



Islamic Azad University
Shahreza Branch



JOURNAL OF
LANGUAGE,
CULTURE, AND
TRANSLATION

www.lct.iaush.ac.ir

Journal of Language, Culture, and Translation (LCT), 1(1) (2012), 17–31

A Comparative Study of Textual Metadiscourse Markers in Introduction and Method Sections of Applied Linguistics Research Articles

Alireza Jalilifar^{*1}, Fariba Kabezadeh²

¹Shahid Chamran University of Ahvaz, Ahvaz, Iran

²Islamic Azad University, Khuzestan Science and Research Branch, Iran

Abstract

One important approach to macro structure study of a text is to analyze it in relation to its generic structure. The present study investigated variations in the use of textual meta-discourse markers (TMMs) in two major sections of research articles (RAs), that is introduction and method. It aimed to find out how TMMs are deployed and whether differences in the rhetorical structures of introduction and method account for any change in the distribution and use of TMMs. Sixty-five RAs from international journals published 2005 onward were selected. In order to identify TMMs, Hylands' (2004) model of metadiscourse markers (MMs) was used. Findings marked variations in the use of TMMs in introduction and method sections which, in turn, justify generic variations in the two sections. An awareness of the kinds of meanings that can be construed and the linguistic resources available to do so may be an important step in students' learning to manage these resources in their own writing.

© 2012 Published by Islamic Azad University, Shahreza Branch.

Keywords: metadiscourse markers, genre analysis, rhetoric structure, textual metadiscourse

1. Introduction

Genre analysis argues for a text to be situated within the context in which it is created. Thus, scrutiny into the language choices in text reflects its context and purposes. These purposes are depicted linguistically via the so-called rhetorical structures defined as patterns and frameworks—macro and micro structures—that describe how communicative functions are organized across text.

* Corresponding author's Tel.: +98 9166014373

E-mail address: ar.jalilifar@gmail.com

A variety of metadiscourse taxonomies have been proposed. Crismore (1985) defines two typologies for metadiscourse markers (MMs): 1) Informational or referential, defined as information about the primary discourse to readers to ensure better comprehension and 2) Attitudinal or expressive metadiscourse that is authors' explicit or implicit signals about their attitude toward the context or structure of the primary discourse and toward the reader. Hyland (2004) also provides a framework for MMs which forms the database for this study. His definition puts forth two major categories defined as *Interactional* and *Interactive* resources of MMs, or as Halliday (1994) calls *interpersonal* and *textual* respectively. Our concern in this study is *interactive* resources of metadiscourse. Choices of interactive markers favor readers' expectations that an argument will follow standards of textuality and predictable directions, enabling readers to process the text by expressing relationships and organizing materials in ways that are appropriate and convincing (Hyland, 2004).

As Hyland (2004) maintains, in simple terms, interactive resources refer to features which control an argument to explicitly verify the writers' set of interpretations. They are regarded as ways of organizing discourse to anticipate readers' knowledge and reflect writers' evaluation of what needs to be elucidated to constrain and guide what can be retrieved from the text (Hyland, 2004).

Metadiscourse has been a concern in a conglomerate of recent research works in text analysis. It has informed studies into the characteristics of texts, participant interactions, historical linguistics, cross-cultural variations and writing pedagogy. Valero-Garces (1996) notes that "the universal character of academic literature derives from the fact that academic papers belong to the same genre" (p. 281). On the same grounds, a research paper can be said to constitute a genre within the scientific world with different rhetorical conventions across different disciplines. In recent years, there has been growing interest in metadiscourse studies in research articles (RA). These studies have analyzed rhetorical elements in different parts of research articles, for example abstracts (Hyland, 2000; Salager-Mayer, 1990; Samraj, 2005), introductions (Jalilifar, 2012), results (Brett, 1994; Williams, 1999), the discussion sections in articles and dissertations (Hopkins & Dudley-Evans, 1988), discussions (Holmes, 1997), and discussions and conclusions (Yang & Allison, 2003).

A host of studies have also investigated metadiscourse across different languages (e.g., Abdollahzadeh, 2001, 2003, 2007; Figueiredo-Silva, 2001; Falahati, 2008; Jalilifar, 2011; Marandi, 2002; Martin, 2003; Rahimpour, 2006; Zarei, 2011). These studies have shown that the use of metadiscourse is likely to vary across genres (Crismore, 1989), across disciplines (Backlund 1998; Hyland 1998), and across languages (Markkanen, Steffensen, & Crismore 1993; Martin, 2003), so the basic assumption in metadiscourse studies is that we should consider *context* in using them.

