

Inferential Discourse Markers in Discussion Section of Psychology Research Articles across English and Persian

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Abstract—The use of inferential discourse markers (IDMs) as a linguistic device implies significant results in satisfying conversational coherence. Therefore, with the aim of investigating their distribution of the use, this study was developed across three different sets of psychology articles written by English native speakers (NS), Persian non-native speakers (PNNS) and Persian native speakers (PNS) during the years 2005 to 2010. To this aim, Fraser's (1999), and Halliday and Hasan's (1976) suggested taxonomies were adopted in the analysis of IDMs in the discussion section of 198 psychological research articles. As a result, two micro- (13 minor categories) and macro-levels (3 major categories) analyses of the IDMs were presented. The extent of difference in the type and frequency of use was then assessed through Chi-square across these examined groups. Based on the findings, the extent of difference was significant ($p < 0.05$) at the micro-level, yet insignificant ($p > 0.05$) at macro-level. Although *therefore* and *thus* were the commonest markers for all the native and non-native writers, there was a higher record of the former in the English articles written by Persian speakers (38%). Yet, the latter was more frequent among the English native speakers (34.9%). On the other hand, the major function of *general causal relation* proved as the common type of IDMs across all three groups of articles. The findings may promise some implications for syllabus designers, material developers and language practitioners, as well.

Index Terms—discourse markers, inferential discourse markers, genre analysis

I. INTRODUCTION

Among different tenets of language teaching investigation, discourse analysis is the one which widely contributes to the course of research through the examinations of spoken and written language (as cited in Abdi, 2009). It may be possible to widen the field through conducting a quantitative or qualitative study of rhetorical features in a more frequent genre of communication in an academic discourse community (Gee, 2005).

Discourse markers (DMs) as a type of usual linguistic events are frequently used in the course of daily communication. In recent years, they have been considered within a vast framework revealing different areas of research interests, methods, and goals.

During the last decade, the study of DMs has been brought under the spotlight of pragmatic research. However, there is considerable disputation concerning how DMs should be analyzed. Although the appropriate use of DMs plays a facilitating role in the area of successful interaction, their overuse or underuse can lead to failure in spoken or written communication.

Every discourse community makes use of particularly regular ways of communication which result in different genres for obtaining a communicative purpose in response to particular needs (Swales, 1990). Research article is a wide practiced genre of communication among members of academic discourse community for the introduction of new results and achieving feedback (Koutsantoni, 2006).

Following the research attempts in the area of analytic discourse studies and their applied frameworks, this study was an attempt to shed more light on what considers being a coherent and useful statement of the nature and function of inferential DMs. A comparative account of the DMs' frequency of use will further determine the areas of difference as well as its extent in a way to suggest the richest type of research article with reference to the significance of difference in the area of DM use.

The present study tries to elaborate on the inferential category of DMs, with a close look at their roles across different journals research articles of psychology written by three groups of English native speakers, Iranian native speakers and Iranian non-native English speakers. The results were supposed to prove suggestive in the area of helping linguists and teachers to enhance the quality of their practical works.

II. BACKGROUND

According to Schiffrin (1987), DMs are “sequentially dependent elements which bracket units of talk” (p. 2). Since DMs can occur freely within a sentence, the units of talk can transcend the sentence. According to this definition, DMs are suggested to have a core meaning and primarily establish coherent relations. Fraser (1990) suggested a more detailed account of DMs, stating that the term DM involves a heterogeneous set of words and phrases originating from coordinate conjunctions (and, or but) to interjections (oh, well..).

Apparently, due to the theoretical differences and various background assumptions, no single definition for DM seems to favor a general acceptance among the researchers. Variation of semantic and syntactic properties of these expressions has ended in diversity of ideas among the researchers. Such disagreements highlight the existence of various perspectives and frameworks in which DMs are considered. Under the influence of particular viewpoints, different scholars represent discourse connections under various labels. Ostman (1995) suggested ‘pragmatic particles’ as he believed in their ability to better display the flexibility of these items. Besides, sentence connectives (Halliday & Hasan, 1976), cue phrases (Groze & Sidner, 1986) as devices to direct the hearer to some aspects of change in the discourse structure, discourse particles (Schourup, 1999), and discourse operators (Redeker, 1991) were among the other proposed ideas. Following Blakemore (2002), they were treated as ‘discourse markers’ to entail the idea that these words lack any type of propositional meaning and suggested that their function be analyzed in terms of what they mark rather than what they describe.

