Iranian post-graduate students' problems in writing academic research articles

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Abstract

Due to the importance given to the RAs as the preferred medium of exchanging knowledge among members of the academic community, a substantial body of research has been dedicated to explore the writers' problems encountered in writing or publishing the RAs (Braine, 1995; Flowerdew, 2000; Li, 2006). Although, Iranian post-graduate students (IRPGS), like other non-native English language users, are most often seen to have difficulties in providing a well-written piece of research for publication, to date, few, if any, studies have investigated their difficulties in RAs' writing for publication in established journals. To this end, a corpus of IRPGS' rejected articles for publication was analyzed guided by a developed evaluation checklist to pinpoint their main difficulties. Furthermore, a sample of 180 Iranian post-graduates filled out a questionnaire containing in-depth details on the basic principles of doing and writing research papers so as to identify their main challenges in this respect. Through the questionair, subjects' perceptions regarding observing RAs' conventions were, also, evaluated. Analysis of the IRPGS' rejected articles revealed that the writers had the poorest performance in writing the RAs' Literature Review. The results of the questionnaire revealed that the respondents reported writing the Discussion section as their major concern in research writing process. There were some similarities and differences between the writing problems

identified both in the analysis of the corpus and the perceptions of the subjects answering the questionnaire. Finally, the respondents demonstrated a moderate level of awareness concerning observing the RAs' standard structure and maxims.

Key words: academic writing, academic research articles, Iranian post-graduate students

1. Introduction

As Flowerdew (1999) points out, Research Articles (RAs) constitute the preferred medium of exchanging knowledge among members of the academic community. More importantly, thanks to the significance of English, as a lingua franca, this is the language that needs to be employed by both native and non-native English speaking researchers in order to announce the findings of their studies to the global readership (Mirahayuni, 2002). In addition to the pivotal role in communicating in discourse communities, Research Articles bear their unique language which distinguishes different disciplines from each other (Williams, 1998).

An overview of the elements and components that distinguish scientific RAs from non-scientific ones reveals *rhetorical moves* (Swales, 1990) and some lexico-grammar features including *academic vocabulary* (Hyland & Tse, 2007), *verb tense* (Salager-Meyer, 2001), *voice* (Matsuda & Tardy, 2007), *pronoun* (Hyland, 2001), and *citation* (Bloch & Chi, 1995) among the main involved factors. As a result, the scholars' success, be they native or non-native speakers of English language, in publishing RAs is directly related to their ability in considering and observing these integral rules of RAs. However, even highly proficient language users may have problems in writing academic discourse (Dudley-Evans, 1986). This problem is more complicated for English non-native authors, because as Swales (1990) asserts papers with evidence of nonstandard English are more subject to rejection than papers apparently written by native English speakers.

These problems can be analyzed from a variety of perspectives, taking different procedures, e.g. utilizing top-down and bottom-up techniques. In a top-down procedure, the writers' problems are mostly identified through interviewing or conducting survey to elicit necessary relevant information from the writers' standpoints (e.g. Al-Khasawneh, 2010; Duszak & Lewkowicz, 2008; Okamura, 2006; Sahakyan & Sivasubramaniam, 2008; Yeh, 2010). Okamura's (2006) interview with 13 Japanese students demonstrated that increase in their writing experiences results in solving their rhetorical problems in English; however, lack of vocabulary remains as their major problem. Similarly, Duszak and Lewkowicz's (2008) survey of Polish scholars in the fields of applied linguistics and foreign language studies, psychology, and medicine demonstrated the problems with language as the main findings. The writing difficulties for Armenian (Sahakyan & Sivasubramaniam, 2008), Taiwanese (Yeh, 2010), and Arab students (Al-Khasawneh, 2010) have been investigated. Armenian scholars reported language proficiency and lack of material resources as their main difficulties. The results of study on four first-year Taiwanese EFL graduate students determined selecting a topic and reviewing the literature as the major concern of the respondents. Moreover, vocabulary register, organization of ideas, grammar, spelling, and referencing perceived as main problems of Arab students in College of Business at Utara University of Malaysia.