Reviewing the related literature reveals an evident gap in the previous studies. Although metadiscourse markers have been the subject of a number of research studies in the introduction section of RAs, very few studies, if any, have aimed to investigate the so-called variations in the method sections. To

offset the balance, the concern in this study is to find out the variations in the distribution of MMs in introduction and method sections of RAs. By analyzing an adequate number of RAs, attempts are made to find out what similarities or differences exist between these two rhetorical structures.

The deficiencies of works on MMs in the method section of RAs demonstrate the importance that the present study has in fostering our knowledge of MMs. Assuming the different rhetorical structure tendencies of the method and the introduction sections of RAs, we consider introduction to be more argumentative and method to be more expository. The important question that then follows is whether these differences are revealed in choices of MMs that writers deploy in their texts.

Adel (2003) raises the importance of *genre compatibility*. By that is meant the extent to which the use of MMs is dependent on the genre; this factor is likely to affect the results, but we do not know, for sure, how or whether possible differences between argumentative or expository writing are likely to have a great impact on the use of metadiscourse. Comparison of these two sections can be very revealing, drawing our attention to how different sections of RAs unfold and how writers organize their texts. The study attempts to touch upon the following questions:

- 1) How are textual metadiscourse markers (TMMs) deployed in introduction and method sections of applied Linguistics papers?
- 2) What role do these TMMs play in categorizing introduction and method as argumentative and expository respectively?

2. Method

2.1. Selection of Discipline

Since a scholarly RA is the product of a very complicated process with many implicit and explicit resources, writing RAs requires the possession of knowledge of higher levels of discourse (Abdi, TavangarRizi, & Tavakoli, 2010, pp. 2-4) and an awareness of genre-specific and discipline-specific conventions. In order to conduct the study the corpus comprised RAs from applied linguistics. The goal was to see how, if any, TMMs are exploited by writers in introduction and method sections. Applied linguistics, as the special field of interest of many researchers in social sciences, appeared to be a good candidate for our study.

One important reason for our choice of this discipline is the growing interest of novice researchers to attach themselves to this discipline. Another factor is the huge number of papers and journals published in this area in English. As researchers are required to be trained in writing RAs, accordingly, the rapid growth in the number of academic papers, especially among non-native English researchers justifies our selection. Finally, the motive for selection of this discipline is that applied linguistics is regarded as a broad field of inquiry with various subdisciplines and many researchers have worked on the different genres used in this discipline.

2.2. Selection of Materials

Sixty five English RA introduction and method sections with an empirical orientation, representing applied linguistics, were selected to trace the interactive MMs in them. The RAs were collected from four ISI journals, 15 articles from each journal, totaling 83.318 words. The journals that represented the discipline in focus were Journal of Sociolinguistics (SL), Applied Linguistics (AL), Discourse and Society (D & S), and Discourse Studies (DS). These journals are highly accessible, prestigious, and popular at international levels and are suggested by experts in the field. A further touchstone was the ranking list of journals by impact factor in the journal citation report and their index list. Articles with empirical orientations were extracted from the issues of those journals. Crookes's (1986) suggestion that the overall organization of an RA may vary with its type set restrictions on the choice of empirical articles. Thus, choice of empirical papers allows us to draw logical boundaries round the research and make valid generalizations. Of the empirical papers that we drew out, we selected only those papers with a distinct introduction and literature review sections, rather than an introduction which coalesces both sections, to arrive at a more homogeneous sample. Genres are, according to Ramanatan and Kaplen (2000), dynamic and likely to be temporal, depending on the evolving socio-cognitive needs of discourse communities, the needs of changing technology and worldview in discourse communities. Thus, only RAs published since 2005 onwards were selected for this study.

2.3. Instrumentation

The current study employs Hyland's (2004) framework for the analysis of MMs. This classification, comprehensive and clear-cut enough, comprises two general categories defined as *interactive* and *interactional*. As mentioned earlier, the study took into account the interactive (Textual) resources of MMs only to allow for more in depth analysis. Moreover, the detailed and complex nature of the two major categories, the diversity of their subcategories, as well as the difficulty involved in identifying the tokens of TMM types call for separate studies that treat only some, though not all, MMs. The following table draws on the interactive MMs.

