A Contrastive Study of ESP Text Books and Content Books for Metadiscourse Markers: The Cases of Psychology, Medicine, and Mechanical Engineering

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Abstract—The present study sought to investigate the extent to which discipline specificity of the occurrence of metadiscourse (MD) elements had been taken into account in developing ESP textbooks in Iran. To do so, three distinct disciplines, namely, psychology, medicine, and mechanical engineering were chosen for investigation. For each discipline, two textbooks were analyzed; one content book, and one ESP textbook developed for students in the Iranian academic context. To analyze the six textbooks, Hyland's (2005) taxonomy of MD markers was adopted. The occurrence and frequency of each type of MD marker in the corpus were then identified and counted by a computational software (Anticon 2.3). The obtained results were further analyzed through SPSS (18) to see if the differences between the frequencies of different types of MD elements in the three disciplines, the results showed that MD markers were used in medicine and psychology texts the most and in mechanical engineering ones the least. As to the differences between content textbooks and ESP ones, the results indicated that MD markers occur significantly fewer in the ESP textbooks than in the content ones in all three disciplines. This may have some implications for ESP material developers to incorporate the metadiscoursal aspects of English in general and those of each discipline in particular into the ESP textbooks.

Index Terms—content books, ESP textbooks, interactional metadiscoursal markers, interactive metadiscoursal markers, materials evaluation

I. INTRODUCTION

Ever since the textbooks in EFL programs were recognized as psychological aids for English learners and assessment tools for English teachers (Sheldon, 1988), the role of textbooks has always been emphasized as an unavoidable part of any ELT program (Harwood, 2005). It is, in fact, claimed that language teachers can use textbooks as 'bridges' to stimulate L2 learners' thinking and as the basis for providing the most appropriate classes in their own context (Canagarajah, 1999; Gray, 2000, 2002). This central role of textbooks heralded a new direction toward designing and developing new textbooks which increasingly catered for the L2 learners' various needs and incorporated research findings into their material (Harwood, 2005). What has been frequently referred to as the major concern in textbook development and evaluation is the consistently acknowledged diversity observed in English learners' language needs. Such needs seem to be more significant in ESP contexts where the students in each field of study need specific aspects of English in specific amounts (Hyland, 2005). Further, this understanding of the disciplinary variations in the ESP students' needs has even led scholars to argue that English language learning in ESP contexts is such a complex process that the present textbooks cannot meet the varied set of needs the students call out to have (Thornbury & Meddings, 2001).

Consistent with the above argument, ESP textbooks are claimed to understate the enormous disciplinary variations in language and style that corpora reveal (e.g. Harwood, 2003; Hyland, 2000, 2002; Swales et al., 1998). Alternatively stated, there seems to be a mismatch between the way the professionals in a particular discipline present their ideas and thoughts in spoken and written discourses and the way the related ESP textbooks represent the specific language that a discipline employs (Bhatia, 2002; Lockett, 1999). This may further point to the teachers' dubious assumption that a textbook is the product of a careful collaboration between theoreticians and practitioners (Richards, 1993). It is, in fact, perceived that EAP textbook writers rely far too much on intuition or folk beliefs when attempting to describe academic

discourse norms (Lockett, 1999). This may necessitate more research-led materials for such English language teaching contexts. Accordingly, the state-of-the-art research findings about disciplinary discourse norms must be taken into account in designing and developing ESP textbooks (Bruton, 1997; Harwood, 2005; Swales, 1980, 2002).

