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**Iranian ISI and Non-ISI Medical Research Articles in English:  
A Comparative ESP/EAP Move Analysis\***

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**Abstract**

During recent decades publishing articles in academic journals has become a worldwide urge for all members of academia. There is, however, a widespread belief according to which more value is given to the articles published in internationally-recognized, high standard journals. An issue raised in this regard is whether the articles published in highly prestigious journals are remarkably different from those published in other journals as far as their contents and rhetorical styles are concerned. Taking the organization of information/moves into account, the present study seeks the probable differences existing between the two groups of 32 research articles (RAs) randomly selected from among Iranian ISI and non-ISI medical journals in English, published between January 2008 and February 2009, through analyzing the Introduction and Discussion sections of these articles based on the model presented by Nwogu (1997). The results of Mann-Whitney U and correlational tests revealed that Moves and Sub-moves have been exploited with quite similar frequencies in the two sets of the articles. The frequent use of Moves/Sub-moves in the sections not commonly stated in the literature, use of meta-discourse markers in the corpus, some marked implications of the findings of ESP genre analysis of RAs as well as some other findings have also been discussed.

**Key words:** ESP; EAP; Move/Genre Analysis; Iranian Medical ISI/Non-ISI articles/Journals

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## 1. Introduction

Human life is always under changes and developments due to ever-present advances in natural sciences, technology, social sciences, as well as arts and humanities. It is the task of language and chiefly written discourse through which human advancements are announced and disseminated nationally and internationally. English language, which evolved as a lingua franca in the late 19<sup>th</sup> and the early 20<sup>th</sup> centuries, is now the dominant or official language of over 60 countries (Alcaraz Ariza & Navarro, 2006, p. 752). It is also the dominant voice in almost all varieties of world communications especially on the net, and the major foreign language in some countries including Iran.

In the case of medicine, Iranian medical authorities, in order not to lag behind the worldwide competition of contributing in the development of medical knowledge, attempt to measure the scientific productivity of their scholars and university professors by the number of articles they have published in prestigious international and national English/Persian journals, especially ISI ones, or the impact factor they have had. Iranian medical professionals, having positive attitude toward publishing papers in English (Bahrami & Riazi, 2009), are required to have adequate proficiency in scientific English to be informed of the latest updates in medicine as well as to publish in English. Some of them even decide early which journal they will target for sending their manuscript to (Swales, 2004, p.14). However, as supported by the findings of Bahrami and Riazi's study (2009), writing the Introduction and the Discussion sections of all research articles, compared with the Methods and the Results sections, call for more personal innovations, creativity, and subjectivity. They, therefore, tend to reveal the rhetorical strengths or weaknesses.

A question which is raised in this regard is whether the value obtained by Iranian reputable international journals in English is due to the quality of the content and the rhetorical styles of their articles. It could, therefore, be advantageous if the virtues of these articles be found out and, accordingly, provide Iranian medical professionals with consciousness-raising educational activities.

### **1.1. Purpose of the Study**

This study has attempted to scrutinize the Introduction and Discussion sections of medical research articles published in Iranian journals based on ESP move analysis. The purpose of the study is two-fold: Firstly, shedding light on the rhetorical styles of Iranian medical research articles in English through scrutinizing the informational/propositional segments of the Introduction and the Discussion sections of these articles from the perspectives of ESP Move analysis based on the model presented by Nwogu (1997), and secondly, comparing the results of Move analysis of medical research articles published in ISI (recently, Thomson Reuters) journals with those published in non-ISI journals, called Types A and B respectively in the present study.

The rationale behind this purpose is that the articles published in Type A journals have gained the approval of Thomson Reuters, hence, the degree of proficiency of English language, the rhetorical style, the knowledge of the field, and, the overall level of comprehensibility, and, thus, the quality and the quantity of move employment (Swales, 1991) in these articles have all been considered acceptable by the editorial board of Thomson Reuters. It is, therefore, expected that these articles have employed the Moves/Sub-moves in a more

sophisticated and skillful manner compared with those from Type B journals.

The findings of this study can manifest if there are significant differences between the number of each Move and Sub-move used in the two sets of the articles. The probable discrepancies may account for some weakness(s) in Move management in non-ISI articles which can be utilized in relevant educational activities for Iranian medical professionals. The results can also be utilized in evaluating Iranian medical journals/articles.