Specifically for the Discussion section, Bitchener and Basturkmen (2006) carried out a study to explore students' difficulties in writing the thesis and examined the extent to which the students' perceptions were consistent with those of their supervisors. For the purpose of the study, in-depth interviews with four supervisor–student pairs were employed. The findings demonstrated that students had a more limited perception of the function of the discussion section as compared to their supervisors; there were little common perception between the supervisors and the students about the nature and cause of the students' difficulties; and students recognized limited proficiency as the main cause of

their difficulties whereas three out of the four supervisors did not agree with this.

The bottom-up procedure includes analyzing and comparing the RAs written in English by both English and non-native speakers so as to demonstrate their differences (Mirahayuni, 2002; Mungra & Webber, 2010). Mirahayuni (2002) analyzed a corpus of 10 English articles written by native speakers of English, i.e. 10 English articles by non-native speakers of English (Indonesian authors), and 10 Indonesian articles written by native speakers of Indonesian. The results indicated that both the English articles written by the Indonesian authors and those ones written in Indonesian suffer from the same problems of parochialism and lack of literature review. From a rather different viewpoint, Mungra and Webber (2010) explored the most frequent types of comments made by peer reviewers that Italian researchers encounter in publishing RAs. They analyzed a corpus of 17 manuscripts submitted to English language medico-scientific journals by Italian medical researchers together with the comments by editors and reviewers. They suggested that the most frequent comments were mainly in the area of scientific and methodological content, as well as lexical and grammatical errors, clarity and verbosity or repetition.

Iranian scholars as non-native English speakers need to initiate into the academic community through acquiring not only the necessary language proficiency but the genres specific to these communities. However, they often fail in so doing and cannot publish the findings of their research in well-known and refereed journals. As Amirian, Kassaian, and Tavakoli (2008) affirm their failures stem from ignoring the generic schemata and conventions associated with English RAs. A limited number of studies have attempted to explore the Iranian scholars' problems in writing and publishing RAs. Bahrami and Riazi (2009) examined the attitudes, problems, and strategies of Iranian scholars in publishing papers in English international refereed journals. A sample of 72 faculty members from fields of Sciences, Social Sciences, and Art and Humanities were interviewed and the compiled data were categorized into two main branches, i.e. hard and soft sciences. They concluded that the hard science scholars' main language

problems were with writing "introduction" and "discussion" sections, while soft sciences reported lack of fluent expressions and argumentative skills as their main concerns; revising and editing the written articles were found as the difficulties of both groups as well. Regarding the language problems, small-size vocabulary, punctuation and inadequate structures were among the main identified problems.

Shomoossi and Kooshan (2011) investigated the problems Iranian scholars experience at every stage of writing RAs. They interviewed four low-published and four rather high-published authors in a major medical university in Iran to decipher their utilized strategies and faced problems in three stages of doing and writing research, i.e. pre-preparation, preparation, and post-preparation sages. They reported financial problems, team work, leadership, intrinsic motivation and the weak English knowledge of the researchers as the main difficulties encountered in the first stage. Regarding the preparation stage, the accuracy of expression, using the structure and composition of similar articles and problems of plagiarism were the main reported concerns. Submitting articles to international journals and lack of such experiences in low published authors were the major difficulties the respondents encountered in the third stage.

Due to the fact that the conducted studies in the Iranian context have employed only qualitative methods, the investigations were restricted to a small number of scholars. Furthermore, as another shortcoming, they have not included post-graduate students in their studies; these shortcomings are intended to be tackled in the present study to extend literature on this topic.

