in order to broaden the boundaries of knowledge and to inform them of the latest findings and developments; and this is done, mainly by means of academic writings.

Although writing is one of the principal responsibilities of academics, and no one can overlook the importance of it in academic life, students of EFL will especially find writing a significant but a more demanding task to master than oral skills (Marandi 2002). This argument will be confirmed more clearly by considering the fact that even writing in L1 is not very easy for the majority of native speakers of any language. Comprehensive instruction in writing and having practice with different genres is important for L1 students and crucial for L2 learners. During their academic life, Iranian students majoring in English are required to produce articles and theses in English; and they are usually assessed mainly through their writings. This is in general possible by teachers providing students with the appropriate language to talk about texts and by bringing patterns and rules of written texts to students’ conscious awareness. Therefore, conscious awareness of the rules and conventions that govern, for example scholarly communication, is a prerequisite for both effective written and oral production and processing of academic discourse.

One aspect of such language awareness is *metadiscourse awareness* which specifically refers to “self-reflective linguistic material referring to the evolving text and to the writer and imagined reader of that text” (Hyland and Tse 2004:156), or as Swales in his book *Genre Analysis* suggests, metadiscourse is “writing about the evolving text rather than referring to the subject matter” (Swales 1990:188). Hyland and Tse (2004:156) believe that writing is viewed as an engagement between writer and reader which possess a social and communicative basis; and metadiscourse is related to the “ways writers project themselves into their discourse to signal their attitude towards both the content and the audience of the text.” Some examples of sentences with different types of metadiscourse are: *I shall discuss it in later chapters; we shall read in next chapter; the reasons for these choices are simple; most of you will oppose the idea that...; etc.*

The present study, therefore, addresses this neglected issue in Persian and English applied linguistics articles by using Hyland’s (2004) model. English texts written by native speakers of English, English texts written by Iranians and Persian texts written by Iranians will therefore be compared as to their use of metadiscourse. Consequently, this textual study takes text linguistic variables into

account and takes its material from two different writing cultures and two languages.

1.1 Background and related Literature

It should be mentioned that there are certain aspects of all discourse studies, such as stylistics, conversational analysis, discourse analysis, text linguistics, contrastive rhetoric (CR) and critical linguistics which also study the traits of speech and writing, among other things, have their roots in rhetoric and fall under this old branch of human knowledge. According to Valero-Garcés (1996:281) rhetoric refers to “the strategies the writer uses to convince readers of his/her claims and to increase the credibility of his/her research.” There are two major trends which retain the term rhetoric in their designations: *generative rhetoric* which was developed under the influence of Noam Chomsky’s transformational generative grammar, and the other which is the main concern of this study, as *contrastive rhetoric* (Malmkjær 2004). The study of contrastive rhetoric began in the 1960s by Robert Kaplan’s study of some 600 L2 student essays. He is the well-known father of contrastive rhetoric who developed the idea that language and writing are cultural phenomena and that each language has its own cultural conventions. The results of his investigation encouraged him to theorize the existence of different *thought patterns* for different languages/cultures. Sharing a similar assumption with the Sapir-Whorf’s hypothesis on the relationship between language and culture, Kaplan’s earlier works explored a link between culturally specific logic or thought patterns and paragraph structures in English essays written by nonnative English-speaking students.

1.2 Metadiscourse

By the early 1990s, linguists had begun to react against the strong emphasis on propositional meaning in text analysis. This movement resulted in a range of new perspectives on text, among which studies of metadiscourse have gained prominence. The term metadiscourse, according to Vande Kopple (2002), goes back to the work of linguist Zellig Harris. Hyland describes metadiscourse as “the linguistic resources used to organize a discourse or the writer’s stance towards either its content or the reader” (Hyland (2000), cited in Hyland and Tse (2004:157)), and Crismore (1984:280) believes that the aim of metadiscourse is to “direct rather than inform the readers.”

Some of the major metadiscourse taxonomies that have developed are as follows: Crismore *et al.* (1993), Hyland’s taxonomy (1998, 1999), Vande Kopple’s revised taxonomy (2002), and Hyland’s revised taxonomy (2004). In addition, there are some notable studies which are as follows: Crismore (1990), Cheng and Steffensen (1996), Valero-Garcés (1996), and Hyland and Tse (2004).

