Journal of English Language
Teaching and Learning
Year53 No. 222

The Relationship between Rhetorical moves and Lexical Cohesion Patterns; the case of Introduction and Discussion sections of Local and International Research Articles

Dr. Reza Khany*
Assistant Professor, University of Ilam
Khalil Tazik
M.A in TEFL, University of Ilam

Abstract

Communicative moves and lexical cohesion patterns (LCPs), as mounting evidence shows, are two important indicators in writing and publishing the RAs. However, the interaction between these two crucial elements and the contribution of this interaction to the failure or success of the RAs have not been given due attention to date. Having this in mind and based on a sound theoretical framework, attempt was made to find the possible interaction between the generic moves and LCPs centralized within such moves. To this end, Swales' (1990) and Kanoksilapatham (2007) move analytical models and Hoey's (1991) LCPs model were drawn upon in the analysis of 40 local RAs written by Iranian writers and 40 RAs written in international journals across sub-disciplines of Applied Linguistics. Results of the move analysis showed no significant differences regarding the obligatory moves of Introduction section across the two corpora; however, significant differences in Discussion section were revealed. Findings of the interaction between moves and LCPs indicated that there are significant differences between local and international RAs in the use of M1 of Introduction as well as M2 and M4 of Discussion sections and the way LCPs are manipulated within these moves. As long as the interaction of these two linguistic and rhetorical features were concerned, at least four possibilities were observed across local and international journals which are thought to determine, among other factors, where these academic genres might be different; similar moves, similar LCPs; different moves, different LCPs; similar moves, different LCPs; and different moves, similar LCPs.

Key words: genre analysis, moves, LCPs, RAs.

– تاریخ وصول: ۸۹/۴/۱۵ تأیید نهایی:۸۹/۱۲/۷

*- Email: r.khany@ilam.ac.ir.

Introduction

Research articles (RA) as an important channel for presenting new scientific findings have received much attention in the past few decades (Dudley-Evans, 1986; Hyland, 2000, 2001; Swales, 1990, 2004). Studies on this "prestigious genre", to use Swales' (2004) words, have generally aimed at exploring its communicative moves (Swales, 1990; Bhatia, 1993, 1999; Biria & Tahririan 1997; Samraj, 2002, 2005; Sun, 2004; Fallah 2004; Amirian, Kassaian, & Tavakoli, 2008; Ge & Li, 2009) or identifying its particular linguistic features such as hedging (Hyland, 1996, 1998, 2002; Wishnoff, 2000; Jalilifar, 2007), voice (Matsuda, 2001), modality (Salager-Meyer, 1992; Piqué, Posteguillo, & Andreu-Besó 2001), verb tense (Burrough-Boenisch, 2003), and first person pronoun (Hyland, 2001; Samraj, 2008).

The primary purpose of all these studies were raising the novice and even experienced researchers and writers' awareness of the overall characteristics of RAs in order to help them create more well-organized and effective academic texts. Among these studies, communicative moves, because of their importance in publishing RAs, have received much more attention. Reviewing literature reveals that in the past two decades there has been mounting evidence that success of academic writers in publishing their papers is highly related to their knowledge of generic structure of research articles (Hopkins & Dudley-Evans, 1988; Swales, 1990; Bhatia, 1993, 1999; Holmes, 1997; Samraj, 2002, 2005; Fallahi and Erzi, 2003; Ge & Li, 2009).

One of the functions of moves in RAs, as Yang and Alison (2003) state, is establishing a coherent text. Moves in each section of RAs establish a logical relationship between sentences and indicate that the materials are smoothly related and well-organized (Swales, 1990). Swales (1990), in his seminal book, proposed a three-move model for the analysis of the generic structure of the Introduction sections of the RAs called "Create-A-Research-Space" model: *establishing the territory, locating a research niche, and occupying a niche.*

Following this model many studies, cross-disciplinary, cross-linguistically or cross-culturally, have been conducted on the rhetorical moves of RAs. Ahmad (1997), following Swales' (1990) model, examined the rhetorical structure of 62 RA Introductions in hard science journals in Malay. She found that move 2 of CARS model (establishing the niche) was absent in more than half of the Malay articles in her corpus. She has related this absence to the existing differences between local scientific context in Malay and that of Anglophone countries. Hirano (2009), using Swales' (1990) CARS model as an analytical tool, compared the rhetorical organization of

research article Introductions in Brazilian Portuguese and in English within a subfield of Applied Linguistics. This exploratory study investigated 20 research articles. The findings indicated that Introductions in Brazilian Portuguese tend to follow a pattern different from that of the CARS model whereas the Introductions in English follow it closely. Holmes (1997), in a cross-disciplinary study, analyzed the Discussion section of thirty social science research articles in terms of sequence and structure of their rhetorical moves, ten each from the disciplines of History, political science and sociology. "It was found that, although there were fundamental similarities to the natural sciences, social science

Discussion sections also displayed some distinctive features. History texts were particularly distinctive, and of the three disciplines bore the least resemblance to those of the natural sciences" (Holmes, 1997, p.321). Nwogu (1997), using Swales' move analytic model, analyzed all sections of 15 medical science research articles. He found that Introduction section in Medical Science RAs is similar to other disciplines except for the move1 (projecting background information) which had low frequency. Kanoksilapatham (2007), following Swales' (2004) Move analytical model for the Introduction section, analyzed a corpus of Biochemistry RAs written in Thai and English. Results of the analysis revealed a four-Move structure for the Discussion sections: **contextualizing the study, consolidating results, stating limitations,** and **suggesting further research**.