2. Purpose of the Study

In view of academic regulations in Iran, like many other countries, post-graduate students are required to publish the findings of their theses and dissertations in the established journals. Furthermore, as Morisano et al (2008) state "the number of publication credits is now a key criterion for students' acceptance to advanced study, postdoctoral opportunities, and internship placements, as well as for

the receipt of scholarships, fellowships, grants, and employment" (p. 49). In spite of the important role of publishing RAs, Iranian post-graduate students, like other non-native English language users, are most often seen to have difficulties in providing a well-written piece of research article for publication. It seems that there are few studies, if any, which have analyzed the Iranian post-graduate students' problems in writing RAs. In addition, exploring students' perceptions as NNSE researchers is another significant issue which requires more in-depth inquiries. To bridge these gaps, the present study pursues the purpose of clarifying the problems Iranian post-graduate students encounter in writing RAs in terms of rhetorical structures and linguistic features from their own perspectives. Accordingly, the following research questions guide this study:

1. What are the Iranian post-graduate students' main problems in writing RAs?
2. How do the Iranian post-graduate students perceive their own problems in writing RAs?

3. Methodology

To seek answers to research questions, the study was conducted in two phases. In the first phase, a corpus of the Iranian post-graduate students' rejected articles was assessed guided by a developed evaluation checklist. The second phase of the study includes carrying out a survey to investigate the Iranian post-graduate students' problems and perceptions regarding writing academic research article.

3.1 Bottom-up phase

This phase of study consisted of an in-depth analysis of 24 rejected research articles of post-graduate students in four disciplines;

Applied Linguistics, Chemistry, Agriculture, and Medical Sciences. The purpose of this phase was to scrutinize these articles to pinpoint the violated maxims and conventions integral to scientific research articles. The main utilized instrument for this aim was an evaluation checklist designed on the basis of dependable journals' evaluation checklists and theoretical frameworks including Swales' (1990) CARS model for the moves and steps of Introduction section, Swales and Feak (2004) model for the moves and steps of Discussion section, and Nwogu (1997) model for the rhetorical moves of RAs.

3.2 Top-down phase

3.2.1 Pilot study

At the first step of developing the instrument, a pilot study was conducted with a group of 21 post-graduate students in Ilam and Khouzestan provinces of Iran; a questionnaire encompassing open-ended items on the problems of writing RAs with respect to the different parts of a research article was distributed among post-graduate students. Having prepared the final close-ended questionnaire on the basis of the first step results, it was also piloted on 35 post-graduate students, relatively close to the profile of the target population to evaluate the quality of the close-ended questionnaire and also gather data to calculate the reliability index. Besides completing the new developed questionnaire, the participants were also asked to make comments on the clarity of the questions.

3.2.2 Participants

A total of 180 post-graduate students from six universities of Ilam and Khouzestan provinces- Iran, participated in this study. The majority of participants were female, i.e. 63% and the rest, i.e. 37% were male students. They were both master and doctorate students majoring in different fields of study. The rationale behind incorporating those who have not yet published RAs in the sample of this study lies in the fact that though they might not have

managed or even have not taken measure to publish articles, definitely they are aware of or even involved in the actual process of writing and preparing a piece of research article. In fact, they are expected and trained to become familiar with doing research and writing a research paper as the requirements that should be fulfilled for most of the courses. The distribution of participants with respect to their educational level and RAs' publishing experience has been presented in Table 1. The participants were recruited by convenience sampling for the reasons of availability to the researchers and saving the time for making special arrangements within such a limited time.

Table 1: Frequency of participants based on their educational level and RAs' publishing experience

Educational level RAs	Prior experience of publishing Total		
	Yes	No	
Master	46	87	133
Doctorate	38	9	47
Total	77	103	180

3.2.3 Instrumentation

The instrument used in this phase of the study consisted of 37 items on different structural, organizational, rhetorical, and methodological problems post-graduate students face. The items were formulated based on the results of a pilot study, deep analysis of 24 rejected articles of Iranian post-graduate students, i.e. the findings of phase one, as well as several dependable theoretical frameworks and evaluation checklists available in the literature. The designed questionnaire consisted of three sections; in the first section, the respondents' bio data were included in terms of gender, level of study, prior experience in the publication of articles, and field of the study. The second section included 15 multiple-choice

items which ask the participants to verify their main problems for each component of the research article. The third part of the questionnaire was developed to evaluate respondents' perceptions of observing the requirements for writing and publishing RAs by Iranian post-graduate students. The items of this part were on a five-point Likert-type scale from 1 (Not at all aware) to 5 (Extremely aware). To ensure the validity of the questionnaire, its content was mostly elicited from evaluation checklists of several prestigious journals in different fields. Furthermore, three Ph.D. holders in TEFL with a high number of publications were asked to technically evaluate and modify the structure and content of the questionnaire in terms of clarity and precision of language. The Alpha Coefficients estimated based on a 35-student sample were 0.81 for the second section of the instrument, i.e. multiple-choice items and 0.89 for the Likert-scale part. The questionnaire was prepared in Farsi to guarantee the respondents' full understanding of the items.