Following these studies, Hyland (2004) developed a new taxonomy which is seen below:

- I. *Interactive Resources*: These devices let the writer manage the information flow to provide his/her preferred interpretations. These resources, according to Hyland, contain the following:
 1. *Transitions*: these devices mainly indicate: additive, contrastive, and consequential steps in the discourse. Some examples are: *in addition, but, thus, and, etc.*
 2. *Frame markers*: They indicate text boundaries or elements of schematic text structure, like: *my purpose here is to, to conclude, etc.*
 3. *Endophoric markers*: They refer to information in other parts of the text and make the additional material available for the readers. Some examples are: *in Section 2, Noted above, etc.*

4. *Evidentials*: They refer to sources of information from texts other than the current one, such as: *Z states, According to X*, etc.
 5. *Code glosses*: These devices show the restatements of ideational information, like: *in other words, e.g.*, etc.
- II. *Interactional resources*: “focus on the participants of the interaction and seek to display the writer’s persona and a tenor consistent with the norms of the disciplinary community” (Hyland 2004:139). The interactional resources include:
1. *Hedges*: Indicate the writer’s unwillingness to present propositional information categorically, such as: *about, perhaps*, etc.
 2. *Boosters*: These devices express certainty. Some examples are: *it is clear that, definitely*, etc.
 3. *Attitude markers*: They indicate the writer’s appraisal of propositional information. Some examples are: *I agree, surprisingly*, etc.
 4. *Engagement markers*: They address readers explicitly, or make a relationship with the reader. Some examples are: *you can see that, note that, consider*, etc.
 5. *Self-mentions*: they refer to the extent of author presence in terms of first person pronouns and possessives. Some examples are: *I, we, our, my*, etc.

2 Research questions

Since language and culture are two basic factors that influence writing, the present study, then, aims to investigate the effects of these two factors, language and culture, in academic writing through the following research questions. Therefore the major issue to be addressed in this study includes the following research questions and subtypes:

1. Is there any significant difference between the type of metadiscourse employed by Iranians and native speakers of English in their research articles about applied linguistics written in Persian and in English respectively?
 - (a) Is there any significant difference between Iranians and native speakers of English in their use of *interactive* metadiscourse in their research articles about applied linguistics written in Persian and in English respectively?
 - (b) Is there any significant difference between Iranians and native speakers of English in their use of *interactional* metadiscourse in their research articles about applied linguistics written in Persian and in English respectively?
2. Is there any significant difference between the type of metadiscourse employed by Iranians and native speakers of English in their research articles about applied linguistics written in English?
 - (a) Is there any significant difference between Iranians and native speakers of English in their use of *interactive* metadiscourse in their research articles about applied linguistics written in English?

- (b) Is there any significant difference between Iranians and native speakers of English in their use of *interactional* metadiscourse in their research articles about applied linguistics written in English?
3. Is there any significant difference between the type of metadiscourse employed by Iranians in their research articles about applied linguistics written in Persian and in English?
- (a) Is there any significant difference between Iranians in their use of *interactive* metadiscourse in their research articles about applied linguistics written in Persian and in English?
 - (b) Is there any significant difference between Iranians in their use of *interactional* metadiscourse in their research articles about applied linguistics written in Persian and in English?

3 Method

3.1 Corpus

The corpus of the present study consisted of 90 discussion sections of articles written by scholars in applied linguistics in academic journals. It included the English texts written by native speakers of English, English texts written by Iranians, and Persian texts written by Iranians. Due to the dynamic nature of metadiscourse, the corpus was restricted to a seven-year period, the years between 1998 and 2005.

3.2 Instrumentation

In order to compare and analyze probable differences between metadiscoursal characteristics of the discussion section of English and Persian research articles, it was necessary to choose a model. As mentioned above, in this research the metadiscourse taxonomy of Hyland (2004) was used.

3.3 Procedure

Ninety applied linguistics research articles were chosen from among three groups of writers: Iranian speakers of Persian, native speakers of English; and non-native speakers of English (Iranian). Since discussion and introduction sections of the articles are the most rhetorical parts (Mauranen 1993), the discussion sections were analyzed for the types and amounts of metadiscourse used by the writers.

Another reason for the selection of discussion sections was the length of the articles and the fact that the introduction sections being much shorter than the discussions could not provide enough data and therefore were not suitable for the present study. Since both Persian and English are analytic languages, therefore word counts were carried out. First, I counted all words of the articles just after the abstract to the end of 2000th word. In this manner of counting, it was possible that in some cases the corpus included some articles with introduction and discussion sections, and in other cases with introduction and a part of discussion sections. The result was that the articles were not comparable. Therefore, we decided to have a corpus of every 1000 words for each article in order to make them comparable. A. Crismore (p.c., November 16, 2005) called our attention to the fact that the consistency of length is a must, and suggested that the 1000-word approach is the usual method used by researchers (see Crismore *et al.* (1993)). She further pointed out that the 1000 words could

be taken from the beginning, the end or the middle of the discussion section. Therefore, only the discussion sections of the articles were investigated for the types and amounts of metadiscourse.

