

# A Comparative Study of Rhetorical Moves Adopted in Research Questions and Method Sections of Applied Linguistics Research Articles<sup>1</sup>

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Received: 07/05/2016

Accepted: 07/10/2016

## Abstract

The study investigated whether there was any significant generic difference between the Research Questions (RQs) and Method sections of applied linguistics research articles (RAs) published in international and local Iranian journals. Two hundred applied linguistics RAs (100 from each group) were selected from 5 SSCI-indexed international journals and 5 Iranian Scientific-Research (Elmi-Pazhouheshi) ISC-indexed journals. Having analyzed the Introduction and Method sections based on Swales' (2004) CARS model and Lim's (2006) model, respectively, we found there were no significant differences in the frequency of occurrence of RQs in the Introduction sections, on the one hand, and between the Method sections of both groups of RAs, on the other. However, significant differences were found in the frequency of occurrence of certain moves and steps in both sections. Moreover, the findings of an expert-viewed validated questionnaire indicated that the RQs were of paramount importance to the authors of both groups of RAs.

**Keywords:** Applied Linguistics; Move; Step; Scientific-Research ISC-Indexed (Local) RA; SSCI-Indexed (International) RA

## 1. Preliminaries

Considered as a class of communicative events wherein language plays a vital and inseparable role, Swales (1990) describes genre as an event grounded in commonly shared communicative purposes which could be discovered through text

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<sup>1</sup>Please cite this paper as follows:

Soodmand Afshar, H., & Ranjbar, A. (2017). A comparative study of rhetorical moves adopted in research questions and method sections of applied linguistics research articles. *Journal of Research in Applied Linguistics*, 8(1), 46-71.

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analysis. Accordingly, genre analysis is defined as “the study of situated linguistic behavior in institutionalized academic or professional setting” (Bhatia, 1997, p. 181). Similarly, Bhatia (2002) maintains that understanding and accounting for the realities of the world of texts is one of the most important objectives of genre analysis. As Chang and Kuo (2011) hold, research achievements would not be recognized unless their findings and results are properly written in the frame of a specific genre called research article (RA) published in internationally recognized journals. Writing a RA which would be evaluated by the discourse community and academicians is a challenging undertaking which needs the ability of expressing the complex and interrelated ideas of the RA as well as understanding the forms and functions of this academic genre (Basturkmen, 2009).

Genre analysis has been an area of investigation in L2 learning and teaching, particularly in the field of English for specific purposes (ESP). This trend has led to tremendous amounts of work in various academic genres such as dissertations, theses, lectures, presentations and RAs (Jalilifar, 2010). RA has attracted the scholars’ interest remarkably, especially regarding the analysis of the structural and linguistic features within its constituent sections. Many studies have investigated the constituent sections of RAs, especially the Introduction sections (e.g., Bhatia, 1997; Cortes, 2013; Loi, 2010; Rubio, 2011; Samraj, 2008; Sheldon, 2011) and the Method sections (e.g., Annesloy, 2010; Bruce, 2008; Lim, 2006; Martinez, 2003).

Since the work of Swales (1981) and his later (1990, 2004) studies on the genre analysis of the Introduction sections of RAs, genre analysis has become a powerful tool for analyzing texts for the simple fact that text analysis “provides insights into important characteristics of genres” (Le & Harrington, 2015, p. 45). According to Swales and Najjar (1987), an important site for the analysis of academic writing has become the Introduction sections of RAs. They maintain that the capacity of understanding the process and product of specialized academic writing is partly due to the introduction to RAs which would be the focus of the present study.

Another purpose of the present study concerned the Method sections to which Smagorinsky (2008) refers as “conceptual epicenter of manuscripts” (p. 390), the section of research papers that he thinks is too often “an afterthought more than a driving force in authors’ presentation of research reports” (p. 390). In other words, writers would not be able to convince readers of the validity of the means they have used for obtaining their findings unless they employ sound Method sections (Lim, 2006).

## **2. Theoretical Framework**

### ***2.1 Introduction Sections of RAs***

The Introduction sections in RAs have generally been investigated regarding macrostructures or communicative moves adopting Swales' (1994, 2004) Create a Research Space (CARS) model described below. Examples of these studies include Cortes (2013), Graves, Moghaddasi, and Hashim (2014), Jalilifar (2010), Joseph, Lim, and Nor (2014), Lim (2014), Loi and Evans (2010), Ozturk (2007), Rubio (2011), Samraj (2005, 2008), and Sheldon (2011). The present study adopted Swales' (2004) version of the model for analyzing the RA Introductions. This model contains three moves and some steps for each move. According to Swales (2004), in Move 1, a territory is established through topic generalization of increasing specificity. Afterwards, in Move 2, a niche is established by indicating a research gap (i.e., Step 1A) or adding to what is known (i.e., Step 1B). In the last step of Move 2 (i.e., Step 2), positive justification for the research is presented. Move 3 of the model contains seven obligatory and optional steps. In Step 1, the present research is announced descriptively and in Step 2, the research questions (RQs) or hypotheses are presented. Step 3 includes definitional clarifications about the research. In Step 4, the methods are summarized. In Step 5, the principal outcomes of the research are presented. Step 6 states the value of the present research. And, finally Step 7 outlines the structure of the paper (Swales, 2004). All the steps are optional (Steps 2, 3, and 4) or possible in some fields (PISF; Steps 5, 6, and 7) except for Step 1 which is obligatory.