Table 1. Hyland's (2004) Model of Textual Metadiscourse in Academic Texts

| Category | Function | Example |
|-------------------|--|---|
| Transition | express semantic relationbetween main clauses | in addition/ but/ thus/ and |
| Frame markers | refer to discourse acts, sequences or text stages | finally/ to conclude/purpose here is to |
| Endophoricmarkers | refer to information inother parts of the text | noted above/ see fig/ section 2 |
| Evidentials | refer to sources of information from other texts | according to x/ (Y,1990)/ Z stages |
| Code glosses | help readers grasp functionsof ideational material | namely, e.g. / such as, in other words |

2.4. Procedures

Prior to the main phase of our research, we conducted a preliminary analysis in order to organize the present study. We analyzed a sample of 20% of the data separately, following the above categorization for interactive MMs, and agreed on the method and accuracy of our analysis. In our sample, there were some interactive MMs that did not conform to Hyland's paradigm which caused us to add another function to the classification as *parenthetical expressions*, by which the author tries to give readers some information about the primary discourse (i.e., text), as in (1):

- (1)...the participants were 59 Japanese learners of English in a Japanese university. They formed two proficiency groups: 29 higher proficiency students (15 males and 14 females, a mean age of 20.48, ranging from 17 to 25) and 30 lower proficiency students (15 males and 15 females, a mean age of 19.19, ranging from 18 to 27), based on the institutional TOEFL scores (ITP TOEFL) and teacher ratings of oral proficiency... (*Applied Linguistics* 28(1), 113–135, 2007)

In the next phase, we numbered the texts and used a particular coding system to make the study more objective (introductions were coded as RAI1-65 and methods were coded as RAM1-65). As a section which is believed to be argumentative through which the researcher levels the argument and raises the questions, introduction can, indeed, clarify the totality of research and offer the motivation for conducting the study. On the other hand, methodology, with a more expository tendency, explains research procedures.

Once the articles were collected, word count was run in order to determine the length of the corpus. For the quantitative phase, the two sections in each paper were studied in order to find interactive MMs and, subsequently, the frequencies and percentages of TMMs in the data were reported. Then chi-square test was applied to find if the differences on the use of TMMs are statistically meaningful. Finally, TMMs were analyzed according to their functions to examine the possible contextual differences between the two parts. The qualitative analysis of the selected sections was helpful in identifying how TMMs appear in the two different text types.

2.5. Results of Quantitative Analysis

Our analysis cropped up with identification of TMMs across the corpus. A total of 5422 TMMs were identified in 83,316 words of which 2495 were used in introductions (350, 44 words), and 2927 in method sections (48,272 words) of applied Linguistics RAs. The raw frequencies of TMMs are summarized in Table 2.

Table 2. Distribution of Textual Metadiscourse Markers in Introduction and Method

| Markers | Introduction | Method |
|---------------------------|---------------------|---------------|
| MMs | f (%) | f (%) |
| Transitions | 1617 (64.80) | 1999 (68.29) |
| Code glasses | 147 (5.89) | 201 (6.86) |
| Frame markers | 150 (6.01) | 90 (3.07) |
| Evidentials | 450 (18.03) | 350 (11.95) |
| Endophoric markers | 34 (1.36) | 82 (2.80) |
| Parenthetical expressions | 97 (3.88) | 205 (7.00) |
| Word count | 350,44(100) | 48,272 (100) |
| Total | 2495 | 2927 |

Generally, the two rhetorical sections of RAs in focus rely on the use of TMMs to increase text readability and foster text comprehension. A quick look at Table 2 shows that Transitions and Evidentials were the most frequent markers in introduction followed by Frame markers, Code glosses, Parentheticals, and finally Endophoric markers standing at the end of the list. In the method section of RAs, similarly, Transitions and Evidentials constitute the most frequent markers while Endophoric markers are listed down the hierarchy. The difference lies in the fact of using Parentheticals and Frame markers. In what follows, using a fine-grained analysis, we continue to show how TMMs are exploited across the two sections of RAs and offer further quantitative information about how authors of papers deploy TMMs in their RAs.

2.6. Transitional Markers

Transitional markers, involving the linking of units and drawing on the relationship between the propositions in text, constitute a large number of TMMs in the two sections of the articles in this study. In fact, transitional markers were the most frequent resources in the corpora, indicating that cohesion in academic texts is predominantly achieved by explicit addition of such markers between clauses. While researchers tended to make use of transitional markers in both sections abundantly, their bent to such markers, however, was not the same. That is, these cohesive devices were proportionally more frequently used in method than in introduction. Chi-square analysis revealed a significant difference in exploiting transitions in method and introduction, as illustrated in Table 3.