To begin with, the texts were carefully read word by word in order to identify and locate the expressions of metadiscourse. All cases were examined in context to ensure they were metadiscoursal devices and to determine their syntactic positions and pragmatic functions. Given the highly contextual nature of metadiscourse and the fact that a particular form can serve either a propositional or metadiscoursal function (Hyland 2004), the corpus was analyzed twice. Moreover, to identify and locate the possible differences between the discussion section of English and Persian applied linguistics research articles in terms of using metadiscourse, the texts in two languages were compared and contrasted.

The next step was ensuring the reliability of the analysis, i.e., “demonstrating that the data collection procedures can be repeated with the same results” (Connor and Mauranen 1999:50). To determine inter-rater reliability, a sample of 45 articles (15 from each group) was extracted from the corpus and analyzed by an M.A. holder of TEFL who was familiar with metadiscourse analysis. The results were correlated with those of the researcher. The resulting correlation ($r=0.81$) was an estimate of the inter-rater reliability of the judgments made by the researcher and the rater. Furthermore, a sample of 45 articles (15 from each group) was extracted out of the corpus and was analyzed by the researcher two weeks after the first rating. A correlation was calculated between frequency of moves and steps on two occasions. The resulting correlation ($r=0.78$) was an estimate of the intra-rater reliability of the judgments being made by the researcher on two different occasions.

3.4 Data analysis

This study aimed to investigate whether there is any statistically significant difference in the use of metadiscourse in the discussion sections of English and Persian applied linguistics research articles. Chi-squares were chosen as the appropriate nonparametric statistical test to examine and determine the differences in metadiscourse frequency and amount across the corpus.

3.5 Examples of sentences used by a native speaker of English

The following is an example from our corpus written by a native speaker of English:

In the chapter (frame markers) **we show** (self-mentions) how *tertia comparationes* were identified and employed in a study of EAP research articles written in Spanish and English (Moreno, 1998). **We proposed** (self-mentions) the following steps (**Table 1**) (endophoric markers) for intercultural rhetoric research using such comparable corpora.

3.6 Examples of sentences used by a non-native (Iranian) speaker of English

The following is an example from our corpus written by a native speaker of Persian:

The TS, **as he said in (2)** (endophoric markers), was not familiar with this type of text **and** (transitions) left majority of gaps blank in his first and second attempts. The think-aloud of the TS, **as appeared in (3) and (4)** (endophoric markers), **did show** (boosters) that the established a kind of meaning relation between various units of the text in order to make a choice for the items. **This indicates that** (hedges) linguistic knowledge **can** (hedges) potentially compensate for the lack of background knowledge in restoring a missing lexical item of the passage. His verbal protocol **revealed that** (hedges) he employed both linguistic and non-linguistic clues of the text.

4 Results and discussion

4.1 Null hypothesis 1

In order to compare the type and amount of metadiscourse employed by Iranians and native speakers of English in their use of *interactive* metadiscourse in writing research articles on applied linguistics in Persian and in English respectively, the first chi-square test was run. Table 1 shows the summary of the results of this chi-square.

p	dF	value	
.05	4	15.020	$\chi^2 \leq$
		1355	n

Table 1: Results of chi-square tests of native English and Iranian scholars' use of interactive metadiscourse in English and Persian, respectively

As the results show, the value of observed chi-square ($\chi^2=15.20$) was significant at α level ($\alpha=0.05$) with degrees of freedom of 4 ($df=4$) indicating that there is a significant difference between these two groups in their use of interactive metadiscourse. This is best shown by a chart bar, as displayed in Figure 1.