Yang and Alison (2003) have analyzed the functional perspectives of rhetorical moves in RAs. They found that because of cyclicity and reoccurrences of moves in Discussion and Results sections, these sections tend to relate to each other. They maintained that these sections primarily have distinctive communicative purposes and this motivates the use of different section headings. However, they did not account for the reasons of move relatedness. No findings were reported that how and why moves help the cohesiveness and organization of RAs. It seems that something more than functions of moves contributes to the relatedness of moves and the sections in which they are occurred. Berkenkotter and Huckin (1995) attempted to identify rhetorical Moves of Discussion sections of scientific Articles that reverse the outlined moves in Swales' (1990) (CARS) model of the RA Introduction sections. They found that the moves identified in Discussion section are the same as those reported by Swales (1990) for Introduction section. However, they did not consider the reasons that cause such similarities. Sentences in texts cannot be interpreted without taking into account their relations with

other preceding or succeeding sentences. They make sense only if they are meaningfully connected to other sentences in the text.

Among many factors that help the connectedness of sentences in a text, Halliday and Hasan (1976, 1989) describe coherence relations and cohesive devices as the linguistic means, which help the writers, create coherent texts. "Coherence relations between sentences and clauses of the text are not objective properties of the text; they are relations that have to be established by people interpreting it" (Fairclough, 1995, p. 122). Coherence is thus a relationship between concepts and meanings (de Beaugrande, 1997). Cohesion, on the other hand, is defined as linguistics means, which are necessary for creating texture (Halliday and Hasan, 1976). In fact, cohesion is the property of a text, which makes it an interpretable whole, rather than a set of unconnected sentences. Halliday and Hasan (1976) point out that cohesion occurs "where the interpretation of any item in the discourse requires making references to some other items in the discourse" (p. 11). They argue that "cohesion is a *semantic relation* between one element and another in the text and some other element that is crucial to the interpretation of it" (p. 8). Therefore, Cohesion is the relationship between words rather than the concepts and meanings. Moreover, cohesion is the objective property of a text.

Five distinguished categories, "which provide a practical means for describing and analyzing texts," for systematizing the concept of cohesion are: "references, substitution, ellipsis, conjunction, and lexical cohesion" (Halliday and Hasan, 1976, p. 13). Among these types of cohesive relations, lexical cohesion has received much more attention (Hoey, 1991). Halliday and Hasan (1976) take lexical cohesion as the central device for making texts interpretable i.e., defining the aboutness of the text. However, Hoey (1991) argues that they fail to note that lexical cohesion is the most important form of cohesive ties. He notes that lexical cohesion is the dominant mode of creating texture. Hoey (1991) found that around forty to fifty percent of cohesive ties of a text are lexical. He proposed a model, which has been used by many researchers for exploring the cohesiveness of texts of any genre. MacMillan (2007), by using Hoey's (1991) lexical cohesion patterns (LCPs) model, conducted a study for the aim of exploring the implications of the text-forming function of lexical cohesive patterns in English for the assessment of effective EFL reading comprehension. His findings have suggested that lexical cohesion plays a fundamental role in the construct of reading reflected on the TOEFL test. Kai (2008), following Hoey's (1991) LCPs model,

takes the genre of dissertation abstracts in the discipline of applied linguistics as the subject of his study. Fifteen abstracts written by native and nonnative speakers of English were randomly selected as his sample. He found that NS abstracts tend to use more complex repetitions than NNS ones, which have a high rate of using simple repetitions. His study also indicated that the patterning of lexical repetition in the sample texts could take a central place in the organization and understanding of dissertation abstracts. Importance of lexical cohesion patterns and cohesive devices has been widely emphasized by many other researchers (Johnstone, 1987; Bublitz, 1996; Sardinha, 1997; Teich, & Fankhauser, 2005; Klebanov, & Shamir, 2007).

Although, lexical cohesion patterns and communicative moves have been dealt with separately, it seems that both can have an important role in developing a RA. However, to the researchers' best knowledge, few, if any, studies have reported their interaction in relation to the publication or rejection of RAs. It is then the purpose of this study to examine the interaction between moves of Introduction and Discussion sections with the LCPs centralized within such moves. To this end, the following questions were generated:

1. What moves are obligatory and optional across Introduction and Discussion sections of sub-disciplines of Applied Linguistics across local and international journals?

2. Do local and international journals employ similar or different LCPs in Introduction and Discussion sections of sub-disciplines of Applied Linguistics?

3. Is there any relationship between the moves centralized in the RAs and the LCPs within such moves in local and international journals?

This study

Theoretical framework

Communicative moves in RAs are defined as "rhetorical instruments that realize a sub-set of specific communicative purposes associated with a genre, and as such they are interpreted in the context of the communicative purposes of the genre in question" (Bhatia, 2001, p. 80). Every move has its own steps, which seem to Bhatia (2001) as different strategies used to realize the value of moves. Move analysis as an important aspect of genre analysis has been found to be very insightful for genre analysis in both ESP and EAP (Bhatia, 2001). For the analysis of moves in academic RAs genre scholars have proposed various models. Some scholars such as Nwogu (1990, 1997)

proposed a framework for the overall structure of RAs while some others have suggested their frameworks for the distinct sections of RAs such as Introduction (Hopkins & Dudley-Evans, 1988; Swales, 1990; Bhatia, 1993; Ozturk, 2007),

Table 1. Moves and their steps identified by Swales (1990) and Kanoksilapatham (2007) in Introduction and Discussion sections of RAs

Introduction moves and their steps	Discussion moves and their steps
M 1: Establishing territory	**M1:** Contextualizing the study
M1S1: claiming centrality	M1S1: describing established knowledge
M1S2: making topic generalization	M1S2: making generalization
M1S3: reviewing previous research	**M2:** Consolidating results
M2: Establishing a niche	M2S1: restating methodology
M2S1: counter claiming	M2S2: stating selected findings
M2S2: indicating a gap	M2S3: referring to previous findings
M2S3: question-raising	M2S4: explaining differences in findings
M2S4: continuing a tradition	M2S5: making claims
M3: Occupying the niche	M2S6: exemplifying
M3S1: outlining purposes	**M3:** Stating limitations
M3S2: announcing present research	**M4:** Suggesting further studies
M3S3: announcing principle findings	
M3S4: indicating RA structure	