In the same vein, a feeling of dissatisfaction with the ESP textbooks used in Iranian academic context has been frequently documented in the literature (Baleghinejad & Rahimi, 2011; Erfani, Iranmehr & Davari, 2011; Farhady, 2005; Ghalandari & Talebinezhad, 2012; Hatam & Shafiei, 2012; Manafi Anari, 2005; Nikpour, 2008; Rezaei, 2009; Razmjoo & Raissi, 2010). Baleghinejad and Rahimi (2011) made an evaluation investigation on the pedagogical suitability of an ESP textbook developed for the students of sociology at the University of Tehran. The researchers examined six main criteria, namely course objectives, practical concerns, linguistic issues, language skills and strategies, variety of tasks and activities, and the materials layout. The overall findings revealed the inefficiency of the textbook for the course and for the target audience it was intended to reach. Nikpour (2008) conducted an evaluation study, based on the Hutchinson and Waters' (1987) framework, on an ESP textbook developed for Iranian nursing students. The results showed that the textbook was not a useful one for the students of nursing. The book was full of grammar, reading comprehension and writing tasks and there was no use of translation abilities as well as English oral skills.

Razmjoo and Raissi (2010) made an evaluation of ESP textbooks which had been developed for the students of medical sciences. They based their study on a questionnaire consisting of 55 specific criteria sorted in six categories. The overall results of the analysis of the teachers' as well as students' opinions about the efficiency of the ESP medical textbooks showed that neither the students nor the teachers were satisfied with most of the standards and criteria. Both groups revealed their disappointment of how theoretical considerations, organizational features, the contents and language skills were realized in the textbooks.

Overall, when closely examined, the related literature on ESP materials evaluation reveals that little attention has been paid to the importance of the disciplinary discourse norms as the real needs of ESP students (Erfani, Iranmehr & Davari, 2011). Indeed, most of the ESP textbook evaluations concentrate on the general aspects of the content and are mainly based on some pre-determined evaluation criteria that have been presented during years and decades (e.g. Hutchinson & Water, 1987; Sheldone, 1988) and were not concerned with the discipline specificity of discoursal conventions shared by community members. Accordingly, the characteristics and norms of the specific discourse where the EAP students grow up are needed to be first recognized and then incorporated into the related EAP materials. This highlights the role of discourse analysis in designing and developing instructional materials which represent disciplinary variations in style and language.

Within the very broad field of discourse analysis, metadiscourse refers to elements in a text which are used to organize the text, indicate the writer's attitudes, and represent the intended message of the text in order to make it more effective and more understandable to the intended readers (Hyland, 2005). The term metadiscourse was first defined by Harris (1959) as a way of understanding language in use which helps the writer or the speaker to guide the receivers' understanding of a text (cited in Hyland, 2005). To date, different definitions and classifications of metadiscourse markers have been proposed (Crismore, 1984; Hyland, 2005; Vande Kopple, 1985). Vande Kopple (1985) states that metadiscourse is "discourse about discourse" and refers to the author's or speaker's linguistic manifestation in his text to interact with his receivers. Crismore, Markkanen and Steffensen (1993), though slightly different from Vande Kopple's definition, refer to metadiscourse as: "linguistic material in texts, written or spoken, which does not add anything to the propositional content but that is intended to help the listener or reader organize, interpret and evaluate the information given" (p. 40). A more comprehensive idea seems to have been suggested by Hyland (2005) who believes that communication is not just the exchange of information; it shows the personalities, attitudes and assumptions about the communicators. In fact, writers use metadiscourse markers to interpret, evaluate, discuss or reject the idea in the propositional content and also to present themselves and their ideas through the text.

Metadiscourse is, therefore, a crucial device for writers as they want to engage and influence readers in the text and for readers as they tend to make sense of the text in the way the writer intended it to be. However, by using MD markers, writers can avoid misinterpretations or mispresentation of self and they can represent the real intention of the text clearly. So, the presence of these kinds of markers in different kinds of texts with different purposes and specific readers should be taken into account based on various characteristics including culture, languages, etc. Among these different characteristics, language specificity and discipline specificity would be two broad elements which affect metadiscourse functions in texts.