3.2.4 Procedure for data collection and analysis

The first pilot study with a questionnaire containing open-ended items was conducted on February 2011; after developing the first draft of questionnaire including close-ended and Likert-scale items, it was also piloted on April 2011. Data collection for the formal study was held on June 2011. The prepared questionnaire was distributed in different faculties of six universities in Ilam and Khouzestan provinces- Iran. There was no time limit to completing the questionnaire. To increase the credibility of the responses, the researchers reminded students to be sincere in their answers. The researchers were present during the completion of questionnaires to answer the participants' questions and eliminate probable misunderstanding and misinterpretation. Furthermore, the researchers collected all the questionnaires personally, so all the distributed questionnaires were returned. In order to analyze the obtained data out of multiple-choice items, Descriptive Statistics in the form of Frequency and Percentage were computed. Chi-square technique, with a significance of $P<0.05$, was also run to identify

whether there were meaningful differences between the obtained frequencies. For the second section in which the items were on a five-point Likert-scale, Mean and Standard Deviation were calculated.

4. Results and Discussion

Taking research questions into account, this study aimed at investigating two important issues. The first objective was to identify the main problems of the Iranian post-graduates in writing RAs. The second question aimed at exploring the post-graduate students' perceptions regarding observing the integral maxims and rules of RAs. For these purposes, different facets of doing research and publishing the results were studied and necessary information for formulating the items of questionnaire was extracted out of several reliable established theoretical frameworks. Furthermore, the evaluation checklists of some quality journals were drawn on so as to incorporate the essential criteria for RAs publication.

As it was elaborated earlier, bottom-up phase of the study included analysis of IRPGS' rejected articles with respect to different features of RAs' conventional sections. Analysis of rejected RAs' Titles revealed that the IRPGS need to improve their abilities in utilizing vocabulary and structures attracting the readers. For the Abstract of RAs, their major difficulty was in writing Abstract according to the conventional moves common to this section of RAs; this was also appeared in the analysis of the RAs' Introduction. In writing the Literature Review, the writers showed the poorest performance compared with the other RAs' sections. The writers' major problems in writing Literature Review were in critical reviewing of the previous research.

The writers of rejected RAs achieved the highest scores in the Methodology section among the RAs' parts. For most of the Methodology features, the calculated mean scores were almost two-third of the total possible score. In writing Methodology of RAs, the writers' performance reflected that they should be more careful about describing the sample and its necessary features and include

the required explanations. Based on the analysis of the Results and Discussion of the articles, the authors had less difficulty in presenting the obtained results in the form of tables and graphs. The writers demonstrated some weakness in discussing the findings of the study which supports the urgent need to develop the students' argumentative ability. This lack of ability can be attributed to what Gosden (1992) refers "clearly and correctly expressing the ideas" which is a challenging objective for NNES novice research writers to achieve (p.35). With respect to the Conclusion of the RAs, the writers had the highest performance in presenting a summary of the study. It seems that they need to improve their writing in expressing the implications and limitations of the study and also indicating topic for further research.

The analysis of rejected articles of IRPGS led to the development of a profile of problems in writing academic research articles. These problems have been categorized from the most important to the least ones for the conventional sections of RAs (Table 2). The criterion for this classification was the Mean scores given to different features of the rejected RAs' sections.