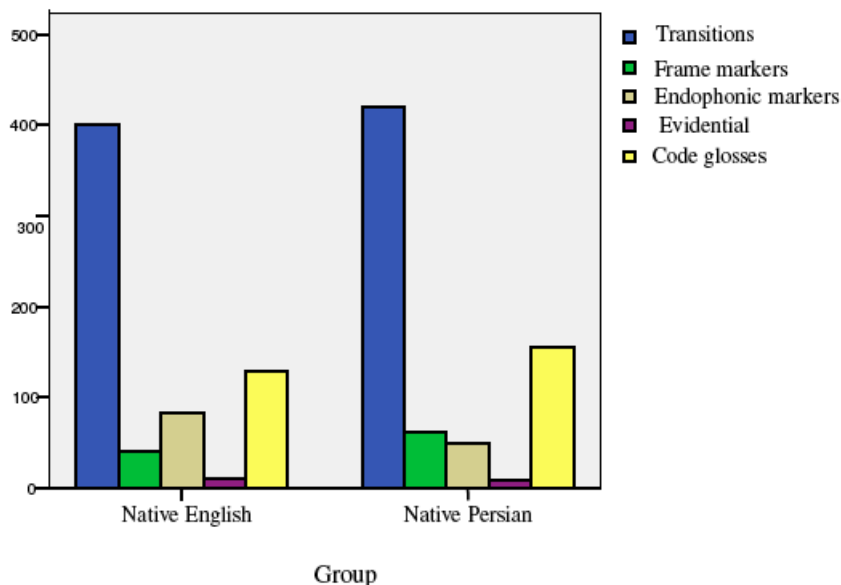


Figure 1: Bar graph for native English and Iranian Scholars' use of interactive metadiscourse in English and Persian, respectively

As we can see from Figure 1, there is a significant difference between the use of endophoric markers, code glosses and frame markers in these two groups, whereas the use of transitions and evidentials can be considered similar in these two groups. In other words, interactive metadiscourse is actually used differently by these two groups, and different subtypes of it are generally used differently from one another. It can be best shown in Table 2.

			Metadiscourse Subtypes	
			Interactive	Interactional
Group	Native English	Count	662	686
		Percentage	48.9%	57.5%
	Native Persian	Count	693	507
		Percentage	51.1%	42.5%
Total		Count	1355	1193
		Percentage	100.0%	100.0%

Table 2: Summary of chi-square test results of Native English and Iranian Scholars' use of interactive and interactional metadiscourse in English and Persian, respectively.

As the findings of Table 2 clearly indicate, Persian texts written by Iranians and English texts written by native speakers of English totally contain 1355 interactive forms, of which 693 are used by Iranians and 662 are used by native speakers of English. In other words, of all interactive forms, Iranians who write in Persian have used 51.1% and the native speakers of English have used 48.9%. This shows that Iranians have used slightly more interactive forms than the native speakers of English. It should be mentioned that transitions were by far the most frequent interactive devices (60.6%) overall in both groups followed by code glosses, endophoric markers, frame markers and evidentials.

The second chi-square test was run to examine the probable difference between these two groups in their use of interactional metadiscourse. Table 3 shows the summary of the results of this chi-square.

	value	dF	p
χ^2	25.145	4	.00
n	1193		

Table 3: Results of chi-square tests of native English and Iranian scholars' use of interactional metadiscourse in English and Persian, respectively.

As we can see, the value of observed chi-square ($\chi^2 = 25.145$) was significant at α level ($\alpha = .01$) with degrees of freedom of 4 ($df = 4$) indicating that there is a significant difference between these two groups in their use of interactional metadiscourse. This is best shown by another chart bar, as displayed in Figure 2.

This figure makes clear that there is a significant difference between the use of hedges, boosters, engagement markers and self-mentions in these two groups, whereas the use of attitude markers were similar in the two groups. In other words, interactional metadiscourse is actually used differently by these two groups.

The results also reveal that Persian texts written by Iranians and English texts written by native speakers of English totally contain 1193 interactional forms, of which 507 are used by Iranians and 686 are used by native speakers of English. In other words, native speakers of English have used far more interactional forms (57.5%) than Iranians who write in Persian (42.5%) (see Table 2), and that hedges (52.1%) were by far the most frequent interactional devices overall in both groups.

Again Table 2 indicates that Persian texts written by Iranians and English texts written by native speakers of English totally contain 2548 metadiscourse forms, of which 1355 are interactive forms