A plethora of research studies have been done on the analysis of MD markers in different disciplines and different languages (Abdollahzadeh, 2011; Dahl, 2004; Fatemi & Shojaee, 2012; Hyland, 2004; Jalilifar & Alavi-Nia, 2012; Noorian & Biria, 2010; Zarei & Mansoori, 2011). The overall results of these studies indicate that there is a strong association between the distribution of metadiscourse markers and the specific discipline. Consequently, the fact that the presence and distribution of metadiscourse markers are language-bound and discipline-bound has promoted an agreement among metadiscourse researchers on the influence MD markers have on the ways that writers communicate with their readers (Abdi, 2002; Blagojevich, 2004; Dahl, 2004; Hyland & Tes, 2004; Zarei & Mansoori, 2011). Therefore, the importance of metadiscourse lies in its association with the contexts in which it occurs. In other words,

the ways that writers present themselves and engage with their readers are closely related to the norms and expectations of particular professional communities and contexts (Hyland, 2004).

Working on the above problem and examining the related literature, Hyland (2004) concludes that EFL and EAP textbooks ignore metadiscourse features and cannot be of that much help for learners. Assuming that the presence of MD is language- and discipline- bound, and that the texts which are selected, adopted or summarized to be included in ESP textbooks are to be representative of the authentic materials in each specific discipline, this study is going to investigate the extent to which discipline specificity of MD use has been taken into account in developing ESP textbooks in the Iranian academic context. Accordingly, the following research question was formulated.

• To what extent have the distributions of metadiscoursal markers in medicine, psychology and mechanical engineering English textbooks been observed in the field-related ESP textbooks used in the Iranian Academic context?

II. METHOD

A. Materials

This study involved a corpus of six textbooks from three disciplines. For each discipline, two textbooks were selected: a content textbook, and an ESP textbook developed for university students in the Iranian academic context. The majors under investigation were mechanical engineering, medicine, and psychology. These disciplines represent the three different disciplinary bases, namely engineering, empirical science, and humanities. These disciplines were chosen so that the results could be generalized to a wider range.

The ESP textbooks under analysis were: 1) *English for the students of mechanical engineering* (Jalalipour, 2011), 2) *English for the students of psychology* (Kamarzarin, 2012), and 3) *English for the students of medicine* (Tahririan, 2011). These textbooks had been for long assigned to the students in the related fields in almost all universities in Iran. Besides, the English content textbooks which were examined in this study were: 1) *A first course in fluid mechanics for engineers* (Hewakandam, 2012), 2) *Child and adolescent clinical psychology* (Carr, 2005), and 3) *Harrison's principles of internal medicine* (Harrison, 2008). This latter group of textbooks was agreed upon by the content instructors to be widely used and referred to in the related fields. The numerical description of the data is shown in the table below:

TABLE 1.						
LENGTH OF THE TEXTS (NUMBER OF WORDS) BY DISCIPLINE AND TEXTBOOK TYPE						
	Mechanical engineering	Psychology	Medicine			
ESP	39123	48253	13305			
Content	38388	48253	14578			

B. The Model of Analysis

The present study was a descriptive one employing a quantitative approach to analyzing the data. The frequency of different types of MD markers was the dependant variable and the language and discipline as the independent ones. Among the metadiscourse classifications the one used to analyze the data in this study was Hyland's (2005) Interpersonal Metadiscourse Taxonomy presented below (Table 2). This taxonomy is the most recent one and is different from previous taxonomies in that other scholars have divided MD elements into textual and interpersonal ones, but Hyland (2005) believes that all metadiscourse markers are interpersonal. He has further divided interpersonal MD markers into two broad categories: interactive and interactional, each of which contains five subcategories delineating different functions they have in a text.