Table 2: Profile of IRPGS' problems obtained out of the bottom-up phase of the study

Sections	Problems
Title	Captivating the readers' attentions
	Referring to the involved variables and theories
	Contains a problem or hypothesis for exploration
	Having consistency with the content
	Having relevance to the subject discipline
Abstract	Containing rhetorical moves common to RAs

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Introduction	Including the adopted methodology Indicating the research purposes Stating a brief of the results and discussion
Review of Literature	Written coherently with observing moves Containing the underlying theories of the study Stating the objectives of the study Presenting conceptual definition of key variables
Methodology	Critical review of studies Demonstrating the historical development of topic Reviewing the most recent relevant studies Utilizing seminal books and articles
Results and Discussion	Explaining sample selection and features Presenting the procedures of data collection
Conclusion	Describing Methodology with enough details Elaborating on the facets of the instrument (s) Reporting the statistical procedure to data analysis
	Discussing the results relevant to research question(s)

	Elaborating on the presented results
	Employing tables or charts to present the results
	Theoretical or practical implications of research
	Suggestions for further research
	Limitations and shortcomings of the study
	Brief explanations of the study and the conclusion(s)

The results of the top-down phase of the research have been summarized in tables below and classified according to the focus of the questions including the problems in typical requirements of research/writing process, different sections of RAs, and general language knowledge. The data related to each feature was expressed in terms of percentage to facilitate the task of comparison among the selection of choices. Furthermore, to investigate whether the obtained differences in the frequency of responses to each question is statistically significant or not, a One-way Chi-Square was run for each item.

The participants' main obstacle to doing research and publishing their obtained results was found to be the development of the findings of the study in line with the standards of the established journals. With respect to preparing the content of RAs, it was found that ordering and managing the collected information through the study of relevant sources as well as reading the materials critically were the main challenges of the respondents. The participants reported writing the Discussion section as the main difficulty among the conventional sections of RAs. This can be an indication of their lack of ability in making arguments that is mostly due to the difficult and argumentative nature of the Discussion section; the same results have already been reported by Cooley and Lewkowicz (1995). The participants also showed that they do not tend to study the previous research meticulously and critically to come up with

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their shortcomings. The results displayed in Table 3 provide the evidence for their problems in identifying the gaps in the available literature (40%) to select the research topic and their inability in critical review of previous studies (30%).

Table 3: Results of items regarding Requirements, Content, Conventional parts, and Topic of RAs

Items	Related-Factors	Frequency of problems	Percentage (%)	Chi-Square
Requirements for doing and publishing research	Content	48	26.6%	
	Research Method	18	10%	Df 4
	Writing RA	78	43.5%	
	RA's Genre	15	8.3%	Sig.
	Submission	21	11.6%	.03*
RAs' content	Command of topic	6	3.3%	Df 3
	Selecting Sources	24	13.3%	
	Critical Study of Sources	54	30%	Sig. .00*
	Managing Collected Information	96	53.4%	
Conventional parts of RAs	Abstract	12	6.6%	
	Introduction	6	3.3%	
	Methodology	30	16.9%	Df 5
	Results	18	10%	
	Discussion	102	56.6%	
	Conclusion	12	6.6%	Sig. .00*
Issues of selecting	Knowledge of state of the arts	66	36.8%	Df 3
	Access to	30	16.6%	Sig.

research topic	databases			.01*
	Search in databases	12	6.6%	
	Finding gaps	72	40%	

According to the findings presented in Table 4, about one half of the post-graduates had difficulty in writing a Title which interests the readers to continue. This can be an indication of their insufficient language proficiency in using the eye-catching vocabularies and composing attractive structures. With regard to writing the Abstract of RAs, the responses were more distributed, showing that writing the synopsis of the whole study makes variant demands for different writers. This was also true for writing different moves of the Introduction of RAs. It was in line with the findings of the study on Hong Kong scholars which determined rhetorical or discursive structures as their main concern in writing Introduction section (Flowerdew, 1999).