2.7. Evidentials

Evidentials, indicating reference to the source of information from texts other than the current one, were used to a large extent in the corpora. As shown

in the frequency Table above, Evidentials were the second most frequent MMs in RAs, and writers applied these markers more frequently in introduction than in method (18.03 percent of TMMs in introduction compared to 11.95 percent of TMMs in method). Chi-square analysis showed that the difference was statistically meaningful. Evidentials, by having a suitable documentary power, indeed can be a good means in order for authors to support their newly introduced claims in the argumentative genre of introduction as opposed to the expository nature of method.

2.8. Code Glosses

Authors often define, explain, and delimit words, phrases or idioms that they judge to be problematic for readers. These elucidating expressions help readers understand and interpret the text but do not expand the propositional content; thus, they are one kind of TMMs used for the textual function in the semantic system of language. Codes, standing in the middle of the frequency table, constitute a moderate portion of TMMs from which "*for example*" is the most frequent one. The Codes in the method section, constituting about 7 percent of the total TMMs in the corpora, exceeded the same markers in introduction. This may be justified as the need for more paraphrasing, elaboration, and definition of elements in the expository genre of method compared to that of the introduction section. The difference, however, was not borne significant as illustrated in Table 3.

2.9. Frame Markers

By referring to discourse acts, sequences, or stages, in fact, Frame markers help either introduce shift in the discourse or prepare for the next stage in the argument. Taking a quick look at Table 2 aptly reveals how authors act differently in making use of such markers in introduction and method sections (6.01 vs. 3.07 percent). That is, the number of Frame markers in introduction doubles the number of such markers in the method section of RAs. Chi-square analysis revealed a significant difference in the distribution of such markers across the two sections.

2.10. Parenthetical Expressions

A parenthetical expression is simply a word or string of words which contains relevant yet non-essential information. These terms, in fact, have a clarification function, and so it is deemed necessary for RA writers to make use of such expressions in order to increase text readability. Being significantly more in the method section, Parentheticals were added to Hyland's (2004) taxonomy of TMMs as a separate category. Parenthetical expressions are writers' strategies in order to clarify what they have introduced in their immediate co-text. They are typically another form for Code glosses – explained above – that are sometimes used by writers. Chi-square analysis revealed that such markers are applied significantly in method more than

introduction. Drawing on the method of exposition in the method section, the need for more clarification, and hence more Parenthetical expressions, can be justified compared to that of the introduction section.

2.11. Endophoric Markers

In his taxonomy of TMMs, Hyland (2004) describes Endophoric markers as expressions that refer to information in the preceding or proceeding text. Indeed, such markers (e.g., *in section 2, see above, ...*) make the additional material available for the readers. As indicated in Table 2, this marker constitutes the least frequent marker in the corpora. A simple comparison between the number of their occurrence in introduction and method sections shows authors' greater commitment to such markers in the method section; something that can be the result of the multi-modal nature of method. This means that article writers in composing method need more than mere text in order to make it more credible and explicit for their readers, which justifies the presence of devices like charts, tables, and drafts proportionally more in method than in the argumentative genre of introduction. Chi-square analysis indicated the difference in using such markers across the two rhetorical sections was statistically meaningful. Note Table 3 for the Chi-squares described above.

Table 3. Chi-Square Analysis of MMs in RAs

| MMs | Chi-square (X^2) | df. | Sig. |
|---------------------------|--------------------------------------|------------|-------------|
| Transitions | 6.500 | 1 | .011 |
| Code glosses | 2.00. | 1 | .157 |
| Frame markers | 15.142 | 1 | .000 |
| Endophoric markers | 12.535 | 1 | .000 |
| Evidentials | 17.044 | 1 | .000 |
| Parenthetical expressions | 18.326 | 1 | .000 |

3. Discussion

Metadiscourse, as a genre specific characteristic, is a rhetorical activity whose meaning and use are relevant to a particular socio-rhetorical situation (Hyland, 2004). That is, in the scholarly article genre, for example, the use of these markers must be congruent with the scientific nature of such RAs. Intaraprawant and Stefenson's (1995) study of MMs also shows that good and poor essay writers make use of MMs differently by considering context. The detailed explanations of the key theoretical constructs of TMMs that are

presented here might provide the foundation for explorations of rhetorical structures as well.