Discussion (Holmes, 1997; Biria & Tahririan, 1997; Peacock, 2002; Fallahi & Erzi, 2003; Swales, 2004), Abstracts (Hyland, 2000; Jalilifar, 2004; Samraj, 2005), and Results (Brett, 1994; Atai & Fallah, 2004). Among all these proposed models, Swales' (1990) CARS "Create-A-Research-Space" model: *establishing the territory, locating a research niche, and occupying a niche* (see Table 1)*,* has been widely used by different researchers in cross- disciplinary, cross-culturally, or cross-linguistically genre analysis studies (Ahmad, 1997; Nwogu, 1997; Atai and Fallah, 2004; Salom et al., 2008; Hirano, 2009). Because of the popularity and saliency of Swales' (1990) CARS model and along with the above-cited studies, in the present study this model was used for identification of moves in Introduction sections of sub-disciplines of Applied Linguistics RAs. Kanoksilapatham's (2007) model was also used to identify moves and their related steps of Discussion sections of the RAs. Kanoksilapatham's (2007) divides moves and their steps into two obligatory and optional categories. For him those moves and steps,

which occur in more than half of the total corpus, are called obligatory moves and steps and those, which are present in less than 50% of the whole corpus, are called optional moves and steps.

As for the LCPs, Hoey's (1991) model of LCPs was adopted in this study. Halliday and Hasan (1976) analyzed lexical cohesion in terms of two broad categories: reiteration and collocation. Reiteration refers to a broad range of relations between an item with other preceding word, where this preceding word can be an exact repetition of the first word, a general word, its synonymy or its superordinate. They describe collocation as a relationship between lexical items that occur in the same environment. Along with this approach proposed by Halliday and Hasan (1976), Hoey (1991) in his seminal work, *patterns of lexis in texts,* identified different forms of repetition combined to organize texts. He pointed out that text cohesion is formed by links between words as well as semantic relations between sentences. He named these cohesive relations as a lexical bond. Two sentences make a lexical bond when a certain number of lexical links connects them. Two or three links are sufficient to constitute a lexical bond (Hoey, 1991). In his lexical cohesion patterns, Hoey (1991) classified lexical cohesive relationships under the head of repetition. His proposed model is as follow:

1. Simple lexical repetition
2. Complex lexical repetition
3. Simple mutual paraphrase
4. Simple partial paraphrase
5. Antonymous complex paraphrase
6. Superordinate, hyponymy, and co-reference

According to Hoey (1991), these categories are ranked in decreasing order of importance. He notes that an item can have relationships with more than one other item, that is, each occurrence of the item in the text form a tie with every other occurrence of it, not just to the items immediately located in the adjacent, preceding or succeeding, sentences. Hoey also shows that how it is possible to record lexical cohesion patterns in matrix form in order to identify bonded sentences. It is worth noting that in this study simple mutual paraphrase and simple partial paraphrase patterns are located under the same category named as synonym (SYN).

The corpus

The corpus of the present study consisted of 80 research articles (RAs) written in sub-disciplines of Applied Linguistics across four local – TELL, IJAL, Journal of Social Sciences & Humanities of Shiraz University (JSHSU), and Journal of Scientific publication of

the faculty of foreign languages of Tehran University (JSTU) – and four International journals – Pragmatics, TESOL Quarterly, Language Testing, and SLR. Local journals selected for the study cover a good number of RAs written in Applied Linguistics. Chosen international journals are also all prestigious journals in the field with high impact factor in ISI journals. For the consistency of the results, all the articles chosen for this study were published between 1998 and 2009. From the table of contents of international journals, ten articles from each journal were randomly selected. However, since in Iran journals are not specified to the particular sub-disciplines of Applied Linguistics such as Pragmatics, Testing, etc. as the international ones, based on the scope and genres of the international journals, those local RAs, after verification by two experts, which matched these genres and corresponded to the scope of the international journals were selected to account for valid comparisons. In fact, we compared the RAs related to the cited sub-fields not the journals per se.

The criteria for the selected research articles were:

- The selected RAs followed AIMRD structures
- They were easily accessible in Internet databases such as SID, Elsevier, or Sciencedirect.
- Local and International writers wrote the selected RAs.
- The selected RAs were complete RAs, with a length of 2500 to 4000 words.
- They were published in ISI and ISC indices with either high impact factors or enjoining the scientific research ranking position from the Iran Ministry of science, research, and technology.

The rationale behind the selection of Introduction and Discussion sections for this lexico-generic analysis is that previous research has pointed out to their rhetorical salience in the genre of RAs (Swales, 1990, 2004; Holmes, 1997; Yang & Alison, 2003; Samraj, 2008). Moreover, MA as well as PhD students need to master in the writing of Introduction and Discussion sections in a way that represent their findings more efficiently. In the following section, results of the moves and move-related LCPs of these two sections were explored.

Results

Results of this study are presented in two phases. In the first phase and in order to investigate the first research question, moves of Introduction and Discussion sections of local and international RAs were identified in two top-down and bottom-up procedures. In top-down procedure, Swales (1990, 2004) models were applied in the

corpus. Results of this analysis are given in Table 2. The data given in the table shows that M1, M2, and M3 all are obligatory moves across both local and international journals (they occurred in more than half of the 40 RAs in each corpus). However, some of the steps, which represent the moves, are obligatory. For example, just S1 and S3 in M1, S2 in M2, and S1 in M3 were obligatory steps in Introduction section. Other steps of these moves were optional. In the case of Discussion section, some differences across local and international RAs were observed. The only obligatory move among local RAs was M2 while M2 and M4 were obligatory moves across international RAs. Moreover, the obligatory steps in M2 for local RAs were S2 and S3 while, in addition to these steps, S1 was also an obligatory step in M2 of international RAs.