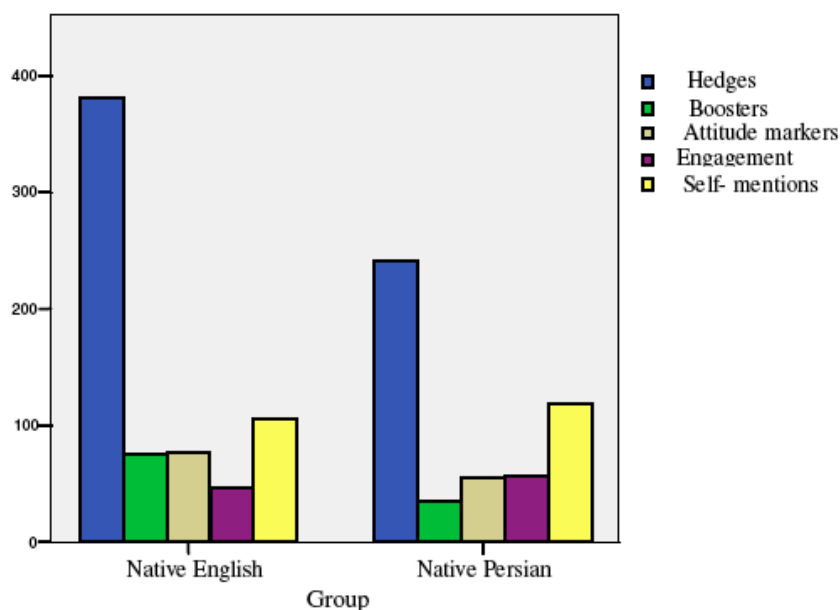


Figure 2: Bar graph for native English and Iranian scholars' use of interactional metadiscourse in English and Persian, respectively.

and 1193 are interactional one. On the basis of the results discussed above, it can be generalized that Iranians who write in Persian have used interactive metadiscourse far more than they have used interactional one (693 vs. 507), whereas native English writers have used interactional metadiscourse more than they have used interactive metadiscourse (686 vs. 662). In total, both groups used interactive metadiscourse more than interactional one (1355 vs. 1193). In these two groups, transitions and hedges were by far the most overall frequent metadiscourse devices. In other words, there was a significant difference between the type of metadiscourse employed by Iranians and native speakers of English in writing research articles on applied linguistics in Persian and in English respectively.

4.2 Null hypothesis 2

Another chi-square test was run to compare the type and amount of metadiscourse used by Iranians and native speakers of English in their use of interactive metadiscourse in writing research articles on applied linguistics in English. Table 4 shows the summary of the results of this chi-square.

	value	dF	p
χ^2	29.048	4	.00
n	1630		

Table 4: Results of chi-square tests of native English and non-native (Iranian) scholars' use of interactive metadiscourse in English

In this case we see that the value of observed chi-square ($\chi^2 = 29.04$) was significant at α level ($\alpha = .01$) with degrees of freedom of 4 ($df = 4$) indicating that there is a significant difference between these two groups in their use of interactive metadiscourse. This is shown best by another chart bar, as displayed in Figure 3.

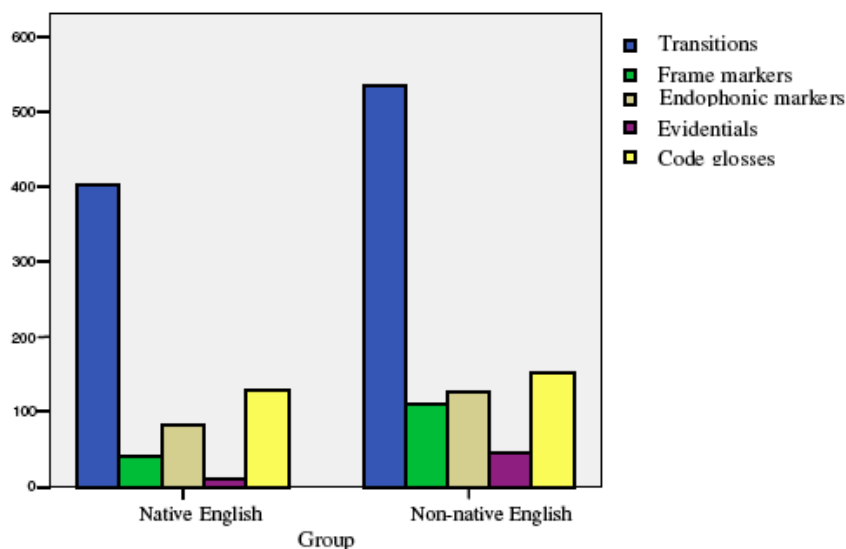


Figure 3: Bar graph for Native English and non-native English (Iranian) use of interactive metadiscourse in English.

As Figure 3 indicates, there is a significant difference between all subtypes of interactive resources (transitions, code glosses, evidentials, frame markers and endophoric markers) in these two groups. In other words, interactive metadiscourse is indeed used differently by these two groups, and all subtypes of it are used differently from one another. It can be best shown in Table 5.

			Metadiscourse Subtypes	
			Interactive	Interactional
Group	Native English	Count	662	686
		Percentage	40.6%	51.9%
	Non-native English	Count	698	637
		Percentage	59.4%	48.1%
Total		Count	1630	1323
		Percentage	100.0%	100.0%

Table 5: Summary of chi-square test results of native English and Iranian scholars' use of interactive and interactional metadiscourse in English.