	TABLE 2.	
	HYLAND'S (2005) INTERPERSONAL METADISCOUR	SE TAXONOMY
Category	Function	Examples
Interactive MDs	Help to guide the reader through the text	Resources
Transitions	Express relations between main clauses	In addition; but; thus; and
Frame markers	Refer to discourse acts, sequences or stages	Finally; to conclude
Endophoric markers	Refer to information in other parts of the text	Noted above; see fig; in section 2
-	Refer to information from other texts	-
Evidentials	Elaborate propositional meaning	According to X; Z stated
Code glosses		Namely; e.g.; such as; in other words
Interactional MDs	Involve the reader in the text	Resources
Hedges	Withhold commitment and open dialogue	might; perhaps; possible; about
Boosters	Emphasize certainty or close dialogue	in fact; definitely; it is clear that
Attitude markers	Express writers' attitude to proposition	unfortunately; lagree; surprisingly
Self mentions	Explicit reference to author(s)	I; we; my; me; our
Engagement markers	Explicitly build relationship with reader	consider; note; you can see that

C. Data Analysis

In order to be readable by *Antconc3.2.1w*, the software which is commonly used for corpus analysis, the required parts of each book were scanned and then converted to the word processing format using Optical Character Recognition

(OCR), a mechanical convertor of scanned images of type-written or handwritten texts into machine-encoded text. After that, all cases of MD markers occurred in the content and ESP textbooks were identified, classified based on the model, and counted. The obtained frequencies were finally categorized based on the MD subtypes, the disciplines and the textbook types. This categorization allowed the researchers to examine the differences between the occurrences of different types of MD markers in each discipline across the two types of textbook.

Additionally, Z-test was used to further the analyses and to see whether there were significant differences between English content texts and ESP texts regarding interactive and interactional elements and in order to examine the difference between the required proportions of each subcategory of interactive and interactional MD markers in two groups and three disciplines. The results of the data analysis are presented in the following section.

III. RESULTS

As it is consistently documented in the related literature and also assumed in this study, the frequencies and distributions of MD elements are language and discipline bound. Therefore, the analysis of data was mainly concerned with variations in the distributions of different MD types across the two categories of texts; content and ESP. Accordingly, the overall occurrences of MD devices in the three disciplines and the two corpora are presented first (Table 3, below) and then the frequencies, percentages and Z-test results for each MD type in each discipline are reported (Tables 4, 5, and 6).

	TABLE 3.		
THE FREQUENCIES, PERC	ENTAGES AND Z-TEST RES	ULTS OF MD MARKERS I	N THE CORPUS
Disciplines	Content	ESP	Z-test
Mechanical Engineering	3201 (8.3%)	2156 (5.5%)	15.51*
Psychology	6217 (12.8%)	4553 (9.4%)	16.72*
Medicine	1943 (13.3%)	1093 (8.2%)	13.69*
*	= significant at $P < 0.05$	Critical: 1.96	

As evidenced in Table 3, in the three disciplines, the percentage of MD occurrence was higher in the content texts than in the ESP texts. However, in the two corpora the proportion of the MD markers to the total number of words was remarkably lower in Mechanical Engineering than in the two other disciplines. Moreover, as the Z-test results indicate, the differences in the MD occurrence were statistically significant in all three disciplines meaning that the content texts contained more MD devices than the ESP ones which had been developed for the academic context in Iran.

			TA	ABLE 4.			
THE FREQUENCE	ES, PERCENTAC	ES AND Z-TEST	RESULTS	OF MD MARKERS IN THE M	ECHANICAL ENGI	NEERING CORPUS	5
Interactive	Content	ESP	Z-test	Interactional	Content	ESP	Z-test
Code Glosses	258(50.9%)	249 (49.1%)	0.86	Attitude Markers	68 (55.3%)	55 (44.7%)	1.27
Endophoric markers	260(66.3%)	132 (33.7%)	6.66*	Boosters	334 (72.8%)	125(27.2%)	9.98*
Evidential markers	10 (52.6%)	9 (47.4%)	0.27	Self mention	159 (63.6%)	91 (36.4%)	4.45*
Frame markers	169(53.3%)	148 (46.7%)	1.35	Engagement Markers	429 (70.7%)	178 (29.3%)	10.46*
Transition markers	1110 (56.5)	854 (43.5%)	9.47*	Hedges	404 (56.2%)	315 (43.8%)	3.59*
Total	1807 (56.5)	1392 (43.5)	8.04*	Total	1394 (64.6%)	764(35.4%)	14.20*
		* = signific	ant at $P <$	0.05 Critical: 1.96			