Table 2: Number (No.) and Rate (%) of obligatory Moves across local (L) and international (I) RAs according to Swales (1990) and Kanoksilapatham's (2007) models

Swales'(1990) model	L		I	
Moves	No.	Rate	most frequent in:	N0. Rate most frequent in:
M1S1	20	50%	Testing	20 50% SLR
M1S3	34	85%	Pragmatics, TESOL	37 92.5% Pragmatics, Testing, TESOL
M 2S2	22	55%	Testing	30 75% Testing
M3S1	26	65%	Testing, TESOL, SLR	29 72.5% Testing
Discussion (Kanoksilapatham, 2007)				
M2S1	-	- -	20 50% SLR	
M2S2	40	100%	all journals	40 100% all journals
M2S3	26	65%	Testing	36 90% Testing
M4	-	- -	20 50% SLR, Testing	

Note. M: Move, S: step, SLR: Second Language Research

It can be concluded that local writers limit the Discussion section to stating the research findings and comparing them with previous ones, while international authors restate their methodology, state main findings, compare and contrast them with previous ones, and at the end suggest some further studies.

Table 3: comparison of move frequencies and Chi-square results for the significance of these frequencies in sub-disciplines of Applied Linguistics across international and ILJs based on Swales (1990) and Kanoksilapatham's (2007) models

sections	journals	Pragmatics Testing						TESOL SLR					
	Moves	**L**	**I**	**X^2**	**L**	**I**	**X^2**	**L**	**I**	**X^2**	**L**	**I**	**X^2**
Introduction section	**M1S1**	4	5	.11	6	2	2.0	4	6	.40	6	7	.07
	M1S2	2	3	.20	1	3	1.0	4	3	.14	2	-	-
	M1S3	10	10	.00	6	10	1.0	10	10	.00	8	7	.06
	M2S1	1	3	1.0	-	1	-	1	-	-	1	2	.33
	M2S2	2	7	2.7	8	9	.05	5	7	.33	6	7	.07
	M2S3	-	-	-	1	-	-	-	-	-	-	2	-
	M2S4	1	-	-	-	-	-	1	1	.00	-	-	-
	M3S1	5	7	.33	7	9	.25	7	8	.06	7	5	.33
	M3S2	-	4	-	4	1	1.8	3	3	.00	1	2	.33
	M3S3	-	5	-	1	-	-	-	2	-	-	1	-
	M3S4	2	5	1.2	1	2	.33	2	1	.33	-	2	-
Discussion section	**M1S1**	2	-	-	2	-	-	1	2	.33	1	-	-
	M1S2	-	-	-	2	-	-	-	-	-	-	1	-
	M2S1	1	2	.33	8	6	.28	4	4	.00	3	8	2.2
	M2S2	10	10	.00	10	10	.00	10	10	.00	10	10	.00
	M2S3	2	9	4.4*	10	10	.00	5	9	1.1	9	8	.05
	M2S4	-	1	-	6	2	2.0	1	4	1.8	1	4	1.8
	M2S5	-	2	-	7	2	2.7	3	6	1.0	3	3	.00
	M2S6	-	2	-	2	1	.33	2	7	2.7	2	6	2.0
	M3	3	1	1.0	5	7	.33	1	3	1.0	2	2	.00
	M4	3	4	.14	4	6	.40	1	4	1.8	1	6	3.5*

Note. L: local RAs, I: international RAs, x^2: Chi-square, -: indicates absence of steps.

*$p<0.05$

The data summarized in Table 2 stands for the overall comparison of RAs across two corpora. To have an exact comparison between two corpora and to see whether one by one comparison of move occurrences across each subfield have the same results as the comparison of the total occurrences of moves within two corpora, move frequency in each paired sub-fields and Chi-square for the significance of move distribution were calculated (Table 3). Comparing move frequencies across local and international journals in each sub-field, the results showed that just frequencies of M2S3 and M4 in Discussion section were significantly different across Pragmatics and SLR sub-fields ($X^2 = 4.4$, Sig. = .03 and $X^2 = 3.5$, Sig. = .05, respectively). In other subfields, no significant differences were found**.**

In the second move analysis procedure, bottom-up analysis, some interesting differences regarding the move occurrences were observed across local and international RAs. In this phase, some new steps were found in both local and international Introductions, which are not accounted for in the Swales' (1990) CARS model. However, just two steps received the criteria to be among the obligatory steps of the Introduction section. Among international RAs "setting the ground by term definition/elaboration/exemplifying" occurred in 21 (52.5%) RAs. Therefore, it can be implied that international researchers prefer to set the ground by defining the variables and terms, which make their research more specific, relevant, and informative. This new step was added to M1 of Swales' (1990) model. As a result, in Swales' model, M1 has four steps "claiming centrality, making topic generalization, setting the ground by term definition/elaboration/exemplifying, and reviewing previous research." The first three steps can occur alternatively or independently in RAs. On the other hand, "stating Research Questions (RQs) and Research Hypotheses (RHs)" is the obligatory step added to the M3 in local RAs (20/50%). Local researchers tend to state their RQs and RHs at the end of the Introduction section, which is lacked in international RAs (11/27.5%).

After the move identification phase, it was attempted to examine the LCPs related to the moves of Introduction and Discussion sections of local and international journals. For this aim, firstly, the number of sentences and words of Introduction and Discussion sections as well as the average number of sentences and words for each section were counted (Table 4). Although not related to our objectives, a brief look at the given statistics in Table 4 indicates that the longer Introduction and Discussion sections were located in Testing RAs across both local and international RAs. Having this data in mind, Hoey's (1991) LCPs model was applied in the total corpus. Results are summarized in Table 5.