### **1.2. Research Questions**

1. Is there a significant difference between the frequency of Moves/Sub-moves employed in the Introduction sections of Group I and Group II articles?

2. Is there a significant difference between the frequency of Moves/Sub-moves employed in the Discussion sections of Group I and Group II articles?

### **2. Literature Review**

To gain an understanding of different dominant concepts of *genre*, it is firstly crucial to introduce briefly the three traditions of genre knowledge. Miller (1984), an influential figure of New Rhetoric tradition, defines *genre* as a recurrent social action taking place in recurrent rhetorical situations in particular discourse community. Swales (1990, 1991), following the tradition of ESP/EAP approach to genre analysis, has profoundly elaborated on the definition of *genre* which can be summarized as particular forms of discourse with shared structure, style, content, and intended audience used by a specific discourse community to achieve certain communicative purpose

through socio-rhetorical activities of writing. Parallel with the two above-mentioned traditions, the third trend in genre analysis comprises Australian linguistic studies in genres (Eggins, 2004; Halliday & Mathiessen, 2004; Martin, 1992; Martin and Rose, 2008) which are centered within Systemic Functional Linguistics developed by Michael Halliday. As Hyon (1996, p.697) has pointed out, although register rather than genre has been Halliday's central construct for analyzing language, Martin and his systemic colleagues have developed theories of genre within a systemic functional framework and defined *genres* as 'staged, goal-oriented social processes, structural forms that cultures use in certain contexts to achieve various purposes'. There is great emphasis on textual features using Hallidayan schemes which focuses on both global text structure and sentence-level *register* features associated with *field* (the activity going on), *tenor* (the relationship between participants) and *mode* (the channel of communication).

The present study, having taken the informational segments of medical RAs into account, thus following EAP/ESP approach to genre analysis, has attempted to scrutinize the Introduction and Discussion sections of medical research articles published in Iranian journals based on the Move analysis which is usually common in ESP type of genre analysis. Therefore, it is firstly required to embark on the definition of the concept of 'Move' as well as presenting a brief account of the studies carried out in this approach, in general, and those conducted in medicine in particular.

## 2.2. The Definition of 'Move'

Swales (2004, p. 29) defines 'Move' in genre analysis as "a discursal or rhetorical unit that performs a coherent communicative

function in a written or spoken discourse”. According to him (2004, p. 20), “a 'Move', at one extreme, can be realized by a clause; at the other by several sentences. It is a functional not a formal unit”. Utilizing Swales' (1990) ideas and those of Connor et al (1995), Ding's definition of 'Move' (2007, pp. 369-370) in EAP writing genres can be interpreted as ‘a functional unit in a text, being related to the overall task, which is used to identify the textual regularities in certain genres of writing’. According to him, moves vary in length ranging from several paragraphs to at least one proposition. Nwogu, on the other hand, defines Move as “a text segment made up of a bundle of linguistic features (lexical meaning, propositional meanings, illocutionary forces, etc.) which give the segment a uniform orientation and signal the content of discourse in it” (1997, p. 122).

## **2.2. Studies on Genre/Move Analysis of EAP Research Articles**

Much research has been done on the organizational patterns of RAs. There are works on the RA Introduction section (e.g. Swales, 1981, 1990), the Results section (e.g. Brett, 1994, in sociology RAs), on the Discussion section (e.g. Holmes, 1997 in sociology, political science and history RAs; Berkenkotter & Huckin, 1995 across a wide range of sciences; Hopkins & Dudley Evans, 1988, in articles and dissertations; Peacock, 2002, across seven disciplines), on the Conclusion section (e.g. Fewing, 1993 in MBA dissertations), on all the four sections (e.g. Kanoksilapatham, 2005, in biochemistry) and on academic spoken discourse (Thompson, 1994, on discipline areas of applied linguistics, engineering, and medicine). Soler's (2007) exploratory study on titles comprised review papers and research papers from selected disciplines of social sciences and biological sciences.