According to Table 5, English texts written by Iranians and native speakers of English totally contain 1630 interactive forms, of which 698 are used by Iranians and 662 by native speakers of English. In other words, of all interactive forms, non-native speakers of English (Iranians) have used 59.4% and native speakers of English have used 40.6% indicating that Iranians have used far more interactive forms than native speakers of English. It should be mentioned that transitions were by far the most frequent interactive devices (57.4%) overall in both groups followed by code glosses and endophoric markers.

Another chi-square test was run to compare the type and amount of metadiscourse used by these two groups in their use of interactional metadiscourse in writing research articles on applied linguistics in English. Table 6 shows the summary of the results of this chi-square test.

	value	dF	p
χ^2	42.422	4	.00
n	1323		

Table 6: Results of chi-square tests of native English and non-native English (Iranian) scholars' use of interactional metadiscourse in English

Again we see that the value of observed chi-square ($\chi^2 = 42.42$) was significant at α level ($\alpha = .01$) with degrees of freedom of 4 ($df = 4$) indicating that there is a significant difference between these two groups in their use of interactional metadiscourse. This is shown in Figure 4 below.

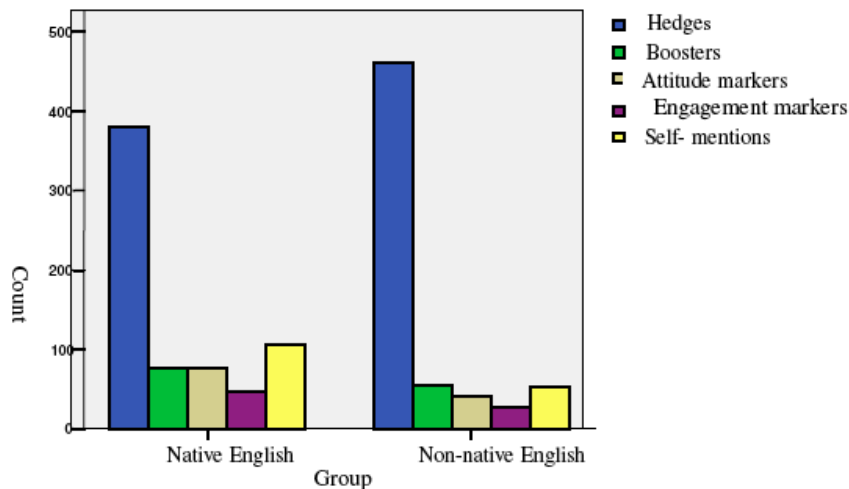


Figure 4: Bar graph for native English and non-native English (Iranian) scholars' use of interactional metadiscourse in English.

The figure clearly shows that native speakers of English and non-native speakers of English (Iranians) are significantly different from each other in the use of all subtypes of interactional resources in their research articles. In other words, interactional metadiscourse is actually used differently by these two groups in terms of interactional metadiscourse subtypes.

Also it was found that English texts written by native speakers of English and non-native speakers (Iranians) totally contain 1323 interactional forms, of which 686 are used by native speakers of English and 637 are used by Iranians indicating that native speakers of English have used slightly more interactional forms (51.9%) than non-native speakers of English (48.1%) (For more information see Table 5), and that hedges (63.3%) were by far the most frequent interactional devices overall in both groups followed by self-mentions.

English texts written by Iranians and native speakers of English totally contain 2953 metadiscourse forms, of which 1630 are interactive forms and 1323 interactional one. In other words, it can be generalized that Iranians who write in English have used interactive metadiscourse far more than interactional metadiscourse (59.4% vs. 48.1%), whereas native English writers have used interactional metadiscourse more than they have used interactive metadiscourse (51.9% vs. 40.6%). In total, interactive metadiscourse was used significantly more than interactional metadiscourse by these two groups (1630 vs. 1323). In these two groups, hedges and transitions were by far the most frequent de-

vices overall followed by code glosses and endophoric markers. In other words, there was significant difference between the type of metadiscourse employed by Iranians and native speakers of English in writing their research articles on applied linguistics in Persian and in English.