significant at P < 0.05Critical: 1.96

As reported in Table 4, both interactive and interactional MD markers occurred statistically more frequently in the content texts of mechanical engineering than in its corresponding ESP texts (8.04 and 14.20 respectively). A closer examination of the two corpora revealed that endophoric and transition metadiscourse markers were the only significantly different subcategories of interactive markers (6.66 and 9.47, respectively) with regard to their frequency of occurrence, whereas all interactional marker types, except for 'attitude markers' (1.27), occurred more frequently in the content texts than in the ESP texts which was shown to be significant.

Considering the psychology corpus, it was shown (Table 5) that the two text types differed in their use of MD markers. The difference was significant in case of both interactive markers (with the exception of evidential markers: 0.42) and interactional markers (except for boosters: 0.67 and engagement markers: 0.74). It is worth mentioning that the two texts were mostly different in their employment of endophoric markers and hedges.

		TAI	3LE 5.			
EQUENCIES, PER	CENTAGES AND Z	Z-TEST RES	ULTS OF MD MARKERS IN	THE PSYCHOLOGY	CORPUS	
Content	ESP	Z-test	Interactional	Content	ESP	Z-test
1012(64.8%)	546 (35.2%)	11.80*	Attitude Markers	177 (57.3)	132 (42.7%)	2.51*
199 (80.2%)	49 (19.8%)	9.49*	Boosters	212 (48.5%)	225 (51.5%)	0.67
224 (51.1%)	214 (48.9%)	0.42	Self mention	49 (37.1%)	83 (62.9%)	2.99*
370 (66.5%)	186 (33.5%)	7.76*	Engagement Markers	291 (51.7%)	272 (48.3%)	0.74
2581 (53%)	2287 (47%)	4.14*	Hedges	1102 (66.3%)	559 (33.7%)	13.33*
4386(57.2%)	3282(42.8%)	12.90*	Total	1831(59%)	1271(41%)	10.07*
	Content 1012(64.8%) 199 (80.2%) 224 (51.1%) 370 (66.5%) 2581 (53%)	Content ESP 1012(64.8%) 546 (35.2%) 199 (80.2%) 49 (19.8%) 224 (51.1%) 214 (48.9%) 370 (66.5%) 186 (33.5%) 2581 (53%) 2287 (47%)	EQUENCIES, PERCENTAGES AND Z-TEST RES Content ESP Z-test 1012(64.8%) 546 (35.2%) 11.80* 199 (80.2%) 49 (19.8%) 9.49* 224 (51.1%) 214 (48.9%) 0.42 370 (66.5%) 186 (33.5%) 7.76* 2581 (53%) 2287 (47%) 4.14*	Content ESP Z-test Interactional 1012(64.8%) 546 (35.2%) 11.80* Attitude Markers 199 (80.2%) 49 (19.8%) 9.49* Boosters 224 (51.1%) 214 (48.9%) 0.42 Self mention 370 (66.5%) 186 (33.5%) 7.76* Engagement Markers 2581 (53%) 2287 (47%) 4.14* Hedges	EQUENCIES, PERCENTAGES AND Z-TEST RESULTS OF MD MARKERS IN THE PSYCHOLOGY Content ESP Z-test Interactional Content 1012(64.8%) 546 (35.2%) 11.80* Attitude Markers 177 (57.3) 199 (80.2%) 49 (19.8%) 9.49* Boosters 212 (48.5%) 224 (51.1%) 214 (48.9%) 0.42 Self mention 49 (37.1%) 370 (66.5%) 186 (33.5%) 7.76* Engagement Markers 291 (51.7%) 2581 (53%) 2287 (47%) 4.14* Hedges 1102 (66.3%)	EQUENCIES, PERCENTAGES AND Z-TEST RESULTS OF MD MARKERS IN THE PSYCHOLOGY CORPUS Content ESP Interactional Content ESP 1012(64.8%) 546 (35.2%) 11.80* Attitude Markers 177 (57.3) 132 (42.7%) 199 (80.2%) 49 (19.8%) 9.49* Boosters 212 (48.5%) 225 (51.5%) 224 (51.1%) 214 (48.9%) 0.42 Self mention 49 (37.1%) 83 (62.9%) 370 (66.5%) 186 (33.5%) 7.76* Engagement Markers 291 (51.7%) 272 (48.3%) 2581 (53%) 2287 (47%) 4.14* Hedges 1102 (66.3%) 559 (33.7%)