## **2.2. Studies on Genre/Move Analysis of Medical RAs**

Until the publication of Nwogu's article in 1997, studies into features of written medical discourse have tended to focus almost exclusively on the syntactic features of text (Adams-Smith, 1983; Dubios, 1981; Malcolm, 1987; Pettinari, 1982; Salager, 1986). Only a few studies (e.g. Adams-Smith 1984; Bruce 1983, 1987; Gosden 1992, 1993; Skelton 1994) have attempted any form of detailed investigation into the organization of information in medical research reports. The study carried out by Salager (1994) has discussed how the communicative purpose of the different rhetorical sections of research papers and case reports in medical English written discourse influences the frequency and category distribution of hedges used in each section. The results indicated that “the Discussion/Comment sections are the most heavily hedged sections, whereas the Methods and the Case Report sections are the least-hedged rhetorical divisions” (Salager, 1994, p.149). Apparently, this result is in accordance with Adams Smith's 1984 study indicating that one of the influential factors of the higher subjectivity of the Discussion section is the frequent occurrence of the hedges by the author which is manifested especially through the use of modals.

During the past two decades, after ‘genre’ was introduced to ESP trend by Swales, the tendency toward taking account of the specific social context of genre is quite visible in scrutinizing medical discourse as well. Gledhill (1995), for instance, analyzed the phraseology of grammatical items in cancer research articles and showed that there is a relation between phraseological patterns and the most typical rhetorical functions of the research article sections.

Nwogu's 1997 study might be regarded as the most comprehensive EAP Move analysis of medical RAs. According to him (1997, p. 120), his article accounts for the schematic structure of information in the

medical research paper using Swales' (1981, 1990) genre-analysis model although it represents an application of the model to the whole body of the research article. In his article, he further states that except perhaps for Skelton (1994) who examined the structure of original research papers and Gosden (1992, 1993) who examined the discourse functions of theme in the scientific research article, most genre-based investigations into the research article have focused on isolated sections (e.g. Swales 1981; Cooper 1985; Hopkins 1985; Crookes 1986 for the article introduction; Belanger 1982; Peng, 1987; Hopkins & Dudley-Evans, 1988 for the discussion section). Even Skelton and Edwards' (2000) study embarked on only the Discussion section of medical RAs.

**Table 1. Moves and their Discourse Functions (Nwogu, 1997)**

Move no.	Discourse function	Section
1:	Presenting Background Information	The Introduction Section
2:	Reviewing Related Research	
3:	Presenting New Research	
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4:	Describing Data Collection Procedure	The Methods Section
5:	Describing Experimental Procedure	
6:	Describing Data-Analysis Procedure	
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7:	Indicating Consistent Observations	The results Section
8:	Indicating Non-Consistent Observations	
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9:	Highlighting Overall Research Outcome	The Discussion Section
10:	Explaining Specific Research Outcomes	
11:	Stating Research Conclusions	



While comparing his study with Skelton's (1994), Nwogu argues that both studies characterize the structure of information in medical research paper and both adopt a genre-analysis approach to their descriptions. Skelton's study is, however, intended for a non-specialist audience, i.e. general medical practitioners, which in itself limit the extent of the linguistic analysis that is provided to support observations and claims made in the paper. Nwogu's paper, on the other hand, is written for specialists in the field of linguistics. Therefore, as he himself claims (1997, p. 120), his paper describes Moves with greater linguistic depth and rigor than Skelton's. In addition, Skelton in his account does not characterize the Sub-moves, each performing as a Move by itself, as being done in Nwogu's study. The schema Nwogu finally identified, regarding the four sections of the medical RAs ( Table 1), comprised eleven Moves, out of which 8 were found to be 'normally required' (2, 3, 4, 5, 7, 9, 10, 11) and three 'optional' (1, 6, 8). As genre understanding developed during the recent years, so the points of concentration have grown to become more micro-structural, delicate, hence, more complex and sometimes mingled with other theories such as SFL (Marco, 2000; Méndez-Cendón & López-Arroyo, 2003; Wang & Bai, 2007).

In the Iranian context, one contrastive study has been conducted by Mahzari (2007) in which she analyzed the Introduction sections of American-English medical research articles and that of Iranian ones written in Persian. The results of her study revealed that "both in English and Persian, the Introduction section of research articles are similar regarding their Move [or sub-move] frequency, but the realization of the moves are radically different in these two languages" (Mahzari, 2007, p. 204). To the present researchers' knowledge,

however, concerning neither genre analysis of articles in Iranian medical journals in English nor the probable rhetorical differences between ISI and non-ISI medical research no study has been carried out to scrutinize different sections of these articles.