4.3 Hypothesis 3

Another chi-square test was run to compare the type and amount of metadiscourse used by Iranians in their use of interactive metadiscourse in writing research articles on applied linguistics in English. Table 7 shows the summary of the results of this chi-square.

	value	df	p
χ^2	43.720	4	.00
n	1661		

Table 7: Results of chi-square tests of Iranian scholars' use of interactive metadiscourse in Persian and English, respectively

The results of the research shown in the table indicate that the value of observed chi-square ($\chi^2=43.72$) was significant at α level ($\alpha=.01$) with degree of freedom of 4 ($df=4$) indicating that Iranians' use of interactive metadiscourse in their Persian writings are significantly different from their English writings. (It is interesting to mention that Persian text authors and English text authors were the same.) This is best shown by a chart bar, as displayed in Figure 5.

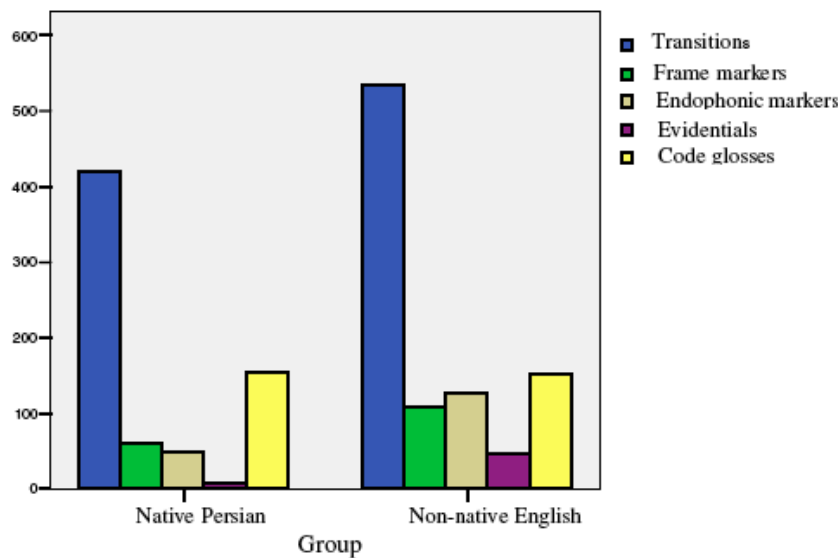


Figure 5: Bar graph for Iranian scholars' use of interactive metadiscourse in Persian and English, respectively.

As we can see in Figure 5, there is a significant difference between the use of all subtypes of interactive resources in articles written by Iranians in Persian and in English. In other words, interactive metadiscourse is indeed used differently by Iranians when they write in Persian and English; and all subtypes of it are used differently from one another. It can be best shown in Table 8.

			Metadiscourse Subtypes	
			Interactive	Interactional
Group	Native Persian	Count	693	507
		Percentage	41.7%	44.3%
	Non-native English	Count	968	637
		Percentage	58.3%	55.7%
Total		Count	1661	1144
		Percentage	100.0%	100.0%

Table 8: Summary of chi-square test results of Iranian scholars' use of interactive and interactional metadiscourse in Persian and English.

A point of further interest is that according to Table 8, Persian and English texts written by Iranians contain 1661 interactive forms in total, of which 693 are used when they write in Persian and 968 interactive forms are used when they write in English. In other words, of all interactive forms, Iranians have used slightly more interactive forms in their Persian articles (41.7%) than their English ones (58.3%).

Specifically it means that Iranians, when writing in Persian, employ transitions and code glosses more, but evidentials, endophoric markers and frame markers less than in English. On the other hand, when they write in English, they use transitions and code glosses less and frame markers, endophoric markers and evidentials more than in Persian. This means that there is a significant difference between the use of all subtypes of interactive resources in articles written by Iranians in Persian and in English. In other words, interactive metadiscourse is indeed used differently by Iranians when they write in Persian and in English.

Another chi-square test was run to compare the type and amount of metadiscourse used by these two groups in their use of interactional metadiscourse. Table 9 shows the summary of the results of this chi-square.

	value	df	p
χ^2	98.408	4	.00
n	1144		

Table 9: Results of chi-square tests of Iranian scholars' use of interactive metadiscourse in Persian and English, respectively

Again we see that the value of observed chi-square ($\chi^2 = 98.41$) was significant at α level ($\alpha = .01$) with degrees of freedom of 4 ($df = 4$) indicating that Iranians' writings in Persian are significantly different from their writings in English in their use of interactional metadiscourse. This point is shown in Figure 6.

According to Figure 6 there is a significant difference between the use of attitude markers, engagement markers, self-mentions, hedges and boosters in these two groups. In other words, interactional metadiscourse is actually used differently by these two groups.