Table 4: frequency and distribution of words and sentences in Discussions and Introductions of each journal

sections		Introduction section				Discussion section			
	journals	words	sentences	Av. words	Av. sentences	words	sentences	Av. words	Av. sentences
L	Pragmatics	15342	600	1534	60	9094	326	909	32
	Testing	19870	718	1987	71	7373	279	737	27
	TESOL	12514	320	1251	32	8998	312	899	31
	SLR	15146	540	1514	54	13422	468	1342	47
I	Pragmatics	22575	715	2275	71	13085	415	1308	42
	Testing	25596	790	2559	79	18436	556	1843	55
	TESOL	19432	582	1943	58	14090	415	1409	41
	SLR	14385	485	1438	48	13020	500	1302	50

L: local journals, I: international journals, Av.: Average number of words and sentences in each section

Table 5: number (No.) of LCPs in Introduction and Discussion sections of local and international journals

Journals	**No. of LCPs in Introduction section**						**No. of LCPs in Discussion section**					
	SR	CR	SYN	ACP	H	C-R	SR	CR	SYN	ACP	H	C-R
Local journals												
Pragmatics	5034	408	98	89	14	176	3300	303	73	76	15	132
Testing	5100	310	113	29	12	139	2300	233	99	63	6	86
TESOL	3850	360	195	98	6	315	2600	287	123	79	11	160
SLR	4575	279	102	76	6	320	3825	167	95	65	13	175
International journals												
Pragmatics	6800	270	167	75	10	250	3307	122	96	40	8	350
Testing	6845	290	205	87	4	250	4800	230	165	60	12	182
TESOL	5609	204	69	89	4	240	4300	149	60	71	4	215
SLR	2908	270	88	98	5	170	3201	180	57	87	6	335

Note: SR: simple repetition, CR: complex repetition, SYN: synonym, ACP: Antonymous complex paraphrase, H: hyponymy, C-R: co-references

As Table 5 indicates, the most frequent LCP across both local and international RAs was SR. This high frequency is in line with Hoey (1991). He states that the most important factor in cohesion of the texts is repetition of words along the whole text. Repetition of words also helps the researchers not to lose their way and do their best to

develop the aimed topic. CR was also present in a high frequency across all the RAs. Hoey (1991) defines SR as the repetition of items which are formally identical and CR as the repetition of items which are not formally identical. From his point of view, items with the identical lexical morphemes but with different grammatical functions are classified as CR and items sharing the same morphemes with minimum alternations such as plural nouns, verbs making 3rd person singular, simple past and past participle, as well as gerund verbs are labeled as SR. Another frequent pattern in the corpus was C-R, items with the same referents (Hoey, 1991). The less frequent pattern was H, repetition of an item that is a member of a larger class (Hoey, 1991). Although the obtained data confirmed Hoey (1991) and Halliday and Hasan's (1976) hypotheses that lexical cohesions contribute to the saliency of cohesiveness of a text, one of the main objectives of this study was to examine the contribution of these patterns to the relatedness of moves across both Introduction and Discussion sections of a RA. In fact, we were looking for the relationships between moves of Introduction and Discussion sections with the LCPs within such moves. To find answers for these hypotheses, frequency of LCPs in moves of Introduction and Discussion sections were counted (see Tables 6 and 7). As the tables show, most of the LCPs were present in M1 of Introduction and M2 of Discussion sections (see Examples 1 to 12). The rationale for such event can be related to the length of these two moves. M1 in Introduction section composed of S3 "reviewing previous studies" which is naturally long in every RA. On the other hand, M2 is the main and the longest move of Discussion section which includes six steps. Therefore, it can be concluded that in longer texts the chance of repetition of words is higher than the shorter ones.

Table 6: (No.) of LCPs in moves of Introduction and Discussion sections of Iranian local RAs in sub-disciplines of Applied Linguistics

Journals	LCPs	No. of LCPs in moves of Introduction section			No. of LCPs in moves of Discussion section			
		M1	M2	M3	M1	M2	M3	M4
SLR TESOL Testing Pragmatics TESOL SLR	**SR**	3852	15	153	4	1980	39	175
	CR	72	6	32	-	267	17	27
	SYN	17	-	-	-	58	8	14
	ACP	10	-	-	-	57	7	11
	H	4	-	-	-	11	1	1
	C-R	31	-	4	1	113	6	9
	SR	3898	80	140	12	1875	45	27
	CR	98	18	28	-	127	-	-
	SYN	34	-	-	-	68	-	5
	ACP	14	1	3	-	47	-	-
	H	10	-	-	-	5	-	-
	C-R	95	25	28	-	75	-	-
	SR	2055	34	305	2	2311	11	7
	CR	183	2	5	1	143	-	-
	SYN	19	3	8	-	111	-	2
	ACP	50	-	-	-	3	-	-
	H	16	-	-	-	8	-	-
	C-R	228	4	25	-	134	-	-
	SR	1145	46	350	3	2120	17	5
	CR	274	6	20	-	143	4	-
	SYN	26	-	24	-	6	-	2
	ACP	24	-	6	-	41	-	-
	H	6	-	-	-	11	-	-
	C-R	282	10	24	-	163	3	2

Note: SR: simple repetition, CR: complex repetition, SYN: synonym, ACP: Antonymous complex paraphrase, H: hyponymy, C-R: co-references

Ex. 1: Cloze procedure is officially 57 years old today. Some researchers, however, assert that **cloze** is ……. Carroll, Wilds and Carton (1959), for example, attribute **cloze** to a German psychologist …… According to Kelly (1969), throughout the history of language teaching, **cloze** type tasks ……. Wilson Taylor (1953), **cloze** has been warmly received ……(SR in M1of Introduction, IJAL, 2008).

Ex. 2: Tabaian (1974) is the first linguist who tries to give a new analysis for this construction based on Chomsky (1965). **He** considers the Ezafe construction as a……. (C-R in M1 of Introduction, JSHSU, 2006).