Table 4: Results of items related to Title, Abstract, and Introduction of RAs

Items	Related-Factors	Frequency of problems	Percentage (%)	Chi-Square	
RAs' Title features	Including related variables	54	30%		
				Df	3
				Sig.	.00*
	Title relatedness to field	36	20%		
	Summarizing in limited words	6	3.4%		
	Eye-catching title	84	46.6%		

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RAs' Abstract features	Topic generalization	12	6.6%		
	Presenting gap	72	40%	Df	5
				Sig.	.01*
	Rationale behind study	6	3.3%		
	Research purpose	42	23.3%		
	Indicating results	0	0%		
	Discussing the results	48	26.8		
RAs' Introduction features	Establishing territory	12	6.6%	Df	5
	Describing theoretical bases	48	26.6%	Sig.	.03*
	Importance of the study	72	40%		
	Problem statement	6	3.5%		
	Research purposes	0	0%		
	Research limitation	42	23.3%		

For the writing of RAs Literature Review, the major problem of IRPGS was in bridging the gap between presenting previous research and the current study (Table 5). This can be an indication of the fact that they cannot present their study in the way which improves previous research and eliminates their limitations. In Yongyan' s (2006) study, Chinese doctoral students as NNES research writers also had difficulty in reviewing and synthesizing the relevant literature thoroughly, precisely, and logically.

Moreover, with regard to using sources and referencing, the majority of IRPGS like the Armenian scholars (Sahakyan & Sivasubramaniam, 2008) reported finding seminal sources as their main problem. Due to the fact that in these two countries, English is a foreign language, English-language books and articles are still less available. Furthermore, their problems in findings related sources can be attributed to their inability to search effectively in the scientific databases. This can also include their unfamiliarity with the internet search engines.

   In the case of writing Methodology, a substantial percentage of the respondents (60%) found their main concern in writing this section in presenting methodology with details and in the manner replicable in similar studies. This means that they cannot provide sufficient explanation which seems most likely due to their difficulty with the writing in English language. Yongyan (2006) found the same results for Chinese doctoral students. These students reported "adequately describing the experimental process" as one of their main difficulties in the academic writing process (p.136). She associates this problem with their lack of the knowledge of the specialist literature which results from insufficient reading of related research.

Table 5: Results of items related to Literature Review and Methodology parts of RAs

Items	Related-Factors	Frequency of problems	Percentage (%)	Chi-Square
	Historical development of topic	12	6.6%	Df 3
RAs' Literature Review features	Coherent review of studies	36	20%	Sig. .012*
	Critical	54		

	review of studies		30%	
	Relating research to previous studies	78	43.4%	
Using and referring to sources	Finding latest sources	84	46.6%	Df 3
	Avoiding plagiarism	30	16.8%	Sig. .00*
	Referencing	12	6.6%	
	Making coherence among sources	54	30%	
RAs' Methodology features	Writing methodology with details	108	60%	Df 4
	Describing participants	12	6.6%	Sig. .02*
	Describing instrument(s)	18	10%	
	Explaining data analysis procedure	42	23.3%	

Exploring the IRPGS' problems in writing Results section of RAs revealed that participants had not many problems in presenting their findings in tables or graphs and discussing them (see Table 6). On the other side, 70.5% of them reported that comparing their own findings with similar studies is difficult. Mirahayuni (2002) relates this point to the lack of critical reading ability and understanding the roles of references in text construction. Regarding Discussion

section of RAs, the respondents' main problem was in contextualizing their studies. On the basis of Swales and Feak's (2004) framework, this can be accounted for with neglecting some integral moves of Discussion section, including making a description of the established knowledge and generalizing the findings of the study to a broader domain. For the Conclusion section of RAs, although there was convergence in distribution of choices, presenting the implications of the study at both theoretical and practical levels received the highest percentage which can be connected to the lack of well-grounded knowledge on the theoretical bases of their studies.