### ***2.2 Method Sections of RAs***

One of the key sections that readers refer to, at first sight, for identifying the procedure, instruments, design, participants, and some other elements is the Method section. As put by Lim (2006), the Method section is worth investigating in that the section functions like a thread that links a particular research method with previous methods of research or with other sections, especially with the Introduction and Results sections. Lim (2006) adds that the appropriateness of the design in a study can be revealed by the established research methods cited in the Method section. Furthermore, in Lim's (2006) opinion, the Method sections may be used to strengthen the credibility of the writers' findings which would be reported in the Results section. Moreover, Lim (2006) devised a model for the analysis of the Method sections of RAs which was used as the basis of the move analysis of the Method sections of the corpus in the present study. This move and step model includes three moves, each containing some steps. Move 1 includes three steps: In Step 1, the location, size, and characteristics of the sample, as well as the sampling criteria are described. In Step 2, the data collection procedure is renounced, and Step 3 justifies the data collection procedure through highlighting the advantages of using

the sample and justifying the representativeness of the sample. Move 2 includes three steps: In step 1, an overview of the design is presented. Step 2 deals with the methods of measuring variables (i.e., the instruments) by specifying items, defining variables, and describing methods of measuring variables, for example, how the variables are scored and evaluated. Step 3 (i.e., the last step of Move 2) justifies the methods of measuring variables through citing previous research methods and highlighting the acceptability of measurement methods. Move 3, through which the data analysis procedure is elucidated, consists of three steps: recounting data analysis procedures, justifying those procedures, and previewing results (i.e., Steps 1, 2, and 3, respectively).

Swales and Feak (2012) hold that authors tend to exercise great care and caution in writing the Method section because this section is under the particular attention of reviewers, supervisors, editors, and examiners. In Smagorinsky's (2008) view, the Method section needs a theoretical perspective, that is, the content of the opening framework of the article should be implied by the tenets behind the investigative method. He adds that the RQs explicitly stated should be explicitly answered through the adopted methods of the given research. Furthermore, the results need to be connected to the Method section in such a way that readers become aware of how they have been obtained from the research data. Lim (2006) maintains that by citing previous established research methods, the appropriateness of a research design can be shown and the approaches and designs employed in different studies can attract the attention of professional readers to suggest that the methods employed are widely acceptable. Bruce (2008), in his review of the Method sections of RAs, names Lim (2006) as the only person to "have attempted to provide a detailed move-and-step analysis linked to linguistic features" (p. 39).

### **3. Previous Research Findings**

The Introduction sections of RAs have only recently been the focus of investigation. Kawase (2015) compared the Introduction sections of Ph.D. dissertations and RAs regarding the construction of metadiscourse by research writers and how the writers, subsequently, published RAs. The analysis revealed that the greater use of metadiscourse was made in the Introduction sections of the RAs by the writers. The writers made greater use of phrases when referring to previous studies. Moreover, few references to other parts of the text were made, and phrases showing authorial presence were not used much in the Introduction sections. Moreover, a closer examination of the corpus showed that the variations originated from genre-specific features. That is, the previews of the subsequent chapters were presented by the Ph.D. dissertation writers in their Introduction sections. According to Kawase (2015), these variations can be attributed to the different nature of thesis/dissertation as an educational genre and RA as a professional genre. Unlike

the former genre, in the latter (i.e., RA), the writers are required to survive severe competition for their manuscripts to be published.

In a study of the rhetorical organization of the Introduction sections of Chinese and English RAs in educational psychology, Loi and Evans (2010), using Swales' (1990, 2004) CARS model, found that there were both similarities and differences between the English and Chinese RA Introduction sections regarding the use of moves and steps. It was also found that cultural factors affected the rhetorical moves in the two groups.

Martin and Peréz (2014) examined the typical rhetorical practices applied in the Introduction sections of 80 RAs written in Spanish and 80 written in English regarding Move 3 of Swales' (2004) CARS model in four disciplines in the fields of humanities/social sciences and health sciences. The researchers particularly investigated how the writers with a special focus on the steps adding promotional value to the research presented their research studies in Move 3. The results indicated that, within the same field, in each of the disciplines examined, a higher degree of rhetorical promotion was presented in the English texts than in the Spanish ones. However, when the two broad fields were compared, a higher degree of rhetorical promotion was presented in the Spanish texts in health sciences than in the the English (and Spanish) texts in humanities/social sciences.

Lim (2014) studied the Introductory sections of 32 experimental dissertations based on Swales' (2004) CARS model to explore the steps in formulating RQs. It was found that about 81% of the Introduction sections in the experimental dissertations incorporated RQs.

Likewise, Lim, Loi, Hashim, and Liu (2015) analyzed the Introduction sections of a corpus of 32 experimental doctoral dissertations based on Swales' (1990, 2004) model to find the extent to which the Ph.D. candidates used intermove shifts to reach their final purpose statement. To this end, the degree of the research purpose presentation and the connection of purpose statements with the preceding rhetorical segments were analyzed. The findings showed the obligatory position of purpose statements in the experimental doctoral dissertations on language education.

Also, Khany and Tazik (2010) compared the generic structure of the Introduction and Discussion sections of 80 applied linguistics RAs published locally and internationally adopting Swales' (1990) CARS model and Kanoksilapatham's (2007) model for the analysis of the structure of the Introduction and Discussion sections, respectively. Their findings revealed no significant differences in the obligatory moves of the Introduction sections. However, significant differences were found in the Discussion sections of the two groups.

Only few studies exist in the literature with respect to the move analysis of the Method sections of RAs. For one, Lim (2006) studied the Method sections of management RAs and tried to describe the rhetorical moves and steps in a comprehensible and innovative approach to be used in writing courses according to the needs of the students. It was found that by identifying linguistic features in the Method sections of the management RAs and the rhetorical model presented by Lim (2006), the students were able to apply this model as a guideline for enhancing their generic knowledge of text types. Likewise, Peacock (2011) investigated 288 RAs in eight disciplines of biology, chemistry, physics, environmental sciences, business, language and linguistics, law, and public and social administration regarding the rhetorical moves of the Method sections. Based on the study, Peacock proposed a seven-move model for the analysis of the Method sections to be used as a basis for other rhetorical studies.