Ex. 3: The term **coherence** is generally used to refer to this type of conceptual connectedness. Discourse **coheres** in several ways (CR in M1 of Introduction, Journal of Pragmatics, 2008).

Ex. 4: Over the past two decades, the need to construct models for international teaching assistant (ITA) training programs has **promoted** considerable efforts to ……. This potential for misunderstanding the speaker's intent at an interpersonal level can seriously **damage** teacher-student relationships in the classroom (ACP in M1 of Introduction, TESOL Quarterly, 2001).

Ex. 5: The method of distractor elimination adopted can be used to classify…… those that depended on non-empirical bases for choosing the distractors to be **discarded**……. in the two studies that **removed** the least frequently endorsed options, no such changes were observed (SYN in M1 of Introduction, Language Testing, 2006).

Ex. 6: Synchronous electronic discussions are one of five communicative situations available on the **Internet** (Crystal, 2001). A user enters a **'chat room'** and joins a …….. Each persons' contributions are sent to a **central computer address**……. (H in M1 of Introduction, ELT Journal, 2004).

Table 7: (No.) of LCPs in moves of Introduction and Discussion sections of international journal in sub-disciplines of Applied Linguistics

Journals	LCPs	No. of LCPs in moves of Introduction section			No. of LCPs of in moves of Discussion section			
		M1	M2	M3	M1	M2	M3	M4
SLR TESOL Testing Pragmatics Testing TESOL SLR	**SR**	4562	120	218	6	2921	34	166
	CR	245	3	52	-	298	17	26
	SYN	117	16	8	-	64	9	24
	ACP	57	8	1	-	41	6	23
	H	10	-	-	-	7	1	1
	C-R	218	20	12	-	321	5	11
	SR	4166	64	400	9	4272	80	300
	CR	250	24	30	-	194	24	20
	SYN	244	3	13	-	146	20	10
	ACP	64	-	11	-	43	17	2
	H	4	-	-	-	10	4	-
	C-R	196	17	47	-	164	11	5
	SR	3675	50	325	4	3983	26	34
	CR	175	10	25	1	148	14	19
	SYN	49	-	10	-	147	-	-
	ACP	66	-	4	-	49	-	-
	H	4	-	-	-	4	-	-
	C-R	208	2	30	-	189	9	10
	SR	1718	32	387	4	2987	13	32
	CR	207	26	30	-	156	4	19
	SYN	56	2	19	-	43	-	3
	ACP	67	-	8	-	64	-	4
	H	5	-	-	-	6	-	-
	C-R	139	7	24	-	314	4	13

Note: SR: simple repetition, CR: complex repetition, SYN: synonym, ACP: Antonymous complex paraphrase, H: hyponymy, C-R: co-references

Ex. 7: Most subjects claimed that **self-monitoring** was helpful with both……. According to them the most important reasons for the effectiveness of **this technique** are that……. (C-R in M2 of Discussion, ELT, 2004).

Ex. 8: The **complexity** is in the combination of the two. ……. Note that this effect cannot be attributed to the **complexity** of the marker ……. Nor to the **syntactic** or semantic **complexity** of the **constructions**, because in all items the same **syntactic construction** was used…….. The conclusion must be that it is the **complexity** of the **coherence relation** that creates the **complexity**. And this is precisely in line with the predictions following from our classification of **coherence relations** (SR in M2 of Discussion, Journal of Pragmatics, 2008).

Ex. 9: The **nonsignificant** results were most likely due to the small sample size…… even though the difference was **not significant** for this small sample. However, we argue that…… (SYN in M2 of Discussion, TESOL Quarterly, 2001).

Ex. 10: The multi-sample analysis technique, which **facilitates** comparisons across groups. Accordingly, the general form of …… was simultaneously estimated with cross-group equality **constraints** imposed starting from……. (ACP in M2 of Discussion, Language Testing, 2006).

Ex. 11: Therefore, since mastery experience is the most powerful source of **efficacy**…… English teachers feel more **efficacious** for involving students in class activities (CR in M2 of Discussion, JSTU, 2010).

Ex. 12: First, the **community** should assume responsibility……. This requires cultivating the culture of new trends in the **learners**, **teachers**, **parents**, **authorities**, and **administrators** (H in M2 of Discussion, TELL, 2007).

Table 8: Chi-square results for the significance of LCPs distribution in moves of Introduction and Discussion sections of international and local RAs in sub-disciplines of Applied Linguistics