Table 6: Results of items related to Results, Discussion, and Conclusion parts of RAs

Items	Related-Factors	Frequency of problems	Percentage (%)	Chi-Square	
RAs' Results features	Presenting data in tables and graphs	11	6.1%		
	Discussing the results	18	10%	Df	3
	Discussing results related to research question	24	13.3%	Sig.	.00*
	Comparing results to similar studies	127	70.5%		
RAs' Discussion features	Contextualizing the study	87	48.5%		
	Referring to previous studies	6	3.3%	Df	4
				Sig.	.012*
	Making claims	54	30%		
	Limitation of study	12	6.6%		
	Making contribution to the field	21	11.6%		
RAs'	Summarizing the study	42	23.3%	Df	3

Conclusion features	Implications of the study	66	36.6%	Sig.	.00*
	Limitations of the study	12	6.6%		
	Suggestions for further research	60	33.5%		

The questionnaire also aimed at assessing the major problems of the participants in terms of general language knowledge encompassing grammar and structure, and vocabulary. Composing complex and compound structures through the writing of the RAs was their main constraint with respect to grammar and structure. Interestingly, Chinese doctoral students also found writing long and complex sentences difficult (Yongyan, 2006). Selecting the appropriate collocations of words were their utmost problems regarding employing appropriate vocabulary in writing the RAs. McCarthy (1990) believes that "competence of collocation knowledge belongs to native speaker's intuition" (p.15). He argues that since most of EFL students live outside English-speaking countries, their teachers are also non-native English speakers without sufficient competence in this area. Therefore, these teachers are unable to teach collocation knowledge to their students and consequently these students cannot utilize it even at advanced levels.

Table 7: Results of items related to General Language Knowledge

Items	Related-Factors	Frequency of problems	Percentage	Chi-Square	
	Basic sentence structure	6	3.3%		
Important Grammar and	Verb tenses	18	10%	Df	5
	Active and passive voices	36	20.1%	Sig.	.00*

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Structure factors	Complex and compound structures	90	50%		
	Employing determiners	12	6.6%		
	Prepositions of verbs and nouns	18	10%		
Important Vocabulary issues	General vocabulary	6	3.3%	Df	4
				Sig.	.00*
	Technical terminology	42	23.3%		
	Collocation	74	41.1%		
	Discourse and metadiscourse markers	58	32.2%		

To answer the second research question, the respondents were studied on the extent they observed the maxims and conventions common to academic RAs. On the basis of the calculated mean scores, the respondents demonstrated a moderate level of awareness for most of the RAs' conventions. Although they reported low awareness in six items with the mean of 2, there was no item for which they had low awareness (M=1).

5. Conclusion

The Iranian post-graduate students' problems in selecting research topic and writing RAs' Literature Review revealed their lack of critical reading and writing ability. In both of these cases, they depicted that they do not read and review the previous research

critically to come up with their shortcomings as the leading point to the topic of their own research. Therefore, there is an urgent need to present effective courses and workshops to promote the scholars' critical competency which is of immense importance in the procedure of conducting research and reporting the findings to the global readership. Another related issue that needs to be dealt with is improving the Iranian post-graduate students' argumentation skills. This was found in the participants' difficulties concerning writing the Discussion section of RAs. Flowerdew (1999b) attributes the difficulty of this section as well as the Introduction/Literature review to the "persuasive style" of writing these sections in which the authors need to convince their readers with their own argumentations (p. 258). Finally, the constraints the Iranian post-graduate students suggested in this study with writing the research articles in general and some facets, e.g. Title, in particular, suggest that these students similar to their NNSE peers experience limited language proficiency which requires longtime and persistent attempt to overcome.

The findings of this study have both theoretical and pedagogical implications for foreign or second language learning, foreign/second language writing, and particularly teaching of English for Academic Purposes (EAP). At the theoretical level, since the employed questionnaire to examine respondents' problems and perceptions was prepared on the basis of the established frameworks and evaluation checklists of prestigious journals, the results can serve as useful reference for depicting and understanding similar situations outside Iran involved in advanced academic writing or writing for publication in English. At the practical level, awareness and understanding of the criteria and key issues relevant to conventional sections of academic manuscript provide insight into standards that authors and particularly NNSE researchers must meet to promote the quality of their papers and improve the chances of publishing in quality and prestigious journals. The results of this study can also be effective in designing tasks and materials for teaching English language writing which focus not only on grammar but on the critical reading and writing, integral rhetorical

structures, and linguistic features of RAs at both B.A. and M.A. levels. In addition, owing to the fact that some of the IRPGS' problems in writing RAs were related to the methodological issues, the findings can also help to enrich the materials presented in Research courses.

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