Stoller and Robinson (2013), in a genre analysis of chemistry RAs, investigated the organizational structure of full-length chemistry RAs including the Method sections. In addition to improving the students' reading and writing, the purpose of Stoller and Robinson's study was to make the students aware of the chemistry RA genre. The analysis was based on the constituent sections of RAs' Abstract, Introduction, Methods, Results, Discussion, and Conclusion (A-IMRDC). The two main patterns which emerged out of the analysis were A-IMR[DC] and A-IM[R(DC)] with the brackets, signifying the subsections being merged under a major section.

All the studies reviewed above investigated the Introduction or Method sections separately, but to the best of the researchers' knowledge, almost no study has investigated the RQs and Method sections in the two groups of international and local applied linguistics RAs comparatively.

#### **4. Significance of the Study and Statement of the Problem**

The purpose of the current study was to investigate the similarities and/or differences of RQs (as the second step of Move 3 in the CARS model for analyzing the rhetorical moves of the Introduction sections) as well as the Method sections in applied linguistics RAs published between 2009 and 2015 in Thompson Reuters-indexed SSCI international journals and those published between 2009 and 2015 in Scientific-Research ISC-indexed local Iranian journals (i.e., the highest quality RAs published locally) with regard to their rhetorical moves in both RQs and Method sections. On the one hand, although the generic structure of the Introduction sections of RAs has been widely explored, the RQs (as part of the Introduction sections) and Method sections have been little investigated (Lim, 2006). On the other hand, comparing the Introduction and Method sections and exploring their constituent rhetorical moves, particularly the ways of formulating RQs as a major part of the

Introduction sections of RAs in the two groups of international and local journals, provides appropriate ground for understanding the textual norms for academicians, scholars, and especially novice writers to be better prepared for the disciplinary communities to which they belong—a point of crucial importance also highlighted by Samraj (2002).

Moreover, to the best of the researchers' knowledge, a majority of studies already conducted including those reviewed in the current study have investigated the Introduction (e.g., Cortes, 2013; Lim, Loi, Hashim, & Liu, 2015), and Method (e.g., Lim, 2006) sections separately. However, the present study investigated the RQs and Method sections, which are linked in nature, in a single study in the two groups of applied linguistics journals published locally and internationally, the results of which may enable local applied linguistics researchers to approach the standards of professional writers publishing in international journals, especially in the Method sections, to enhance their chance of disseminating their research findings internationally. The following RQs were, thus, formulated for the present study.

1. Is there any significant difference in the frequency of occurrence of RQs in the Introduction sections of applied linguistics RAs published in international journals and their counterparts published in local journals?
2. What rhetorical moves are used in formulating RQs in applied linguistics RAs published in international journals and local journals?
3. Is there any significant difference in the frequency of occurrence of moves used in formulating RQs in the Introduction sections of applied linguistics RAs published in international journals and their counterparts published in Local journals?
4. What rhetorical moves are used in the Method sections of applied linguistics RAs published in international and local journals?
5. Is there any significant difference in the frequency of occurrence of moves used in the Method sections of applied linguistics RAs published in international journals and their counterparts published in local journals?

## **5. Methodology**

### ***5.1 Corpus of Study***

The corpus of the study included 100 international and 100 local RAs selected from five international and five local journals, published between 2009 and 2015. The international journals included the following:

- *English for Specific Purposes*
- *Journal of English for Academic Purposes*
- *System*
- *Applied Linguistics*
- *Modern Language Journal*

And the local journals were the following:

- *Teaching English Language (TELL)*
- *Iranian Journal of Applied Language Studies (IJALS)*
- *Journal of Research in Applied Linguistics*
- *Journal of Teaching Language Skills*
- *Journal of English Language Teaching and Learning.*

The RAs were selected based on stratified random sampling, and the corpus of the study was proportionately selected from three kinds of experimental, correlational, and cause-and-effect RAs. That is, 20 RAs were finally selected from each journal.

## **5.2 Participants**

The participants included five Iranian and five non-Iranian senior scholars in the field of applied linguistics who completed a semistructured questionnaire. All the participants were renowned experts in the field who had already published numerous RAs in leading international journals, including some of those mentioned above. They were selected to be questioned because they were members of the discourse community in which RA genre is dealt with so that they, as experts and pioneers in the field, could shed more light on the findings of the present study. Moreover, using different instruments to collect the required data, as is the case with the present study, might have the ample advantage of triangulating the data for validity purposes.

## **5.3 Instrumentation and Procedure**

The data collection instruments included two models which were used to specify the rhetorical moves of the Introduction and Method sections along with a semistructured questionnaire explained in the following.

The first model adopted was Swales' (2004) CARS moves and steps model for the Introduction sections of the RAs; this model is widely adopted in many genre analysis studies such as Loi and Evans (2010) and Ozturk (2007). The model is presented schematically in Appendix A.



The second model was proposed by Lim (2006) for the analysis of the rhetorical moves of the Method sections of the RAs. This instrument is composed of three moves and nine steps described in detail before and presented in Appendix B.

The third instrument was a semistructured questionnaire which included six questions regarding the position of RQs and the order of moves and steps in the Introduction and Method sections of RAs. The questions of the questionnaire were originally developed by the researchers. However, one Iranian and one non-Iranian senior expert in the field commented on the questions which resulted in major revision of the questionnaire to be validated to suit the purpose of the study. The purpose of the questionnaire was to complement the results of the study obtained from the corpus and to shed more light on corpus findings. A copy of the questionnaire exists in Appendix C.

To collect the data, first 100 RAs were selected randomly from five International journals, and another 100 RAs were selected from five local Iranian journals, all published on applied linguistics between 2009 and 2015. Afterwards, the Introduction and the Method sections of each RA were analyzed and then coded based on Swales' (2004) CARS model and Lim's (2006) moves and steps model, respectively. Next, a Pearson product-moment correlation was conducted to estimate the interrater reliability coefficient of the analysis of the corpus conducted by one of the researchers and another expert in genre analysis, the results of which showed the two raters' analysis enjoyed a high interrater consistency index ( $\alpha = .97, p = .000$ ).