Attending to the analysis of DMs from different viewpoints also provides a descriptive account of their different functions. Another influencing criterion in the description of the function of DMs is the type of discourse under consideration (written or spoken). The affect of this factor lies in their property in that they offer different functions in different discourse genres. Furthermore, the type of meaning conveyed by these items at the discourse level affects the way their functions are defined across various studies.

Despite the wide range of studies in the field, no general agreement has been achieved on the central issues of terminology and classification of DMs. As a functional and syntax-independent category, DMs are supposed to work in terms of some categories as adverbs (now, anyway ...), conjunctions (but, because ...), interjections (oh, gosh, boy ...), and verbs (say, look, see ...). In a pragmatic treatment of DMs, Fraser (1993) offered an analysis according to which, each marker is identified in special situations in a text with a core meaning determining how one relates an utterance to the prior discourse. Fraser believed that there are three kinds of messages for each sentence: the basic message that is concluded from the sentences used in direct communication; the commentary message that is displayed by commentary markers like frankly, you are mistaken, and parallel message followed by parallel markers. So, DMs are regarded as commentary with different major types of message-related and topic-related. Topic-related DMs denote “what the discourse participants are talking about at any given time, including various subtopics as they arise” (Fraser, 1993, p.22). Some of these markers signal a different discourse topic (before I forget, by the way, speaking of, in any case) while others indicate the ‘reemphasis’ on the current topic (again, in fact, now, OK, well). Besides, some additional subclasses are proposed under this major type of markers. Fraser (1999) maintains that, they are discourse activity markers, which “signal a discourse activity relative to some part of the foregoing discourse” (p.10).

Message-related DMs are those that relate the aspects of an explicit message conveyed by the segment which is introduced by the discourse marker with aspects of a message, directly or indirectly, associated with the segment in the prior discourse. This major group of markers encompasses four subclasses of contrastive, parallel, elaborative and inferential markers. Contrastive markers refer to those DMs that signal the explicit interpretation of one segment in contrast with the interpretation of preceding segment. Parallel markers indicate that the basic message is somehow parallel to some aspect of the prior discourse. Elaborative markers signal that the current utterance constitutes an elaboration of an earlier one.

The final group as inferential markers signal that the current utterance conveys a message that is, in a sense, consequential to some aspect of the foregoing. This study follows the versions of classification scheme suggested by Fraser (1999), whose subcategories, in turn, were derived from Halliday and Hasan (1976). Hence, the employed IDMs were coded to thirteen minor categories at micro level of analysis, that is, General causal relations, Specific reason and Specific result. General causal relation contains those markers as *so, hence, thus, therefore, consequently, and then*. Specific reason markers employed to convey specific causal relations are *because of this, for this reason, after all*. Specific result markers used to fulfill such conclusive functions include *as a result of, as a consequence, in conclusion, and accordingly*.

Since 1980s, research on DMs has existed in a wide extent to encompass analyses and descriptions of nature, characteristics, function and usage of DMs in different languages. They have also been attended to in a variety of genres and interactive contexts. The continuous expansion of research on DMs and similar events in the 1980s and 1990s resulted in their prominent role not only in pragmatic and discourse analytic studies, but in the studies of language acquisition and pedagogy as well as sociolinguistic topics such as gender changes and code switching. Although the research on DMs in general has mostly dealt with the nature of DMs in different contexts like texts, interviews and compositions, the role of particular DMs in as components of discourse has been rarely noted and remains demanding in this course of study. This research is an attempt to study the use of Inferential DMs across English and Persian Research Articles.

III. METHOD

For the purposes of this study, a corpus was composed of a set of research articles from the discipline of psychology, selected from two distinct speech communities of English and Persian. The required data was gained through adapting a classified random sampling to select a number of articles from the corpus. A limited number of 198 research articles was meticulously attended to both from multi-formal and multi-functional nature of discourse markers in the discussion section of the chosen articles. It was believed that such a constraint would hopefully tighten the scope of reflection on the DMs, facilitating the process of deducing an overall framework in the qualitative section of the study.

To analyze this application as well as the underlying functions across different communities a recent taxonomy of DMs formulated by Fraser (1999) and Halliday and Hasan (1976), which lent itself to this research purposes, was taken as the leading model upon which the varieties would be subject to detailed discussion. After the collection of frequency records, a primary comparative analysis would account for the different or similar IDM tendencies across the communities.

IV. RESULTS

With regard to the first two research questions concerning the frequency of IDMs, the frequency of each IDM appearing in the records of Persian psychology articles as well as their English equivalents and non-native English ones are represented in tables 1 to 3, respectively. Then, the next column in each table shows us the overall percentage of each feature on the whole 66 articles investigated across each domain. Besides, the appearance of IDMs is examined through a focus on two major (Macro) and minor (Micro) levels of analysis.