### **3. Method**

#### **3.1. The Corpus**

Medical journals may contain different types of articles including, Research Articles (in some journals, called Original Articles), Special Articles, Review Articles, Commentaries, Editorials, Case Reports, etc. The population of this study consists of only the Research Articles and the Original Articles in English, having the well-known IMRD structure (Introduction, Methods, Results, and Discussion), selected from among the articles of Type A and Type B medical journals (explained below) published between January 2008 and February 2009. The criteria for journal selection were representativeness, reputation, accessibility, and not being related to any medical specialty. The three groups of medical journals constituting the population of the study are as follows:

**Type A journals**, consisting of four ISI Iranian medical journals selected from among a list at [http://www.sid.ir/en/isi\\_iran.asp](http://www.sid.ir/en/isi_iran.asp) under the title of 'Iranian journals indexed in international website of ISI'. The criteria for selecting these journals were the general non-specialized nature of the journals, online availability of the articles of the journals, and, finally; the higher degree of popularity and reputation of the journals among Iranian members of medical profession. These journals are: *Archives of Iranian Medicine*, *Journal of Research in Medical Sciences*, *Iranian Red Crescent Medical Journal*, and *Iranian Journal of Public Health*.

**Type B journals,**

including four non-ISI Iranian medical journals selected from among the general list of *IRAN MEDEX- Indexing Articles Published in Iran Biomedical Journals* at <http://iranmedex.net/english/list.asp>. In order to maintain consistency in corpus selection, hence increasing internal and external validity of the contents of the articles, this group of journals also follows the requirements met by the other two groups mentioned above. These journals are: *Iranian Journal of Medical Sciences*, *Medical Journal of Islamic Republic of Iran*, *Shiraz E-Medical Journal*, and *Acta Medica Iranica*. These journals are mostly registered by other international indexing systems such as, Scopus, Index Medicus, Pub Med, Medline, etc.

**The corpus/samples** of the study constitute 64 articles comprising two groups (**Group I and Group II**) each consisting of 32 articles selected respectively from **Type A** and **Type B** journals mentioned above. These articles have been selected through stratified random sampling (<http://stattrek.com/Tables/Random.aspx>). Although the journals are published either quarterly, bimonthly, monthly, or weekly; during random selection, equal number of articles (i.e., 8 articles) have been selected from among the articles of each journal irrespective of the differences of the frequency of annual publications among the journals.

**3.2. Instrumentation**

The Introduction and the Discussion sections of the selected articles have been analyzed by means of the utilization of Nwogu's 1997 model (Table 2) consisting of the most frequent Moves/Sub-moves used in medical RAs.

**Table 2: Moves and Sub-moves of the Introduction and the Discussion sections of medical research articles (Nwogu, 1997)**

Moves	Sub-moves
<b>The Introduction Section</b>	
1. Presenting Background Information	
by:	1. Reference to established knowledge in the field 2. Reference to main research problems
2. Reviewing Related Research	
by:	1. Reference to previous research 2. Reference to limitations of previous research
3. Presenting New Research	
By	1. Reference to research purpose 2. Reference to main research procedure
<b>The Discussion Section</b>	
9. Highlighting Overall Research Outcome	
10. Explaining Specific Research Outcomes	
by:	1. Stating a specific outcome 2. Interpreting the outcome 3. Indicating significance of the outcome 4. Contrasting present and previous outcomes 5. Indicating limitations of outcomes 6. Indicating limitations of previous outcomes
11. Stating Research Conclusions	
	1. Indicating research implications 2. promoting further research

### 3.3. Move Identification

To identify the Moves/Sub-moves, propositions were considered to be the unit of analysis since each proposition can generally have an independent communicative purpose although sometimes a Move or a

Sub-move can be as long as one or more paragraphs. Some Moves/Sub-moves had been used more than once in some of the selected articles based on the demand of their subject matters. However, as the frequencies of using/not using a Move/Sub-move was the matter of concentration, only one time use was considered sufficient for any article to be included in the frequencies. In our study, Moves and their constituents were determined partly through their functions in the context and partly by the aid *metadiscourse signals* which according to Hyland (2005, p. 28) are explicit textual devices representing the writer's overt attempt to create a particular pragmatic or discoursal effect.

### 3.4. Data Analysis

Since the data are frequency counts, from among the non-parametric tests, Mann-Whitney U Test has been used to see if there are significant differences between the number of Moves and Sub-moves employed in the Introduction and Discussion sections of Group I and Group II articles. To further compare the frequencies, Pearson and Spearman's rho correlation coefficient has determined the relationship between the data obtained from the two groups.