After the analysis of the RAs, the data were entered into SPSS (version 20) for quantitative analysis. Along with data coding, the questionnaire devised was sent to 20 Iranian and 20 non-Iranian senior applied linguistics scholars through e-mail, out of whom 10 (five from each group) responded to and returned the questionnaire. The respondents' replies were, then, subjected to content analysis, as a result of which the recurring themes and common patterns of the responses were identified, coded, and finally subjected to frequency analysis.

## 6. Results

The present study included five RQs. To answer the first, third, and fifth RQs, chi-square analyses were run. To answer the second and fourth RQs of the study, descriptive statistics (e.g., frequency, percentage, etc.) were calculated.

### 6.1 Results of Corpus Analysis

To answer the first RQ of the study, a chi-square analysis was run to investigate the difference between the frequency of occurrence of RQs in the two groups of RAs. First, the descriptive statistics of both groups of journals regarding the frequency of occurrence of RQs (i.e., Move 3-Step2) is presented in Table 1:

Table 1. *Descriptive Statistics for Move 3-Step2 in Introduction Sections*

Move	N		Percent	
	Local RAs	International RAs	Local RAs	International RAs
Move 3.S2	88	68	21.78	16.26

As indicated in Table 1, the frequency of occurrence of the RQs in the local RAs was rather higher.

Next, the results of the chi-square analysis comparing the difference in the frequency of occurrence of research questions in the two groups of local and international RAs are reported in Table 2:

Table 2. *Chi-Square Analysis Comparing Frequency of RQs in Introduction Sections*

Move	Percent		Chi-Square Value	df	Asymp. Sig
	Local RAs	International RAs			
Move 3.S2	21.8	16.3	2.56	1	10

As Table 2 indicates, there was no statistically significant difference in the frequency of occurrence of the RQs in the Introduction sections of the local and international applied linguistics RAs.

The second research question of the study set out to explore the rhetorical moves used in formulating the RQs in applied linguistics RAs published in both groups of journals. The results are reported in Table 3:

Table 3. *Descriptive Statistics of Moves and Steps of Introduction Sections*

Move	N		Percent	
	Local	International	Local	International
Move 1	100	99	24.75	23.68
Move 2.S1A	50	50	12.37	11.96
Move 2.S1B	65	51	16.08	12.20
Move 2.S2	1	2	.24	.47
Move 3.S1	95	96	23.51	22.96
Move 3.S2	88	68	21.78	16.26
Move 3.S3	2	9	.49	2.15
Move 3.S4	1	6	.24	1.43
Move 3.S5	0	10	.00	2.39
Move 3.S6	2	17	.49	4.06
Move 3.S7	0	10	.00	2.39
Total	404	418	100.00	100.00

As is evident in Table 3, Move 1 was the most frequently used move in the Introduction sections of both local and international RAs. On the other hand, Move 3.S5 and Move 3.S7 were the least frequently used moves in the local RA Introductions, which were not actually used in this group of RAs. However, in the International RA Introduction sections, Move 2. S2, was found to be the least frequently used one.

The third research question investigated whether there was any significant difference in the frequency of occurrence of the moves used in formulating the RQs in the Introduction sections of the local and international RAs. To answer this question, chi-square analysis was conducted (see Table 4):

Table 4. *Chi-Square Analysis Comparing Frequency of Moves Adopted in Introduction Sections*

Move	N		Percent		Chi-Square Value	df	Asymp. Sig. (two-sided)	Cramer's N Value
	Local	International	Local	International				
Move 1	100	99	24.75	23.68	.00	1	.94	
Move 2.S1A	50	50	12.37	11.96	.00	1	1.00	
Move 2.S1B	65	51	16.08	12.20	1.69	1	.19	
Move 2.S2	1	2	.24	.47	.33	1	.56	
Move 3.S1	95	96	23.51	22.96	.00	1	.94	
Move 3.S2	88	68	21.78	16.26	2.56	1	.10	
Move 3.S3	2	9	.49	2.15	4.45	1	.03	.20
Move 3.S4	1	6	.24	1.43	3.57	1	.056	
Move 3.S5	0	10	.00	2.39	8.33	1	.00	.66
Move 3.S6	2	17	.49	4.06	11.84	1	.00	.34
Move 3.S7	0	10	.00	2.39	8.33	1	.00	.66

As indicated in Table 4, among all the moves, Move 3.S3, Move 3.S5, Move 3.S6, and Move 3.S7 were found to be statistically significantly different. However, the results of the effect size (Cramer's *V* value) for statistically significant moves indicated that Move 3.S3 and Move 3.S6 had a small value ( $d < .50$ ), but Move 3.S5 and Move 3.S7 showed a medium to large value ( $.60 > d > .70$ ), according to Cohen (1988).

Additionally, another chi-square analysis was run to see whether there was any significant difference between the frequency of occurrence of the moves in formulating the RQs in the Introduction sections of the local and international RAs (see Table 5):

Table 5. *Chi-Square Analysis Indicating Difference Between Moves in Introduction Sections*

N		Percent		Chi-Square Value	df	Asymp. Sig. (two-sided)
Local	International	Local	International			
404	99418	49.14	50.85	.23	1	.62

Note.  $p < 0.05$

As Table 5 indicates, there was no significant difference between the frequency of occurrence of the moves in the Introduction sections of the local and international RAs.