A. Inferential DMs in Persian Research Articles of Psychology (1385-1390)

Concerning the use of individual discourse markers, just four specific markers as *therefore* (27.4%), *because of this* (15.5%), *thus* (12.2%) and *consequently* (10.9%) favored high frequencies among the others.

4.1. MICRO-LEVEL DISTRIBUTION OF PERSIAN IDMS

	Frequency	Percent
Therefore	83	27.4
Thus	37	12.2
Consequently	33	10.9
Hence	24	7.9
So	14	4.6
Then	25	8.3
because of this	47	15.5
for this reason	12	4.0
after all	1	.3
as a result	4	1.3
as a consequence	7	2.3
in conclusion	7	2.3
Accordingly	9	3.0
Total	303	100.0

As shown in Table 4.2, from a macro level point of view, general causal relations have had the biggest figure of occurrences (71.3%) in the articles in this field of Persian Psychology. The reason lies in the high frequencies for its composing subfields of *therefore* (27.4%) and *thus* (12.2%) at the micro- level stage of analysis.

4.2 MACRO-LEVEL DISTRIBUTIONS OF IDMS

	Frequency	Percent
general causal relation	216	71.3
specific reason	60	19.8
specific result	27	8.9
Total	303	100.0

B. Inferential DMs in English Research Articles of Psychology (2005-2010)

At the Micro- level in English research articles of psychology, distribution of IDMs shows that *thus* has the most percentage(33.9%) and *therefore*(31.5%).

4.3. MICRO- LEVEL DISTRIBUTIONS OF ENGLISH IDMS

	Frequency	Percent
therefore	78	31.5
Thus	84	33.9
consequently	11	4.4
Hence	3	1.2
So	5	2.0
Then	29	11.7
because of this	19	7.7
for this reason	2	.8
after all	1	.4
as a result	6	2.4
as a consequence	3	1.2
in conclusion	3	1.2
accordingly	4	1.6
Total	248	100.0

4.4. MACRO- LEVEL ACCOUNT OF ENGLISH IDM USE

	Frequency	Percent
general causal relation	210	84.7
specific reason	22	8.9
specific result	16	6.5
Total	248	100.0

As it is shown in the above tables, similarly in the field of English *psychology*, general causal relation were found to occur most frequently (84.7%). Therefore, at the Micro-level, it is not surprising to see that *thus* (33.9%) and *therefore* (31.5%) are the most frequent IDMs in this corpus, respectively.

C. Inferential DMs in Non-native Research Articles of Psychology (2005-2010)

At the Micro- level in Non-native research articles of psychology, distribution of IDMs shows that *therefore* has the most parentage (36.2%) and *thus* (19.6%).

4.5. MICRO-LEVEL DISTRIBUTION OF NON-NATIVE IDMS

	Frequency	Percent
therefore	50	36.2
thus	27	19.6
consequently	4	2.9
hence	9	6.5
so	16	11.6
then	1	.7
because of this	13	9.4
for this reason	2	1.4
as a result	7	5.1
as a consequence	3	2.2
in conclusion	6	4.3
Total	138	100.0

4.6. DISTRIBUTION OF INFERENTIAL DMs OF NON-NATIVE RESEARCH ARTICLES AT MACRO-LEVEL

	Frequency	Percent
general causal relation	107	77.5
specific reason	15	10.9
specific result	16	11.6
Total	138	100.0

Accordingly, in the case of research articles across non-native English *psychology* writers, similar records were found in that the same general causal relations occurred most frequently (77.5%). Therefore, at the Micro-level, it is not surprising to see *therefore* (36.2%) and *thus* (19.6%) as the most frequent IDMs, respectively.

D. The Extent of Difference at Micro and Macro Levels of Analysis among Persian, English and Non-native Research Articles

Concerning the extent of difference in the use of IDMs, Chi-square was run to assess the significance of such difference among three groups. Following the frequencies mentioned in the sections 3 and 4, the tendency differences are investigated in this part.

As the following tables suggest, there was a statistically significant difference ($p < 0.05$) in the use of IDMs at either micro or macro levels of analysis across three groups of English, Persian and non-native speakers.

TABLE 4.7.
SIGNIFICANCE OF DIFFERENCE IN THE IDM USE AT MICRO-LEVEL OF ANALYSIS ACROSS THREE GROUPS

	minor type	group
Chi-Square	692.441	29.704 ^b
df	12	2
Asymp. Sig.	.000	.000

TABLE 4.8.
SIGNIFICANCE OF DIFFERENCE IN THE IDM USE AT MACRO-LEVEL OF ANALYSIS ACROSS THREE GROUPS

	major type	group
Chi-Square	480.458	29.704 ^a
df	2	2
Asymp. Sig.	.000	.000

These findings highlighted the importance of close attention to the Persian and non-native writers' tendencies to pave the way for a change toward the English natives' writing paths.