Journals	LCPs	moves of Introduction section						moves of Discussion section							
		M1		M2		M3		M1		M2		M3		M4	
		X^2	Sig.	X^2	Sig	X^2	Sig.	X^2	Sig.	X^2	Sig.	X^2	Sig.	X^2	Sig
Pragmatics	SR	59.9*	.00	81.6*	.00	11.3*	.001	.40	.52	180.6*	.00	.34	.55	.003	.95
	CR	94.4*	.00	1.0	.31	4.76*	.02	-	-	1.70	.19	-	-	.019	.89
	SYN	74.6*	.00	-	-	-	-	-	-	.29*	.01	.05	.80	2.6	.10
	ACP	32.9*	.00	-	-	-	-	-	-	2.61	.10	.07	.78	4.2*	.04
	H	2.57	.10	-	-	-	-	-	-	.88	.34	-	-	-	-
	C-R	140.4*	.00	-	-	4.0*	.04	-	-	99.6*	.00	.09	.76	.20	.65
Testing	SR	8.90*	.003	1.7	.18	125.1	.00	.42	.51	934.7*	.00	9.8*	.002	227.9*	.00
	CR	68.5*	.00	.85	.35	.06	.79	-	-	1.3	.25	-	-	-	-
	SYN	31.2*	.00	-	-	22	.63	-	-	28.4*	.00	-	-	1.66	.19
	ACP	28.5*	.00	-	-	-	-	-	-	.17	.67	-	-	-	-
	H	2.57	.10	-	-	-	-	-	-	1.66	.19	-	-	-	-
	C-R	35.0*	.00	1.52	.21	4.8*	.02	-	-	33.1*	.00	-	-	-	-
TESOL	SR	458.0*	.00	3.04	.08	.63	.42	.33	.56	682.1*	.00	6.0*	.01	17.7*	.00
	CR	.17	.67	5.3*	.02	13.3*	.00	-	-	.08	.76	-	-	-	-
	SYN	13.2*	.00	-	-	.22	.63	-	-	5.0*	.02	-	-	-	-
	ACP	2.20	.13	-	-	-	-	-	-	1.75	.18	-	-	-	-
	H	7.20*	.007	-	-	-	-	-	-	1.33	.24	-	-	-	-
	C-R	.91	.33	.66	.41	.45	.50	-	-	9.08*	.003	-	-	-	-
SLR	SR	114.6*	.00	2.51	.11	6.2*	.01	.14	.70	147.1*	.00	.53	.46	19.7*	.00
	CR	9.33*	.002	12.5*	.00	2.0	.157	-	-	.56	.45	-	-	-	-
	SYN	10.9*	.001	-	-	.58	.44	-	-	9.1*	.002	-	-	-	-
	ACP	20.3*	.00	-	-	.28	.59	-	-	5.03*	.02	-	-	-	-
	H	.09	.76	-	-	-	-	-	-	1.47	.22	-	-	-	-
	C-R	48.5*	.00	.52	.46	-	-	-	-	47.8*	.00	-	-	8.06*	.005

Note: SR: simple repetition, CR: complex repetition, SYN: synonym, ACP: Antonymous complex paraphrase, H: hyponymy, C-R: co-references

*P<0.05

To see whether there are any significant differences between the moves of local and international RAs with respect to the LCPs used within such moves, Chi-square statistical analysis was run. Results of the Chi-square indicated that there are significant lexico-generic differences between Introduction and Discussion sections of international RAs with their local counterparts (Table 8). As the table shows, the most significant differences are in M1 of Introduction section and M2 of Discussion section. Significant differences were also observed in M2 and M3 of Introduction section as well as M4 of Discussion section. It can be implied that, although local and international writers may use the same moves, following similar moves may not guarantee the acceptance and publication of RAs into the international journals. Move-related LCPs can have an important role in this regard.

Discussion and Conclusion

Analyzing generic structure of RAs, cross-linguistically and cross-disciplinary, has received remarkable attention by many scholars (Ahmad, 1997; Hirano, 2009). Researchers such as Swales (1990), Yang and Allison (2003), and Berkenkotter and Huckin (1995) contends that identification of moves in a RA can contribute to its organization and its cohesiveness. However, none has to date considered the factors that might cause such relations. Having this in mind, and based on a sound theoretical framework, this study tried to, first, and based on Swales' (1990) and Kanoksilapatham's (2007) models, identify the rhetorical moves of Introduction and Discussion sections of the RAs written in international and Iranian local journals, and second, by using Hoey's (1991) LCP model, examine the relationships between the identified moves and LCPs. Findings of each are discussed below.

Generic structure of Introduction sections of RAs across two corpora

Firstly, the Swales (1990) CARS model for the analysis of the generic structure of the RAs was examined. Each move of this model with its steps and related instances are given below.

Move 1: *Establishing territory*

M1, across two corpora, was found to be an obligatory move. M1S1 (50%) and M1S3 (85%) were found to be present in local RAs hence they are obligatory moves. The same is true for international RAs. M1S1 and M1S3 occurred in more than 50% of international RAs (50% and 92.5%, respectively). Chi-Square results showed no significant differences between M1S1 and M1S3 across two corpora (x^2 =.00 and 0.12, respectively). As it can be seen, both local and international researchers try to centralize their concern around a topic that they claim is among the attractive topics at the present time. Swales (1990) states that the valuable function of this move is to persuade the members of the discourse community to accept that the research which is to be presented is taken from a lively, significant and well-established research area. Samraj (2005) also states that "the presence of centrality claims in more than half of the Conservation Biology abstracts seems to indicate that this rhetorical move has a fairly important place in this genre." M1S3 shows that the topic under investigation is important and many researchers are actively investigating the concerned area. As Samraj (2008) found, the distinction between S1 and S3 of M1 is difficult and the distinction of two is just related to the citations used in S3.

Move 2: *Establishing a niche*

Across the two corpora, S2 was the only obligatory step in M2. This step was present in 22 (55%) local and 30 (75%) international RAs. In both corpora, authors explicitly indicate a gap in previous studies; however, it seems that international writers in order to justify their research pay more attention to this move. Chi-square run for significance of these differences did not confirm the differences (x^2= 2, df= 1, sig. = 0.157). These findings are in line with Samraj (2005) and Kwan (2006) who, in their studies, found that indicating a gap or what they called "the dearth" or "dearth of relevant studies" is present in RAs and doctoral theses. Xudong and She (2005) found that the "*Establishing a niche*" move (indicating a gap in previous studies) was found in more than 70% of the Biomedical RAs. They also found that biomedical researchers mostly used the second step in this move, indicating a gap. All these findings fit in with Swales' (1990) findings.

Move 3: *occupying the niche*

In M3, S1 is the most frequent step among others. It was found in 26 (65%) local RAs and 25 (62.5%) international RAs. However, the Chi-square results which was used for the significance of these differences (x^2= .164, df= 1, sig. = 0.686) did not support the above observation. Other steps occurred lower than the determined index. It indicates that both local and international researchers prefer to outline their research purposes rather than stating what the research is established to represent.