Further analysis also revealed that Persian texts and English ones written by Iranians and totally contain 1144 interactional forms, of all of the interactional forms that appear, 507 are used in their Persian texts and 637 are used in their English texts. In other words, of all the interactional forms, Iranians have used far more interactional forms (55.7%) in their articles written in English than those

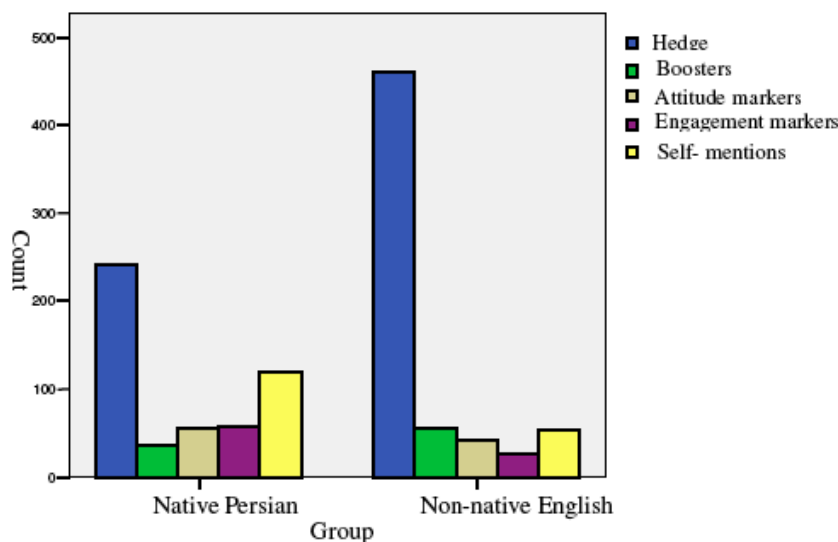


Figure 6: Bar graph for Iranian scholars' use of interactional metadiscourse in Persian and English, respectively.

articles written in Persian (44.3%), and that hedges (61.3%) were by far the most frequent interactional devices overall in both groups of Iranian writers (see Table 8).

Finally, on the basis of the analysis of the findings, it can be concluded that Persian texts and English ones written by Iranians totally contain 2805 metadiscourse forms, of which 1661 are interactive forms and 1144 are interactional ones. It can be seen in Table 8 that of all forms, Iranians have used interactive metadiscourse slightly more than interactional metadiscourse (58.3% vs. 55.7%) in their articles written in English, whereas they have used interactional metadiscourse resources slightly more than interactive ones (44.3% vs. 41.7%) in their articles written in Persian. In total, interactive metadiscourse was used significantly more than interactional metadiscourse (1661 vs. 1144). In these two groups, hedges and transitions were by far the most frequent devices overall followed by code glosses and self-mentions (see Figures 5 and 6).

Findings of the present research clearly demonstrate that there was a significant difference between the type of metadiscourse employed by Iranians in their research articles on applied linguistics written in Persian and in English.

5 Conclusion

Interactive and interactional metadiscourse analysis of the corpus of the present study indicated that writers of all three groups used all subtypes of metadiscourse in their writings. This finding demonstrates the universal nature of metadiscourse use. Generally speaking, interactive metadiscoursal factors were used significantly more than interactional metadiscoursal factors in the discussion sections of the research articles, and hedges and transitions were the most frequent devices, followed by evidentials and engagement markers. Native speakers of English employed more interactional metadiscourse than Iranians. All three groups used more self-mentions in their articles rather than evidentials which indicate that they relied more on their own personal opinions than other authorities. Frame markers and code glosses were used more by Iranians (as both native speakers of Persian

and non-native speakers of English) than Native speakers of English. Comparing both groups of Iranians, we can observe that evidentials, code glosses, attitude markers, engagement markers, and self-mentions were used more when Iranians wrote in Persian. On the other hand, transitions, frame markers, endophoric markers, hedges, and boosters were used more when they wrote in English.

Metadiscoursal markers are important since they play crucial roles in mediating the relationship between what writers intend to argue and their discourse communities. The results of the present study have obvious importance in increasing students' awareness of the way native speakers of English organize their writings. Metadiscourse is a valuable tool which provides rhetorical effects in the text such as providing logic and reliance in the text. In the era of dialogue among civilizations, it should be kept in mind that as Yarmohammadi (2004) mentions, meaning comes from culture, and there is a mutual and indirect relationship between language and culture. We can not create an effective dialogue with people in other languages without having knowledge of the organization used in those languages. Metadiscourse provides part of this field of knowledge for us. And metadiscoursal analysis is a useful means for the teachers to help students control their writing practices for effective writing.

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