### 3.5. Intra-rater and Inter-rater Reliability

To avoid subjectivity, complete Introduction and Discussion sections of three randomly selected articles from the corpus were analyzed by one of the researchers twice with an interval of more than two weeks. Another PhD student of TEFL (Rater 2) as well as an MA holder of TEFL (Rater 3), both having been teaching medical English for several years, were asked to analyze the same sections of the same articles after receiving sufficiently training in how to do the task. As

can be observed from Table 3, the obtained high correlation coefficient between the two ratings done by the researcher (intra-rater reliability = 0.805) as well as among the three ratings (inter-rater reliabilities = 0.616, 0.754 and 0.697) reveals the high reliability of the researcher's judgments in analyzing the texts.

**Table 3: Intra- rater and Inter-rater reliability of Move and Sub-move identification**

Reliability	Raters	Spearman Corr.	Sig.(2-tailed)
Intra-rater	1(1) - 1(2)	.805**	.014
Inter-rater	1-2	.616*	.001
	1-3	.754**	.001
	2-3	.697**	.004

\*\* Correlation is significant at the 0.01 level (2 tailed)

\* Correlation is significant at the 0.05 level (2 tailed)

#### 4. Results

As stated earlier, the Introduction and the Discussion sections of all selected articles were analyzed and the frequency of the Moves and their sub-moves used across the articles of both Groups I and II articles was separately calculated. Tables 4 and 5 below show the Move and the Sub-move frequencies in the corpus respectively.

**Table 4: The frequency of the Moves used by Group I and Group II articles**

Group	Moves, Introduction			Moves, Discussion		
	Mo	Mo	Mo	Move	Mov	Mov
Group	32	28	32	22	31	21
Group	32	31	32	25	29	21

**Table 5: The frequency of the Sub-moves used by Group I and Group II articles**

Groups	Sub – Moves, Introduction						Sub - Moves, Discussion							
	1.1	1.2	2.1	2.2	3.1	3.2	10.1	10.2	10.3	10.4	10.5	10.6	11.1	11.2
<b>Group I</b>	31	7	27	10	31	2	21	23	17	27	12	6	15	11
<b>Group II</b>	32	8	31	6	32	0	17	22	9	29	14	9	16	14

As can be observed in Table 6, the results of four Mann-Whitney U Tests show that the significance level in all the four Tests are larger than 0.05. Therefore, the null hypotheses are verified and there are not any significant differences between the number of Moves and Sub-moves used in both Introduction and Discussion sections of Groups I and II articles. Table 5 further clarifies the similarity between the four sets of frequencies explaining that there are high correlation coefficients between the number of Moves as well as the Sub-moves employed by the writers of the two sets of the articles.

**Table 6: Results of Mann-Whitney U Tests**

Moves/Sub-moves	Asymp. Sig (2-tailed)	Z
<b>Moves, Introduction</b>	.796	-.258
<b>Moves, Discussion</b>	1.000	.000
<b>Sub-moves, Introduction</b>	.747	-.323
<b>Sub-moves, Discussion</b>	.878	-.158

**Table 7: Results of Pearson and Spearman rho's correlations**

Variables	Pearson		Spearman rho (rank order)	
	Correlation	Sig.(2-tailed)	Correlation Coefficient	Sig.(2-tailed)
<b>Moves, Intro.</b>	1.000**	0.000	1.000**	._____
<b>Moves, Dis.</b>	0.908**	0.275	1.000**	._____
<b>Sub-moves,</b>	0.990**	0.000	0.941**	.005
<b>Sub-moves, Dis.</b>	0.835**	0.10	0.807*	.015

\*\* Correlation is significant at the 0.01 level (2 tailed)

\* Correlation is significant at the 0.05 level (2 tailed)

It should be noted that Move deployment was, however, proved to be only one of the rhetorical aspects of writing medical RAs. Other findings of the present study which gradually emerged during the Move/Sub-move identification showed that there are other factors which can also affect the illocutionary force of the ideas. For instance, different Moves/Sub-moves related to each section of medical RAs in Nwogu's model appeared frequently in other sections in our study. On the other hand, appropriate, adequate, and skillful use of discourse/metadiscourse markers in the articles was shown to be the most essential factor facilitating the laborious process of Move/Sub-move identification. The function of these markers was more pronounced in distinguishing between Sub-moves 1.1 and 2.1. These points as well as some other factors have been discussed in the next section.