Overall, the introduction rhetorical organization i.e., moves structure, across two local and international RAs was similar in rhetorical structure. Obligatory moves and steps were the same and the frequencies of the obligatory moves were not significantly different. This lack of significant differences in the use of obligatory moves across both local and international RAs indicates that just following the same moves does not determine the difference, and hence publication of the RAs in prestigious journals. We cannot put our foci on the structure irrespective of the content. "This implies that language teaching needs to take into account both internal factors, that is, textual and lexico-grammatical factors, and social/cultural factors, that is, matters relating to the field, tenor, mode and purpose, as well as how these two groups of factors relate." (Badger, 2003)

Generic structure of Discussion sections across two corpora

Discussion section of RAs as a place where the research findings are stated, new findings are discussed and compared with previous

findings in the research area, and where the researchers dare to make claims is an important and salient section in RAs. Applying Kanoksilapatham's (2007) model into the corpus revealed that M2 was the only obligatory move among local Discussions while M2 and M4 were the ones across international RAs. Interestingly, the first three steps of this move received the criteria for being among the obligatory steps across international RAs. However, just M2S2 and M2S3 were the obligatory moves in local RAs. In contrast with Kanoksilapatham (2007), who suggests that Discussion section of RAs starts with a move the same as M1 of Introduction, "contextualizing the study"; international RAs opened with restating methodology. M2S2, stating selected findings, was present in 100% of international and local RAs. Thus, it was an obligatory step across both corpora. Therefore, it can be concluded that all the researchers make it essential to state the main findings in this section. Presence of M2S2 "stating main the findings" as an obligatory step across both local and international Discussion sections is in line with Hopkins and Dudley-Evans (1988) and Yang and Allison (2003). They reported that stating the main findings is a quasi-obligatory move in Discussion section.

In conclusion, it seems that local authors generally followed "*Claiming centrality, reviewing related research, Indicating a gap, Outlining purposes, Stating research questions and hypotheses*" steps and *" Stating selected findings, Referring to previous findings"* steps in Introduction and Discussion sections respectively. On the other hand, the general steps used by international authors in their Introductions sections were *"Claiming centrality (or) setting the ground by term definition, elaboration, or exemplifying, reviewing related research, Indicating a gap, Outlining purposes"*, and the general steps that they used in their Discussions were *" Restating methodology, Stating selected findings, Referring to previous findings, Suggesting further research"*.

Move-related LCPs

In the analysis of move and LCPs across local and international RAs, at lest four possibilities were observed:

- Similar moves, different LCPs
- Different moves, different LCPs
- Different moves, similar LCPs
- Similar moves, similar LCPs

In the case of Introduction, both local and international authors followed the similar moves; however, the LCPs that they used within these moves were different (see Tables 6 and 7). The Chi-square results confirmed the significance of these differences (Table 8).

Yakhontova (1997) notes that one of the main reasons for the failure of RAs in finding their ways into the international journals is the writers' unawareness of the generic structure of international RAs. However, findings of this study are partially in contrast with Yakhontova (1997). Paltridge (2003) asserts that writing academic texts and RAs is difficult for those non-native writers who wish to join the discourse community of international writers. Ahmad (1997) states that this problem is more critical for those non-native writers whose papers were unpublished since their papers had wrong rhetorical styles. Nevertheless, as it is cited above, obligatory moves and steps in the Introduction section of local and international RAs were the same. Therefore, it seems that the problem of local writers is not their inability in using communicative moves. In other words, being aware of the generic structure of RAs is one of the factors that may affect the rejection or acceptance of a RA. Other factors such as LCPs within the RA moves which were under the focus of this study can have an important role in the acceptance, and hence publication of RAs.

Although Chi-square results showed significant lexico-generic differences between local and international Discussions, particularly in M2 of this section, there are some instances such as CR, ACP, and H patterns in Pragmatics, Testing, and TESOL subfields that support the fourth possibility: similar moves, similar LCPs. Now the question is where the differences are. The possible answer can be found in the way of using LCPs within the moves. It seems that using LCPs has its own rules whose exploration requires further research.

Bottom-up analysis of moves showed that local writers state their research questions and hypotheses at the end of the Introduction section while international writers prefer to state their hypotheses implicitly in S1 or S2 of M3 in the Introduction section. These differences lead to the use of different LCPs in such steps. Local writers use SR pattern at the end of their Introductions while international writers make use of CR and C-R patterns as the dominant LCPs for closing the Introduction section. So, it can be concluded that different moves and steps necessitate different LCPs. The same conclusion is also true for M4 of Discussion section. This obligatory move (M4) in Discussion section of international RAs is an optional move in local RAs. These differences lead to the appearance of different LCPs at the closing part of the local and international RAs. Most of the LCPs except H were present at the end of those international articles, which had M4. However, such consistent results were not observed among local RAs. These results reject our third possibility: different moves with similar LCPs.

One of the main findings of the current study is that LCPs were significantly different in M1 of Introduction section and M2 of Discussion section. Yang and Allison (2003) found that M2 of Discussion section is a quasi-obligatory move across this section. They also reported that in this move "reporting main findings" and "commenting on these findings" are two obligatory steps which can be considered as quasi-obligatory. From a functional perspective, Yang and Allison (2003) state that the main functions of M2 in Discussion section are interpreting and accounting for the results. LCPs differences across local and international journals, particularly, in M2 of Discussion demonstrate that one of the main problems of local authors can be found in their use of LCPs within the M2 of Discussion section. The same problem concerning the M1 of Introduction section is also true for local writers. Many researchers and genre analysts (Swales, 1990; Bhatia, 1993; Habibi, 2008; Hirano, 2009) emphasized saliency of this move. Therefore, as the findings show, local authors have significant differences with their international counterparts in the use of different LCPs across the main moves of a RA. Hence, it is recommended that local authors try to learn the strategies employed by international authors regarding the use of LCPs within the moves of each section of a RA. Of course, studies that are more exploratory are required to be carried out to supply more detailed information on the findings of this paper.

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