* = significant at P < 0.05 Critical: 1.96

Finally, Table 6 reveals that the medical content texts contained more MD markers than the ESP ones of the same field. This is more vivid in the presence of interactive markers which were used in the content texts almost twice more than in ESP texts.

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THE FRE	EQUENCIES, PERC	ENTAGES AND 2	Z-TEST RES	SULTS OF MD MARKERS IN	THE MEDICINE	CORPUS	
Interactive	Content	ESP	Z-test	Interactional	Content	ESP	Z-test
Code Glosses	356(70.5%)	149(29.5%)	8.26*	Attitude Markers	58(49.6%)	59(50.4%)	2.69
Endophoric markers	89 (89%)	11(11%)	7.36*	Boosters	79(59%)	55(41%)	1.55
Evidential markers	45 (73.8%)	16(26.2%)	3.36*	Self-mention	23(57.5%)	17(42.5%)	0.66
Frame markers	121(70.8%)	50(29.2%)	4.85*	Engagement Markers	103(58.2%)	74(41.8%)	1.57
Transition markers	798(61.2%)	505(38.8%)	6.63*	Hedges	271(63.3%)	157(36.7%)	4.60*
Total	1409(65.8%)	731(34.2%)	13.06*	Total	534(59.6%)	333(40.4%)	4.44*
		* = significa	nt at $P < 0$.05 Critical: 1.96			

TABLE 6.
THE FREQUENCIES. PERCENTAGES AND Z-TEST RESULTS OF MD MARKERS IN THE MEDICINE CORP.

Moreover, it is worth mentioning that from among the subcategories of interactional MD markers, 'hedges' was the only class the frequency of which was significantly different across the two text types (4.60).

IV. DISCUSSIONS

Based on the obtained results, the ESP texts under analysis generally contained fewer MD markers than their corresponding English content texts. The difference was more noticeable regarding 'engagement markers' and 'boosters' in case of mechanical engineering, 'frame markers' and 'hedges' in psychology texts, and 'code glosses' and 'engagement markers' in the medical corpus. In addition, comparing the three disciplines, one can conclude that medical texts made use of interactive markers the most and that the interdisciplinary variation with regard to interactional markers was not significant.

In preparing an ESP textbook, the main texts are usually selections, adaptations or summaries of authentic passages. It is, then, quite likely that in doing so, the texts lose their naturalness as has long before been warned by Chastain (1988) that simplification or shortening of a reading passage does not necessarily make it more comprehensible but may make the passage more difficult to read by ruining its discoursal organization and coherence. The results of this study revealed a meaningful difference between Iranian ESP textbooks and their English counterparts. This finding runs against Richard's (2001) recommendation that ESP material should be representative of real and authentic situation, whether linguistically, discoursally or meta-discoursally.