One of the most crucial factors to be considered in the academic writing is maintaining coherence; indeed all kinds of MMs work together to maintain coherence. The findings of this study indicating high use of transitions in the two sections of introduction and method form a good support for that claim; this rate represents the internal connections in the discourse, which is an essential feature of academic argument. Transitions represent over half of all the TMMs in the corpus, demonstrating writers' concerns that the reader is able to recover the writers' reasons unambiguously. They are employed to guide the reader through the maze of propositions (Thompson, 2001), and they help to build the concept in the mind of the writer. Thus, they are necessary to help readers follow the line of argument as visualized by the reader (Hall, 2007). They can work on an earlier argument (hence, therefore,...), comparison (similarly), contrast and justification (however, since, because, nevertheless,...), acknowledged contrast (although), and addition (in addition to,...). It appears that the primary concern of transitions is to avoid obscurity of expressions and ambiguity; otherwise, the whole communication might render obscure and fuzzy.

The issue of coherence must be considered throughout the article, and it seems that it is actually of the same significance in different sections of RAs. At least, the results of our study revealed that in the two sections under study –introduction vs. method– Transitions are applied to the same rate. This in turn means that, regardless of the communicative role of each section, coherence is an indispensable element of a scientific text. In bringing coherence to text, Frame markers also play an important role; by managing the discourse and easing transition from one discourse to another, Frame markers become both structurally and thematically significant in bonding topics and as a result, cohesion improvement. According to Hall (2005), Frame markers signal text boundaries or elements of schematic text structure and are employed to demonstrate relations, label stages, announce discourse goals, and indicate topic shift.

The main question that lurks around is why the frequency of Frame markers in introduction is double this number in the method section. Answering this question presupposes an awareness of the rhetorical structure of introduction and its role in RAs. To begin with, it is fruitful to know that introduction serves multiple functions of which the most important ones are in order: Among other functions, introduction situates research; it formulates the problem in focus, and gives suggestions as how to solve the problem; it sequences text stages; it announces discourse goals, and finally, indicates topic transition. Managing all these functions simultaneously necessitates a strong tool. Frame markers, without doubt, are the only lost link in order to bring all these discreet functions together. Therefore, the frequency of the use of these markers is closely related to the complexity of the rhetorical structure of the text. In others words, as the text becomes rhetorically more sophisticated, more Frame markers are exploited to manage the discourse. Experience and perception have shown that proper use of such markers as *finally*, *to conclude*, *the purpose* launch the argument, introduce claims, liaise different ideas, and end it coherently.

In the domain of Evidential markers -also known as citations- the results of this study show that Evidentials were used more frequently in the introduction section. Through authors citing of other works, readers are invited to perceive the writing scholar as competent disciplinary member and to take his/her research seriously. In the method section, however, Evidential markers mainly provide evidence of the reliability of the measuring instruments and procedures in doing the study.

Another interesting finding in the frequency and use of Evidential markers in the two sections of introduction and method reveals that, most of the Evidentials found in the introduction sections are non-integral citations, a claim supporting Swales (1990), appearing between brackets or in footnotes. Integral citations (in which the name of the researcher appears as subject, passive agent, possessive noun phrase, or adjunct in the discourse) are more frequently utilized in the method section where the researcher tries to substantiate his/her use of a particular instrument, material or procedure for his/her study.

In the introduction, writers tend to give importance to the reported authors ideas rather than their own persona, drawing the readers' attention to the reported message rather than to the reported author. Thus, this shift of focus from author to message can be the consequence of the argumentative structure of the introduction where the writer aims to establish a convincing argument in support of his/her claims. In this regard, what becomes of paramount importance to the writer is the consistency of the argument rather than the researchers from whom the writer is quoting or reporting. The tendency to forge an argument encourages researchers to rely on non-integral rather than integral citations in the introduction. Thus, non-integral citation, which is essential to introduction, leads the text to more subjectivity that is a quality of argumentative genre of this section (Jalilifar, 2012). On the other hand, the method section by having some practical sub-sections like selecting a framework, participants and data analysis has an experimental value, which in turn is the main feature of an academic research. This capacity to be able to be experienced or this practicality is, in fact, the so-called objectivity which, in turn, is an indispensable component of the expository genre and is partly achieved via integral citations. Subjectivity and objectivity in the area of Evidential markers can be good justifications to claim whether RAs can be influenced by applying TMMs or not. This validates citation as pivotal in academic contexts, as it helps provide justifications for arguments and claims and display novelty of writers' position; but it also allows authors to demonstrate an allegiance to a particular community and establish a credible writer identity, displaying familiarity with the texts and with the attitudes of a discourse community that values a disciplinary research tradition (Hyland, 2004).