To answer the fourth research question as to what rhetorical moves were used in the Method sections of the local and international applied linguistics RAs, descriptive statistics including frequency and percentage for each specific move and step were calculated (see Table 6):

Table 6. *Descriptive Statistics for Moves and Steps in Method Sections*

Move	N		Percent	
	Local RAs	International RAs	Local RAs	International RAs
Move 1.S1a	63	47	6.94	5.61
Move 1.S1b	96	91	10.58	10.87
Move 1.S1c	104	97	11.46	11.58
Move 1.S1d	94	67	10.36	8.00
Move 1.S2	91	73	10.03	8.72
Move 1.S3a	2	22	.22	2.62
Move 1.S3b	2	19	.22	2.27
Move 2.S1	9	19	.99	2.27
Move 2.S2a	95	73	10.47	8.72
Move 2.S2b	75	63	8.26	7.52
Move 2.S2c	42	59	4.63	7.04
Move 2.S3a	27	37	2.97	4.42
Move 2.S3b	49	34	5.40	4.06
Move 3.S1	80	34	8.82	4.06
Move 3.S2	58	61	6.39	7.28
Move 3.S3	20	41	2.20	4.89
Total	907	837	100.00	100.00

As shown in Table 6, Move 1.S1c was the most frequently used move in both local and international RAs. Move 1.S3a and Move 1.S3b were found to be the least frequently used moves in the local RAs, and Move 1.S3b and Move 2.S1 were the least frequently used moves in their international counterparts.

To answer the last research question as to whether there was any significant difference in the frequency of occurrence of the moves used in the Method sections of the local and international applied linguistics RAs, a chi-square analysis was run, the results of which are shown in Table 7:

Table 7. *Chi-Square Analysis Comparing Frequency of Moves Adopted in Method Sections*

Move	N		Percent		Chi-Square Value	df	Asymp. Sig. (two-sided)	Cramer's N Value
	Local	International	Local	International				
Move 1.S1a	67	47	6.94	5.61	2.327	1	.12	
Move 1.S1b	96	91	10.58	10.87	.134	1	.71	
Move 1.S1c	104	97	11.46	11.58	.224	1	.62	
Move 1.S1d	94	67	10.36	8.00	4.528	1	.03	.77
Move 1.S2	91	73	10.03	8.72	1.976	1	.16	
Move 1.S3a	2	22	.22	2.62	16.667	1	.00	.74
Move 1.S3b	2	19	.22	2.27	13.762	1	.00	.65
Move 2.S1	9	19	.99	2.27	3.571	1	.053	
Move 2.S2a	95	73	10.47	8.72	2.881	1	.09	
Move 2.S2b	75	63	8.26	7.52	1.043	1	.30	
Move 2.S2c	42	59	4.63	7.04	2.861	1	.09	
Move 2.S3a	27	37	2.97	4.42	1.563	1	.21	
Move 2.S3b	49	34	5.40	4.06	2.711	1	.10	
Move 3.S1	80	34	8.82	4.06	18.561	1	.00	1.06
Move 3.S2	58	61	6.39	7.28	.076	1	.78	

As indicated in Table 7, among all the moves of the Method sections, Move 1.S1d, Move 1.S3a, Move 1.S3b, Move 3.S1, and Move 3.S3 were significantly different in both groups of local and international RAs. However, according to the results of the effect size (Cramer's *V* value) for statistically significant moves, Move 3.S3 showed a medium value (i.e., about .50), Move 1.S3b indicated a medium to large value (i.e., between about .60 to .70), Move 1.S3a and Move 1.S1d manifested a large value (i.e., between .70 to .90), and Move 3.S1 showed a very large value (i.e., larger than .90), according to Cohen (1988). Additionally, another chi-square analysis was run to see whether, there was any significant difference between the

frequency of the moves in the Method sections of the local and international RAs (see Table 8):

Table 8. *Chi-Square Analysis Indicating Difference Between Moves in Method Sections*

<i>N</i>		Percent		Chi-Square Value	<i>df</i>	Asymp. Sig. (two-sided)
Local	International	Local	International			
907	837	52.00	47.99	2.81	1	.09

As Table 8 indicates, there was, overall, no significant difference in the frequency of occurrence of the moves in the Method sections of the local and international RAs.

## 6.2 Results of the Questionnaire

The first question of the questionnaire related to the position of the RQs in the RAs in applied linguistics. Among the five non-Iranian scholars, four (i.e., 80%) believed that RQs typically occurred towards the end of the Introduction and usually after the Literature Review section. Also, among the five Iranian scholars, three (i.e., 60%) placed the RQs at the end of the Introduction section and before the Method section.

In response to the second and third research questions concerning the allowable variation of the position of RQs, three non-Iranian and three Iranian scholars (i.e., 60%) believed that there might be variations in the position RQs could occur.

In response to question four, except for one Iranian scholar, the other nine scholars (i.e., 90%) rejected the idea of having a RA without, at least, an implicit RQ.

Concerning question five of the questionnaire about the appearance of RQs in the Abstract section or at the beginning of the Method section, four Iranian and four non-Iranian scholars (i.e., 90% of both groups of respondents) admitted that sometimes RQs could appear in the Abstract section in the form of a statement and that sometimes RQs could occur at the beginning of the Method section.

Regarding the sixth question of the questionnaire, four (i.e., 80%) of the Iranian and all non-Iranian scholars followed the typical Participants, Data Collection, and Data Analysis steps.

## 7. Discussion

According to the results of the study, there was no significant difference in the frequency of occurrence of the RQs (i.e., Move 3.S2) in the Introduction sections of the locally published and internationally published applied linguistics RAs.

This lack of significant difference might be attributed to the crucial importance of RQs in developing a RA, in general. It is deemed essential for a RA to follow the accepted norms and standards in academic publishing to be considered eligible for publication in high-impact journals—an argument which seems to also apply to Iranian RAs and their authors.

Salager-Meyer (2008) places Iran as one of the developing countries which seeks research publication to approach international trends and to share research findings with international community by stating “indeed, research and its publication are not a tradition in the great majority of developing countries (exceptions include India, China, and Iran)” (p. 123).