One problem occurred during data collection procedure was the difficulty of gaining access to some of Iranian non-ISI medical journals, such as *Medical Journal of Islamic Republic of Iran*, as they are not available online although some are publishing quite valuable articles. This issue entails obscurity of these journals which, in turn, reduces readership both nationally and internationally. Online access to the articles can, therefore, lead to higher impact factor.

## **5. Discussion and Conclusions**

The findings generally revealed that Moves and their Sub-moves in the Introduction and Discussion sections of medical RAs of ISI and non-ISI Iranian journals have been exploited with quite similar frequencies. It can, therefore, be claimed that, at least from the point of view of the types of information provided in the Introduction and



Discussion sections, Iranian non-ISI medical journals are as valid as their ISI counterparts.

### **5.1. Moves/ Sub-moves in Unusual Sections**

Most studies on Move analysis have treated each research article section as an independent entity and have not taken any account of various possibilities when the influence of the other sections on the organization of an individual section or when a Move (or Moves) of one section appears in another section. This neglect is also apparent in Nwogu's study. There are some exceptions, however, like Berkenkotter and Huckin's study (1995) which relates their analysis of the Discussion to the Introduction and Ruiying and Allison (2003) who have moved from Results to Conclusions. In the present study, as well, attention has been paid to consider the frequent cases where Sub-moves, based on the necessity felt by the authors, have occurred in sections different from those mentioned in Nwogu's model. For instance, in one of the Iranian ISI medical articles of the corpus, at the beginning of the Discussion section, the following three Sub-moves of the Introduction section were also present:

The treatment of high myopia by PRK remains a challenge [Sub-move 1.1]. The evidence of grater haze formation associated with regression of refractive correction, and the higher accuracy of LASIC in the treatment of high ametropias, discouraged interests in making PRK more predictable, safe and effective for highly myopic corrections [Numerical Reference][Sub-move 2.1]... By collecting data in a systematic fashion and keeping as many variables as possible constant, this study was designed to examine the efficacy and long-term stability of PRK along with a 45 seconds ... [Sub-move 3.1].

### **5.2.**

### **5.3. The Significance of the Use of Metadiscourse Markers**

During Move/Sub-move identification, it was discovered that in addition to Move deployment, there are other rhetorical aspects of writing medical RAs which can greatly influence comprehensibility of the discourse, thus the illocutionary force of the ideas. In the present study, for instance, appropriate, adequate, and skillful use of discourse/metadiscourse markers in the articles was shown to be the most essential factor facilitating the process of Move/Sub-move identification. The function of these markers is, for instance, more pronounced in distinguishing between Sub-moves 1.1 (Reference to established knowledge in the field) and 2.1 (Reference to previous research). This problem partly arises because compared to APA, Vancouver citation technique, being employed in medical RAs worldwide, is more mechanical and less revealing of the writers' own attitudes. This fact, however, has caused the writers not to be able to manifest their intentions of presenting the ideas through use of appropriate meta-discourse markers which sometimes makes it arduous to find out if a particular idea belongs to the introductory background knowledge (1.1) or to the related research (2.1).

The confusion occurs whenever in the Introduction section of Iranian medical RAs, some writers start giving citations from the first sentences up to introducing the research purpose (Sub-move 3.1) without any use of markers to present their intentions and attitudes. The following text is the Introduction section of an ISI article of the corpus in which use of numerical references without any sign of meta-discourse markers has deprived the article from Sub-move 1.1, making the first three sentences resemble Sub-move 2.1. Only the last sentence shows the purpose of the study (Sub-move 3.1) by means of

the Endophoric Marker (Hyland, 2005, p. 49) ‘This pilot double-center study’ and the verb ‘designed for’:

Poliomyelitis is an acute viral infectious disease spread from person-to-person, primarily via the fecal-oral route [numerical reference (N.R.)]. Poliovirus is a highly contagious human pathogen, which spreads easily via human-to-human contact [N.R.] but cannot naturally infect other species [N.R.]... Cardioembolic strokes represented 14% of the Stroke Data Bank, [N.R.] 20% of the Lausanne Stroke Registry [N.R.], and 25.6% of the German Stroke Data Bank [N.R.]. **This pilot double-center study** was **designed for** evaluation of cardioembolic mechanisms in patients with ischemic stroke.