Endophoric markers –giving reference to information in other parts of the text- were other prevalent TMM devices in the corpora under the study. Drawing on Systemic Functional Linguistics tradition, the textual function is principally realized by cohesive devices and by the choices a writer makes in giving prominence to information as given or new by locating it either at beginning or at the end of the clause. Theme choices help illustrate the simultaneity of functions as they not only determine the method of exposition

in a text, but also what the writer sees as key elements (Crismore & Ablollahzade, 2010). Indeed, attributing such functions to Endophoric markers makes sense only if we consider such markers as theme which comes at the beginning of a paragraph, sentence, or clause in which they refer to some new information –known as Rheme– in other parts of the text. McCabe (1999) mentions that textual themes specify the relationship of the clauses to the surrounding text and context. There is agreement among researchers that high frequency of textual themes in academic texts amounts to the argumentative nature of the text which contributes to greater coherence and cohesion (Jalilifar, 2009).

Research has shown that academic texts present complex arguments in which an idea in the clause is expressed and explained in successive clauses (McCabe, 1999; Wang, 2007). These arguments help the reader to be aware where information has come from and where it is going, thus creating cohesion in the text. Thus, it can be concluded that one of the characteristics of argumentative texts is the use of high proportion of such patterns (Jalilifar, 2009). However, besides the argumentative aspect of a research paper, the expository nature of the method section requires the text to be highly transparent and coherent in the information that it presents. This specific characteristic of method calls for greater incorporation of Endophorics which connect the different parts of an RA by making intratextual references thus justifying the greater inclusion of such markers in method.

Code glosses– or simply writers' resources for concept clarification– make the text more comprehensible; they are used mainly to increase clarity of a scientific text. By expanding the propositional content, findings of this study showed that Codes are used best to clarify primary discourse and solve the communicative problems. The findings also revealed that, except for *such as* and *that is* predominantly used in the method section, no significant differences were found in using Glosses in the two sections of RAs under study. Drawing on the method of exposition, clarification can be attributable to the objective nature of method which is needed to be more specified through exemplification, clarification, definition, and paraphrasing; hence, applying *that is* and *such as* is indeed the best tool to expand a scientific text. In other words, exemplification, reformulation, and elaboration are three characteristic features of method as distinct from introduction. *Elaboration* helps to contribute to creation of coherent, reader-friendly prose while conveying the writers' audience-sensitivity and relationship to the message. Professional academic writers track their texts for readers in this way to restate information or provide examples as they construct their arguments. Thus, *elaboration* is a complex and important rhetorical function in academic writing, and both its use and meaning are discipline specific (Hyland, 2007). Expanding on Hyland's findings, we conclude that applying Glosses to academic texts– more specifically in the method section as a representative of an expository genre– contributes to clarification of ideas and results in creating more objectivity in method. *Elaboration* and *clarification*, create objectivity in method which, in turn, distinguish method from introduction in a scientific genre. On the other hand, introduction aims to form questions in the mind of the readers; these questions eventually lead authors to develop a research method in order to

eliminate ambiguities. In other words, in the introduction section, authors might foster their reasoning in such a way that it leads to a double barreled argument; that is why the argumentative genre of introduction is obscure and indeterminate whereas method has a disambiguous and vivacious role; simply put, while method is more transparent and objective in nature through exposition, introduction makes argument create ambiguity and is therefore more fuzzy and subjective.

4. Conclusions and Pedagogic Implications

Hyland (2004) interprets MMs as those aspects of the language that connect texts and disciplinary cultures, helping to define the rhetorical context by revealing some of the expectations of the audience for whom a text was written and that differences in MM patterns can mark outdiscourse communities and account for the ways writers specify the inferences they would like their readers to make. Having in mind that TMMs work together to maintain coherence, this study explored how TMMs help writers in bringing coherence to text. It also investigated if making use of such markers distinguishes the two RA sections in term of generic characteristics. The evidence from this corpus suggests that the distributions of TMMs are not even across different rhetorical sections of introduction and method. Such variations, indeed, can be explained by different rhetorical purposes served by these sections.