Serious problems are caused when unnatural material (in terms of discourse) is selected and used in the ESP curriculum (Manafi Anari, 2005). On the other hand, Rezaei (2009) considers textbooks as the prime source of learning in ESP classes. These highlight the pivotal role of textbook evaluation for selecting or developing ESP textbooks. The results of the present study point to the inadequacy of home-made, specifically-tailored ESP books and call for ESP courses to be redefined and reevaluated especially in terms of their textbooks as many other Iranian researchers have also shown such inadequacies before (Baleghinejad & Rahimi, 2011; Farhady, 2005; Nikpour, 2008; and Razmjoo & Raissi, 2010).

The results of the present study are also in line with Hyland's (2004) opinion who believes that there is a close association between the type and frequency of MD markers and social organization of disciplinary communities. In other words, disciplinary culture and rules affect both textual styles of writing and writer-reader interactional signals. It was shown that the frequency of MD markers was different across the three disciplines with regard to interactive markers. This supports Zarei and Mansoori (2007) who claim that interactive markers are used more frequently than interactional ones, showing that textuality is emphasized over reader/writer interaction in academic texts. This is fortunate since the preference is also observed by native English authors (Faghih & Rahimpour, 2009).

More specifically, from among interactive subcategories, 'transitions' were the most frequent markers used in this study corpus. Bearing in mind that transitions are mainly used to help readers interpret the links between ideas in a text, the observation is justified. The texts of mechanical engineering, however, contained fewer transitions than the other two disciplines probably because the method of communication in the field is different since the majority of content is expressed through formulas, figures, tables and charts.

Moreover, the observation was that 'hedges' were the most frequently occurring interactional subcategory across the three disciplines. Indeed, the frequency of occurrence of such elements - used to highlight subjective opinion- was significantly higher in psychology texts which, again, mirrors the nature of a field that deals with the mentality of a dynamic creature called human, pushing the psychologist to show his/her degree of confidence in what is stated.

The observed variations across the three disciplines and the two types of textbook run counter to the concept of the universal scientific discourse proposed by Widdowson (1979). Based on the findings of this study, each discourse community may require specific rhetorical pattern to establish a specific kind of relationship among the community members. Of course, the established norms must not be taken as rigid standards with hard and fast regulations, but as "general tendencies which could soften the interlingual differences, leading to more intelligible contexts for communication" (Zarei & Mansoori, 2007, p. 34) and hence avoiding the possible breakdown of communication (Martin, 2003; Connor, 1996). This may lend support to Hyland (2004) who asserts that effective writing in different cultures involves a different culture-oriented deployment of resources to represent text and reader.

V. CONCLUSION

All in all, the study aimed at investigating the extent to which ESP textbooks developed for use in Iran resemble their English content counterparts with respect to discipline-specific meta-discoursal markers. Textbooks from three disciplines were analyzed based on Hyland's (2005) model. It was revealed that the ESP books persistently contained fewer MD markers than the English books. This signals a need for textbook evaluation and reconsideration of ESP material in terms of its naturalness and authenticity. Differences were also found among texts from the three disciplines under scrutiny which were discussed to be originating from the nature of such fields.

Nonetheless, it must be mentioned that the current study focused on the quantitative analysis of metadiscourse markers in two text types, and did not further investigate the exact socio-cultural factors which might underlie the observed differences. Thus the obtained findings can be attributed to the fact that the identified variation across the two types of textbooks depends both on the social origin and the activity (e.g. textbook development) in which one is engaged which is very well supported in the systemic-functional framework (Halliday, 1994) where language use is "viewed as a configuration of the semantic resources which members of a culture associate with a situation type" (Zarei & mansoori, 2007, p. 35). This highlights the idea that variation across disciplines and textbooks can be accounted for by the socio-cultural aspects of the languages which need to be explored through further studies delving into the underlying patterns which are likely to give rise to the differences.

As a final point, in the selection of the materials for analysis, this study did not consider the related variations within the three disciplines under enquiry here. Ignoring such intra-disciplinary variations may limit the generalizability of the results obtained in the present study. Therefore, the findings have to be interpreted cautiously.

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93

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