Regarding some of the RAs in both groups which lacked clearly stated RQs, it might be argued that there might be an implicit statement of the RQs in the Abstract section or explained as the Aim of the Study or located at the beginning of the Method section. Corroborating this, one of the non-Iranian scholars, in response to the fifth question of the questionnaire, stated:

- RQs may appear in Abstracts, but usually in a reduced form, that is, not articulated according to RQ1, RQ2, and so on formula, but more of a summary statement to explain the aims of the research.

Likewise, another Iranian scholar said:

- In Abstracts, we usually put the question in the form of a statement expressing the goal of the research, for example, we write: *The present study set out to investigate/investigated . . .*

Additionally, there might be RAs stating the RQs at the beginning of the Method section. An instance of such a RA from the *System* journal is presented in excerpt below: (Questions at the beginning of the Method sections taken from *System*, 2012, vol. 40, p. 4)

- Method
- Research questions and assumptions

The main research question in focus of this study is how students' language learning aims and beliefs about English are shaped by their dispositions towards and needs of English as a lingua franca, English for

specific purposes and English as a native language. As we **hypothesized** that Hungarian ESP learners would be aware of their need for ESP in nonnative-nonnative interaction, and that in fact their ESP use and ESP learning goals would be dominated by ELF norms, we set out to carry out structural equation modeling in order to test the relationships of the latent constructs in a single framework (Dörnyei, 2007).

This stance is also corroborated by one of the non-Iranian scholars and one Iranian scholar answering the fifth question of the questionnaire who both stated that RQs were sometimes presented at the beginning of the Method section.

The position of RQs based on Swales' (2004) model is at the end of the Introduction section in Move 3.S1 (i.e., announcing the present work descriptively). The results of the first RQ of the study indicated that 88% of the local and 68% of the international RAs located their RQs in Move 3.S2 of the Introduction sections, as predicted by Swales' model. The corpus results in this regard are in line with the findings of the first question of the questionnaire regarding the position of RQs. As one of the non-Iranian scholars said, RQs usually could come towards the end of the introductory section(s) before the methodology section. Another Iranian scholar located the RQ at the end of the Literature Review section.

Regarding the flexibility of the occurrence of RQs which was the second question of the questionnaire, one of the non-Iranian scholars said:

- There may be some flexibility in terms of how early the RQs appear in the introductory section(s), for example, more towards the beginning or more towards the end.

The results of the first RQ of the present study are in line with the findings of Lim (2006) that also found that among the 32 doctoral dissertations analyzed, only 18.8% (i.e., 6 ones) did not incorporate RQs in their Introduction sections. However, the results in this respect are in contrast with those of Shehzad (2011) that, studying 56 RAs from five journals in computer science, found that 37% of the corpus included RQs or hypotheses, among which only 7% had a clear statement of RQs.

Also, according to the results of the third RQ of the study, no statistically significant difference was found in the frequency of occurrence of Move 1 through Move 3 and their constituent steps in local and International RAs, except for four steps of Move 3 (i.e., Move 3.S3, Move 3.S5, Move 3.S6, and Move 3.S7), which all occurred following the presentation of the RQs and were found to be significantly different in both groups. Among these four steps found to be significantly different, those with medium to large effect sizes already mentioned in the Results sections are discussed here.



The results of Move 3.S5 (i.e., announcing principal outcomes) and Move 3.S7 (outlining the structure of the paper; labeled as PISF in Swales' CARS model) might indicate that the Iranian RA authors in applied linguistics do not announce the principal outcomes of the study in advance before the Conclusion section, and that the structure of the paper (i.e., Move 3.S7) is stated in the Method section. In Move 2, the gap is indicated which is, then, tried to be filled with presenting RQs which precede the Method section. It seems that the Iranian authors do not pay much attention to the final steps of Move 3, most possibly because these steps are simply optional. Furthermore, the response of one of the Iranian scholars to the fourth question of the questionnaire who stated "some of the articles are critical and reflective and thus normally do not follow any RQ," might help justify the point that, due to the kind and nature of the RA (e.g., descriptive RAs), there might not be any outcomes to be reported in the Introduction sections.

According to the results of the third RQ of the study, there was, overall, no statistically significant difference in the frequency of occurrence of the moves in the Introduction sections of the local and international RAs. The results of this question are in line with those of Jalilifar (2010) who, investigating RA Introduction sections in local and international journals in the three related subdisciplines of English for specific purposes (ESP), English for general purposes (EGP), and discourse analysis (DA), based on Swales' (2004) CARS model, found that there were broad similarities in the rhetorical organization of the Introduction sections in the subdisciplines mentioned. However, Jalilifar found some nuances that added to the body of knowledge in disciplinary variations in academic writing.

The results of the present study in this respect, however, stand in contrast with those of Ozturk (2007) that, investigating 20 RA Introduction sections based on Swales' (2004) model in the two subdisciplines of SLA and L2 writing research, found that the two subdisciplines applied different and unrelated move organization which calls for the need for more research on the topic.

The findings of the fourth and fifth RQs of the study indicated that among all the moves of the Method sections, Move 1.S1d, Move 1.S3a, Move 1.S3b, Move 3.S1, and Move 3.S3 were statistically significantly different in both groups of local and international RAs. All the abovementioned moves were found to have a medium to large effect sizes as mentioned earlier which are discussed below.