V. DISCUSSION

The findings of this study are indicative of the fact that individual inferential discourse markers are employed by the writers with different degrees of occurrence. Accordingly, 'therefore' was the most frequently used, followed by 'thus', 'because of this', and 'consequently'. Results also suggest a statistically significant difference between the use of individual inferential discourse markers across native Persian, native English and non-native writers. Yet, concerning the use of major inferential marker categories, there is not a significant difference between the three groups. In this regard, Persian native and English native writers made the most use of general causal relations and Persian native writers made the highest use of specific reason and specific result categories.

Responding to the first research question concerning the extent of similarity or difference in the use of inferential DMs across Persian and English, the results are indicative of the point that at the macro-level, there is not a difference between languages in that the occurrence of general causal relations was the most frequent of all. Concerning the numbers and percentages, native English writers made a higher use of general causal relation in their articles. Besides, at the micro-level, there was a rather difference in the occurrence of IDMs. Whereas 'therefore' and 'thus' constituted the highest percentages of general causal relation across Iranian non-native English writers and Iranian native writers, for English native writers 'thus' and 'therefore' represented the most frequent items.

The second research question asked about the extent of difference among the research articles written by English native speakers, Persian non-native speakers and Persian speakers in their use of inferential DMs. In this regard, at both micro and macro levels of analysis, there was a statistically significant difference ($p < 0.05$) among these three groups in the use of IDMs.

VI. CONCLUSION

The difference between two languages appears as a possible cause of interference for Persian learners of English. It is believed that a better knowledge of the nature of inferential DMs in English research articles is of significant importance in the course of language teaching, although it is necessary to develop a mechanism to control the use of inferential DMs. Due to its focus on revealing the nature of factors motivating the use of various IDMs, this process is supposed to be helpful in the development of effective teaching and learning syllabuses.

Although teachers need not spend significant parts of their class time teaching these discourse markers, there is a need to make learners aware of these markers and their pragmatic functions. Language samples from prominent writing pieces published in native journals should be used to highlight their appropriate use.

REFERENCES

- [1] Abdi, R. (2009). Projecting cultural identity through metadiscourse marking: A comparison of Persian and English research articles. *Journal of English language teaching and learning*, 212, 1-15.

- [2] Abdi, R. (2009). An investigation of the distribution and nature of metadiscourse markers in research articles. Unpublished PhD dissertation. University of Isfahan.
- [3] Blakemore, D. (2002). *Relevance and linguistic meaning. The semantics and pragmatics of discourse markers*. Cambridge: Cambridge University Press.
- [4] Fraser, B. (1993). Discourse marker across languages. In L. F. Bouton (Ed.), *Pragmatics and language learning*. (Monograph Series Vol. 4, 1-6).
- [5] Fraser, B. (1999). "What are discourse markers?" *Journal of Pragmatics*, 31, 931-952.
- [6] Gee, J. P. (2005). *An introduction to discourse analysis: Theory and method* (2nd ed.). London: Routledge.
- [7] Groze, B. J. & Sidner, C. I. (1986). Attention, intentions and structure of discourse. *Journal of Computational Linguistics*, 12(3), 175-204.
- [8] Haliday, M. A. K., & Hasan, R. (1976). *Cohesion in English*. London: Longman.
- [9] Koutsantoni, D. (2006). Rhetorical strategies in engineering research articles and research thesis: Advanced academic literacy and relations of power. *Journal of English for Academic Purposes*, 5, 19-36.
- [10] Östman, J.-O. (1995). Pragmatic particles twenty years after. In: B. Warvik, S. K. Tanaskanen and R. Hiltunen (eds.), *Organization in discourse: Proceeding from the Turku Conference*, 95-108. Turku: University of Turku.
- [11] Redeker, G. (1991). "Review article: Linguistic markers of discourse structure. Review of Deborah Schiffrin, 1987, *Discourse Markers*, Cambridge: CUP". *Linguistics*, 29, 1139-1172.
- [12] Schiffrin, D. (1987). *Discourse Markers*. Cambridge: Cambridge University Press.
- [13] Schourup, L. (1999). Discourse markers. *Lingua: Science Direct*, 107, 227-2650.
- [14] Swales, J. (1990). *Genre analysis English for specific purpose in academic and research setting*. New York: Cambridge University Press.



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