There is the potential for this research to inform EAP pedagogy at the level of curriculum or syllabus design. The study of interactive metadiscourse suggests a principle of progression that could inform a sequence of modules or courses that focus on the writing of RA introductions or methodology. We propose a sequence that would begin with tasks that require evaluation in terms of an outside observer. Such tasks involve novice researchers in arguing the value of a domain in terms of the system of interactive elements. This kind of evaluation sensitizes student researchers to metadiscourse elements focusing specifically on intertextual and intratextual resources for developing an academic text. Objectives at this level could include the manipulation of explicit markers exploring the rhetorical impact of Evidentials, Endophorics and Glosses. Texts of this kind have potential application in the opening phases of introductions and methodology to students' research papers or theses, where the topic is introduced or expanded in ways that are intended to gain reader approval of the choice. It may be useful to make a pedagogic link to such research methods, by engaging in participant observation activities. Another focus would involve exploring other kinds of research methods, including comparison or measurement of phenomena in a domain, additional resources, including ways of incorporating interactive elements in comparative terms, expansion of such resources as positioned relative to each other or to the students' own research.

Exploring the academic text from an interactive perspective has still a long way to go. To probe into the development of writing ability more fully, teachers need to stress that in order to convince an audience, a writer's ability to deploy interactive resources is just as important as being coherent. From the perspective of textuality

in writing, Evidentials, Frame markers and Glosses can be perceived from the interactive perspectives that enhance text comprehension.

The multidimensional fabric for identifying interactive elements used in this study provided important new means by which teachers of academic writing can model rhetorical strategies in texts. The framework enables teachers to determine whether, and in what ways, published texts might provide effective examples of rhetorical strategies for novice academic writers. Pedagogic model texts can be used to sketch out: (a) the different fields that are being construed, (b) the choices and positions of interactive markers in the text, (c) the extent of such rhetorical strategies used by writers in constructing arguments for their own research.

Most importantly, modeling texts in this way might be an effective means by which the structure of an academic argument can become transparent to novice writers. An awareness of the kinds of meanings that can be interpreted, and the linguistic resources that help construe meanings may be an important step in students' learning to manage these resources in their own writing.

5. References

- Abdi, R., Tavangar Rizi, M., & Tavakoli, M. (2010). *Interpersonal metadiscourse markers in social science and natural science research article discussion sections*. Unpublished Master thesis. University of Tehran, Tehran.
- Abdollahzadeh, E. (2001). *Native and non-native writer's use of textual metadiscourse in ELT papers*. Unpublished Master thesis. University of Tehran, Tehran.
- Abdollahzadeh, E. (2003). *Interpersonal metadiscourse in ELT papers by Iranian and Anglo-American academic writers*. Paper Presented at International Conference on Multiculturalism in ELT Practice at Basket University.
- Abdollahzadeh, E. (2007). *Writer's presence in Persian and English newspaper editorials*. Paper Presented at the International Conference on Systemic Functional Linguistics in Odense, Denmark.
- Adel, A. (2003). *The use of metadiscourse in argumentative texts by advanced learners and Native speakers of English*. Unpublished doctoral dissertation, University of Gottenborg, Sweden.
- Backlund, I. (1998). *Metadiscourse in professional writing: A contrastive study of English, German, and Swedish*. Uppsala, Swedish: Uppsala University.
- Brett, A. (1994). Genre analysis of result section of sociology articles. *English for Specific Purposes*, 13, 47-59.
- Crismore, A. (1985). Metadiscourse as rhetorical act in social studies texts: Its effect on student performance and attitude. *Reprinted from Dissertation Abstract International* 46 (4). University of Illins at Urbana Champion.
- Crismore, A. (1989). *Talking with readers: Metadiscourse as rhetorical act*. New York: Peter Lang.