According to Lim's (2006) model, Step 1d of Move 1 describes "the sampling technique or criterion." It seems that the authors of RAs published locally pay much attention to the details of the sample than do the authors of applied linguistics RAs published internationally. This difference might be due to the norms and guidelines of the journal in which the RAs are published. Thus, local journals seemingly require authors to follow more detailed and meticulous approach in

describing the sample. In Step 3a and Step 3b of Move 1, the advantages of using the sample are highlighted and the representativeness aspect of the sample is explained. Contrary to Step 1d of local RAs, international RA Method sections are much more concerned with validation of using the sample than local Method sections. It appears that, in this respect, international authors are more sensitive to their sample being representative for generalizability purposes than their local counterparts. This might be because of the sensitivity some high-impact international journals impose on authors submitting to them regarding sample selection and homogeneity and representativeness requirements of the sample, two features which appear to be more severe criteria for RAs published internationally. The type of the research (e.g., corpus study, experimental research, etc.) also seems to play a crucial role in this respect.

Likewise, in elaborating question six of the questionnaire which reads in what order the constituent parts of the Method sections appear, one of the non-Iranian scholars asserted:

- In data-based (i.e., quantitative) research, the Method section typically starts with a description of the data (including how it was collected) and then the analytical procedures/instruments are elaborated. In experimental research, it usually starts with a description of the setting, the participants, the research design, and then the treatments and instruments are explained in the context of the analysis.

This type of reaction to the sixth question of the questionnaire might justify the significant differences found in the present study between the local and international RAs regarding Move 1 and some of its steps and substeps.

Regarding the first Move of Lim's (2006) model and its constituent steps, especially Step 1 (which describes the sample, its location, size, and characteristics), Bruce (2008) maintains that, in addition to the content staging, organizational knowledge (the knowledge which seems not to be considered in Lim's model), also plays a role. Lack of organizational knowledge might be a reason for the differences found among some of the steps in the local and international RAs in that some of the steps did not account for the organizational knowledge of the Method sections of some RAs. Regarding organizational knowledge, Bruce (2008) asserts:

This communicative aim of Move 1, Step 1 involves describing the sample, including its location, size and characteristics. In conjunction with this aim, lists of discrete linguistic items are provided; however, in this approach, there is no focus on rhetorical discourse-organizing principles (as distinct from content-staging in moves and steps). For example, in Step 1 when

describing the sample, this could involve considering the types of organizational knowledge used in discourse that presents nonsequential information. (p. 41)

The two steps of Move 3 (i.e., Move 3.S1 and Move 3.S3), which were found to be significantly different, are related to the data analysis procedures. Based on Lim's (2006) model, in Step 1, the data analysis procedures are recounted and in Step 3, the results are previewed. The local RA writers used Step 1 more frequently in comparison to the international RA authors. This might be due to the fact that in the Method sections of some international RAs, the data analysis procedures are embedded in the Instrumentation section and are explained along with the instruments. Contrary to Step 1, in Step 3, the international RAs reported higher frequency which might be due to the premise that local RA writers tend to report their results in the Results sections and are not willing to give any previews in the Method sections.

According to the findings of the last RQ of the study, there was no significant difference in the frequency of occurrence of the moves in the Method sections of the local and international RAs. The findings of this RQ, as gained through the corpus of the study, are in line with the results of the last question of the questionnaire, according to which nearly 80% of the Iranian and all non-Iranian scholars reported that the typical format included Participants, Data Collection, and Data Analysis steps.

The results in this respect are in line with those of Nowgo (1997) who, investigating medical RAs regarding all the sections including the Method sections according to Swales' (1990) genre analysis model, found the authors used three "moves of describing data collection procedure, describing experimental procedure and describing data analysis procedure" (p. 125).

However, the results of the last question of the present study are not in line with those of Peacock (2011) who, studying 288 RAs regarding the move structure of their Method sections, found seven moves which included "overview, location, research aims/questions/hypotheses, subjects/materials, procedure, limitations, and data analysis" (p. 99). The results of Peacock's study indicated interdisciplinary variations in moves and move cycles which included clear differences between the sciences and other disciplines.

## **8. Conclusion, Implications, and Suggestions for Further Research**

This study investigated the Introduction sections, in general, and RQs, in particular, and the Method sections of applied linguistics RAs regarding the frequency of occurrence and similarities and/differences of their rhetorical moves and steps published in the two groups of Iranian scientific research journals and their

counterparts published internationally in high-impact SSCI-indexed journals. The results of the study indicated that there was, overall, no significant difference in the frequency of occurrence of the RQs in the two groups of RAs. However, some variations were shown in some optional steps of Move 3 of the Introduction sections which followed the presentation of the RQs.

It was also found that, in general, there were no significant differences in the frequency of occurrence of the rhetorical moves in the Method sections of the RAs published locally and internationally. According to the results, however, some differences were shown in the frequency of occurrence of some steps of Move 1 and Move 3 which might be of importance in academic writing.

Based on the results of the quantitative analysis of the rhetorical moves and the qualitative content analysis of the questionnaire data, the following results were found concerning the position and significance of RQs. The typical position of the RQs was found to be at the end of the Introduction sections. However, some variations were reported based on the questionnaire data that RQs might be presented implicitly in Abstract or occasionally at the beginning of the Method section. The type of the research (e.g., experimental, corpus study, etc.) was also found to impact upon the position of the RQs in the RAs that included no RQs in their body.

The significance of the RQs became evident based on the viewpoints of the senior scholars questioned in the study who did not approve of the idea of an RA being without, at least, an implicit statement of RQs. According to their views, RQs guide the researcher throughout his or her work and act as a guideline for the reader to know on what track the research is moving and what objectives and outcomes are going to be obtained.

According to the findings of the study, the frequency of occurrence of the RQs in both groups of RAs was relatively high, and the difference between the two groups was not significant which might indicate the significance of RQs for the authors of RAs published both locally and internationally in the body of an RA and the role RQs play in conducting a research. However, the significant difference in the final steps of the Introduction sections might be due to the fact that these steps (e.g., outlining the structure of the paper) are simply optional (i.e., PISF but not in others).