During Move analysis of the articles, when encountering similar problems in Move/Sub-move identification, it is suggested to take advantage of the semantic/ideational functions of the propositions rather than the textual ones as the researcher and the raters did so in this study.

Other factors in this study which were found to further affect Move/Sub-move identification, thus the illocutionary force of the information, were the *quality of paragraph development*, *fluency*, and *the amount of errors in form*. As Move/Sub-move recognition deals with understanding the way information has been organized, these three factors can also affect the degree of overall comprehensibility of an article on the part of the reader. It is worthwhile to mention that, as experienced by the researcher and the raters of the present study, during Move identification in Iranian medical RAs, the existence of proper metadiscourse markers was even able to effectively compensate for the flaws in the rhetorical quality of an article regarding the three factors mentioned above. The reverse did not turn out to be true meaning that even robust paragraph development, high

degree of fluency, and absence of grammatical errors together could not thoroughly compensate for the damage to comprehensibility caused by lack of meta-discourse markers.

#### **5.4. Article Evaluation Process by Journal Editors**

Those having experienced the attempt of publishing articles in academic journals might have felt that different editors of the same journals have reacted differently to the same article either from the form or the content viewpoints. Since there are not any unequivocal universal – or at least regional – guidelines being constantly fed by reliable scientific research findings during article evaluation process, it seems that the editors' decisions are taken partly based on the Editorial Board's regulations, and partly based on their own intuitions and personal knowledge. From what Stayanand, the editor-in-chief of *The Lancet* – one of the world's leading medical journals – has stated (personal communication, Feb. 26, 2008), it can be understood that the articles of this journal usually undergo the following two steps of drastic changes while being evaluated:

- 1) Prior to acceptance; a rigorous process of peer review causing the paper being re-written two or three times to improve the scientific content, as well as the linguistic and the grammatical aspects,
- 2) After being accepted; the papers are edited for clarity, brevity, and accuracy to ensure consistency and readability.

As the second part of Satyanand's transparent statements in her email clearly denies the presence of any linguists (or probably applied linguists) among the editors of the journal, it can be inferred that, probably, the findings of genre analysis studies of applied linguists are not utilized during the above-mentioned two steps either.

### **5.5. Journal Selection Process by Thomson Reuters**

Considering the ambiguous criteria Thomson Reuters has announced to follow while evaluating journals for coverage (namely, the journal's basic publishing standards – i.e., timeliness of publication, adherence to International Editorial Conventions, and English Language Bibliographic information – its editorial content, the international diversity of its authorship, and the citation data associated with it), the same question is aroused here if the findings of genre analysis studies of applied linguistics are taken into account during journal selection process or if the linguists or applied linguists are recruited to help carry out the process.

These questions entice one to think skeptically about the true value which should be granted to the application of genre analysis studies and, simultaneously, persuade those working in this area to justify the merits and the versatility of their findings.

### **6. Implications for SL/FL Teaching and Journal/Article Evaluation**

The findings of this study and other similar ones can be exploited for pedagogical purposes of how to present information in the Introduction and the Discussion sections of medical RAs. In an RA writing classroom, it is crucially important to illustrate the flexibility that a creative writer may need to apply in the type of information presented in the RA sections whenever the subject matter demands without causing any impairment to the overall fluency, unity, and coherence of the article.

On the other hand, the valuable findings of the plethora of studies conducted in ESP genre analysis in general, and move analysis in particular, including those of ours, can potentially be beneficial during

different processes of *article evaluation* and *journal selection/evaluation*.

### **7. Suggestions for Further Research**

In order to display a more profound description of Iranian medical research articles, further studies should be conducted to scrutinize the Methods and the Results sections as well as the overall rhetorical aspects of these two sets of the articles such as, use of meta-discourse markers, paragraph development, fluency, etc. Such studies can manifest if the articles published in peer-reviewed ‘international journals’ are truly more *valuable* than those published in other journals. By the term ‘international journals’, we do not mean those journals that Swales (2004, p. 1) has ironically criticized as increasingly having the meaning of “...those that accept only articles written in English and are published in Western Europe and North America”, but those articles in English in the journals registered by Thomson Reuters, being published in *the Inner Circle* (L1 varieties, e.g. the USA, the UK, etc.), *the Outer Circle* (ESL varieties, e.g. India, Malaysia, etc.), or *the Expanding Circle* (EFL varieties, e.g. Iran, China, etc.) (Kashru, 1990).

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