- Crismore, A., & Abdollahzadeh, E. (2010). A review of recent metadiscourse studies: the Iranian context. *NJES*, 9 (2), 195-219.
- Crooks, G. (1986). Toward a validated analysis of scientific text structure. *Applied Linguistics*, 7,57-65.
- Fi'gueiredo-Silva, M. I. (2001). *Teaching academic reading: Some initial findings from a session on hedging*, Retrieved December 23, 2007 from <http://www.ling.ed.ac.uk/pgc/archive/2001/Isabel-Figueiredo-Silva01.pdf>.
- Falahati, R. (2008). A contrastive study of hedging in English and Farsi academic discourse. *ESP Across Cultures*, 5, 49-67.
- Hall, C. J. (2005). *An introduction to language and linguistics: Breaking the language spell*. Oxford: Continuum.
- Hall, A. (2007). Do discourse connectives encode concepts or procedures? *Lingua* 117,149-174.
- Halliday, M. A. K. (1994). *An introduction to functional grammar* (2nded.). London: Arnold.
- Holmes, R. (1997). Genre analysis and the social sciences: An investigation of the structure of the research article discussion sections in three disciplines. *English for SpecificPurposes*, 16 (4), 321-337.
- Hyland, K. (1998a). Persuasions and context: The pragmatics of academic metadiscourse. *Journal of Pragmatics*, 30, 437-55.
- Hyland, K. (1998b). Exploring corporate rhetoric: Metadiscourse in the CEO's Letter. *Journal of Business Communication*, 35(2), 224-242.
- Hyland, K. (2000). Hedges, boosters, and lexical invisibility: Noticing modifiers in academic texts. *Language Awareness*, 9 (4), 179-197.
- Hyland, K. (2004). *Metadiscourse in academic writing: A reappraisal*. London: University of London.
- Hyland, K. (2007). Applying a gloss and reformulating in academic discourse. *Applied Linguistics*, 28(2), 260-285.
- Intraprawat, P., & Steffensen, M. (1995). The use of metadiscourse in good and poor ESL essays. *Journal of Second Language Writing*, 41(3), 253-72.
- Jalilifar, A. R. (2009). Thematic development in English and translated academic texts. *Journal of Language and Translation*, 10(1), 81-111.
- Jalilifar, A. R. (2011). World of attitudes in research article discussion sections: A cross-linguistic perspective. *Journal of Technology and Education*, 5(3), 177-186.
- Jalilifar, A. R. (2012). Academic attribution: Citation analysis in master's theses and research articles in applied linguistics. *International Journal of Applied Linguistics*, 22(1), 23-41.
- McCabe, A. (1999). *Theme and thematic patterns in Spanish and English History texts*. Retrieved 9 July 2007. Available at URL<<http://www.wagsoft.com/systemics/archive/McCabe.phd>

- Markkanen, R., Steffensen, M. S., & Crismore, A. (1993). Quantitative contrastive study of Metadiscourse: Problems in design and analysis of data. *Papers and Studies in Contrastive Linguistics*, 28, 137-151.
- Marandi, S. (2002). *Contrastive EAP rhetoric: Metadiscourse in Persian versus English*. Unpublished PhD dissertation. Tehran: University of Tehran.
- Martin M. P. (2003). A genre analysis of English and Spanish research paper abstracts in experimental social sciences. *English for Specific Purposes*, 22, 25-43.
- Rahimpour, S. (2006). *Contrastive rhetoric of English and Persian texts; Metadiscourse in applied linguistics research articles*. Unpublished Master thesis, University of Mashad.
- Ramanathan, V., & Kaplan, R. B. (2000). Genres, authors, discourse communities: Theory and application for (L1 and) L2 writing instructors. *Second Language Writing*, 9(2), 171-191.
- Salager-Mayer, F. (1990). Discoursal flaws in medical English abstracts: A genre analysis per research- and text- type. *Text*, 4, 365-384.
- Samarj, B. (2005). An explanation of genre set: Research article abstracts and introduction in two disciplines. *English for Specific Purposes*, 24 (2), 141-156.
- Swales, J. M. (1990). *Genre analysis: English in academic and research settings*. Cambridge: Cambridge University Press.
- Thompson, G. (2001). Interaction in academic writing: Learning to argue with the reader. *Applied Linguistics*, 22(1), 58-78.
- Valerio-Garces, C. (1996). Contrastive ESP rhetoric: Metatext in Spanish-English economics texts. *English for Specific Purposes*, 15, 279-294.
- Wang, L. (2007). Theme and rheme in the thematic organization of text: Implication for teaching academic writing. *Asian EFL Journal* 9(1), 1-11.
- Williams, I. A. (1999). Result section of medical research articles: analysis of rhetorical categories for pedagogical purposes. *English for Specific Purposes*, 18, 347-366.
- Yang, R., & Allison, D. (2003). Research Articles in Applied Linguistics: Moving from result to conclusions. *English for Specific Purposes*, 22(4), 365-385.
- Zarei, Z. (2011). Metadiscourse in academic prose: A contrastive Analysis of English and Persian research articles. In A. R. Jalilifar & E. Abdollahzadeh, *Academic research genre in Asian context* (pp. 183-199). Ahvaz: Shahid Chamran University.