Likewise, some of the significant differences found between the two groups of RAs might be due to their scope and/or readership. That is, significantly higher involvement with sampling procedures and sample representativeness in international RAs might be accounted for by the fact the journals in which these RAs are published need to appeal to the taste of a wide range of readers from

international background who might expect RAs to have more precise and detailed sampling procedures and to relate to larger samples for the sake of generalizability of the findings.

One of the outcomes resulting from the study was the relationship between RQs and Method sections. Obviously, with a clear understanding of the RQs of the study, the design, methodology, data analysis, and other components of the Method sections could be more clearly and coherently specified.

RQs, as one of the rhetorical steps in Move 3 (i.e., presenting the present work) in Swales' (2004) model for predicting the structure of RA Introduction sections, have recently been investigated in a few studies such as Lim (2014) and Shehzad (2011). The results of the study on RQs and their position in the Introduction sections of applied linguistics RAs might, thus, prove helpful for both academicians and such novice researchers as graduate studies students who seek publication in high-impact journals. Although, as the findings showed, the local applied linguistics RA authors in the study approached the norms and standards adopted by their counterparts publishing in international journals, they were found to be significantly different in such steps as "describing the sampling technique or criterion."

Therefore, academicians, in general, and teachers of academic writing courses, in particular, are suggested to train such novice researchers as graduate studies students to adopt the norms, standards, moves, and steps used significantly more frequently by the authors of RAs published internationally. For example, they are recommended to make their students and novice teachers aware of how to describe, in depth and detail, the sample and its method of selection, and its representativeness, in particular as found by the results of the present study if they intend to convince the reviewers and editors of their RAs to accept their papers and to make their findings more appealing to the addressees of an international background. In other words, although, as Bhatia (2002) maintains, understanding the generic structure of a professional discourse like RAs is necessary for publishing in the given genre, the general knowledge of the move structure of certain models and frameworks *per se* does not guarantee publication in accredited international journals. Thorough familiarity with the nuances and details of the moves and especially the steps adopted in writing various sections of the given genre (e.g., RAs published in international journals in applied linguistics), as depicted by the findings of the current study, is also necessary for the authors of local journal RAs if they intend to get published in well-established international journals.

Finally, it is worth mentioning that the present study investigated the RAs in the field of applied linguistics. For further studies, it is, thus, suggested that RQs be investigated in disciplines other than applied linguistics as well as in other genres

like theses, dissertations, and so on. Further studies might compare the Method sections of different disciplines and subdisciplines regarding their rhetorical moves or lexicogrammatical features.

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### Appendix A

#### Swales' (2004) CARS Model for Analyzing Introduction Section

**Move 1:** Establishing a territory (citations required) via (topic generalization of increasing specificity)

**Move 2:** Establishing a niche (citations possible)

via

**Step 1A:** Indicating a gap or



- Step 1B:** Adding to what is known
- Step 2:** (optional) Presenting positive justification
- Move 3:** Presenting the present work (citations possible)
- Step 1:** (obligatory) Announcing present research descriptively
- Step 2:** (optional) Presenting RQ or hypotheses
- Step 3:** (optional) Definitional clarifications
- Step 4:** (optional) Summarizing methods
- Step 5:** (PISF) Announcing principal outcomes
- Step 6:** (PISF) Stating the value of the present research
- Step 7:** (PISF) Outlining the structure of the paper

### **Appendix B**

#### **Lim's (2006) Move and Steps Model for Analyzing Method Section**

<b>Rhetorical Move</b>	<b>Constituent Step</b>
<b>Move 1:</b> Describing data collection procedure/s	<b>Step 1:</b> Describing the sample <ul style="list-style-type: none"> <li>(a) Describing the location of the sample</li> <li>(b) Describing the size of the sample /population</li> <li>(c) Describing the characteristics of the sample</li> <li>(d) Describing the sampling technique or criterion</li> </ul> <b>Step 2:</b> Renouncing steps in data collection <b>Step 3:</b> Justifying the data collection procedure/s <ul style="list-style-type: none"> <li>(a) Highlighting advantages of using the sample</li> <li>(b) Showing representivity of the sample</li> </ul>
<b>Move 2:</b> Describing procedure/s for measuring variables	<b>Step 1:</b> Presenting an overview of the design <b>Step 2:</b> Explaining method/s of measuring variables <ul style="list-style-type: none"> <li>(a) Specifying items in questionnaires/ debates</li> <li>(b) Defining variables</li> <li>(c) Describing methods of measuring variables</li> </ul> <b>Step 3:</b> Justifying the method/s of measuring variables <ul style="list-style-type: none"> <li>(a) Citing previous research method/s</li> <li>(b) Highlighting acceptability of the method/s</li> </ul>
<b>Move 3:</b> Elucidating data	<b>Step 1:</b> Relating (or 'recounting') data analysis procedure/s

analysis Procedure/s

**Step 2:** Justifying the data analysis procedure/s

**Step 3:** Previewing results

## **Appendix C**

### **Semistructured Questionnaire**

Dear Professor/Researcher,

To do my dissertation on move analysis of the Introduction (especially Research Questions) and Method sections of applied linguistics research articles (RAs) under the supervision of Dr. X, I need the help of some senior scholars to kindly answer my questions. All the information including your name will be kept confidential. I will keep the data in a secure place. Only I myself and the faculty supervisor mentioned above will have access to this information. Would you possibly answer the following questions please? Your efforts in this respect are highly appreciated in advance.

1. In your experience, where do research questions typically occur in RAs in our field (i.e., applied linguistics)?
2. Is there allowable variation in where research questions can occur in RAs in our field?
3. Can you speculate on why research questions should appear in the section of RAs in our field that you mention above?
4. How would you typically evaluate an RA in our field that didn't include research questions.
5. Should research questions appear as early as possible in RAs? For example, should they appear in paper Abstracts? Can they appear at the beginning of the Method section?
6. In your experience in what order do the constituent steps of Method section in RAs appear?

**Thank You**