

A Comparative Study of Abstracts Written by Male and Female Native vs. Nonnative Researchers: Length and Organization in Focus

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Abstract

The present research was conducted in order to investigate if there was any significant difference between abstracts written by native (N) English speakers and abstracts written by Iranian nonnative (NN) speakers of English based on Swales' (1990) IMRC model. Investigating the possible differences between abstracts written by male vs. female N and NN speakers of English was a further aim in the present study. To achieve these objectives, a total of 140 research papers were randomly selected from the journals published in the field of English Language Teaching in 2014 and 2015. The papers were divided into two categories: 70 papers written by Iranian authors as NN English writers and 70 papers written by N English writers. The four-move theory of IMRC developed by Swales (1990) was used to examine the abstracts. The findings showed that in terms of number of words, the male N authors wrote wordier abstracts compared with male NN authors. On the contrary, the number of words used by NN female authors were more than the number of words used by female N authors. In addition, the number of words used by female authors in both N and NN corpora were more than that used by male N and NN authors. Statistically speaking, the results of Chi-square tests showed that there were significant differences between the number of words used by N and NN male authors on the one hand, and N and NN female authors on the other. Finally, the results of the move analysis of the corpus under study, using Swales' (1990) model, revealed that this model was followed only in fourteen NN abstracts and 16 N abstracts.

Key words: Swales' IMRC model, abstract, native/nonnative authors, move analysis, length, organization, gender

INTRODUCTION

Research articles and papers along with theses and dissertations usually have an abstract at the beginning. Lores (2004, p. 281) states that the abstract is a noteworthy section in academic research since this excerpt of writing opens a way to the reading of

a research article or a thesis. The abstract is of crucial importance because most probably it is one of the first things a reader looks at. An abstract gives the readers the chance to check the results of a writing in a quick glance. Abstracts enable readers to decide whether to read the work or not. Cooley and Lewkowicz (2003) state:

The abstract is a summary of the text and it informs readers of what can be found in the dissertation. Although it is the last part of a dissertation to be written, it is generally one of the first a reader will look at. Indeed, if the abstract is not well written, it may be the only part of the dissertation a reader will look at. (p. 8)

Students should learn how to write an abstract when they write a research article or a thesis while they are studying at postgraduate level. Most of the articles, theses, and dissertations are prefaced by an informative abstract, which contains a "factual summary of the much longer report, and is meant to give the reader an exact and concise knowledge of the full dissertation" (Bhatia 1993, p. 78). Salager-Mayer (1992) believes that the genre of abstract is a unique class of discourse which intends to express realistic new information. The abstracts have a key role in reading since they provide readers with the decision to read the article or not (Busa, 2005) and give researchers a sufficient view of whether a longer text is worth reading. In the same vein, Martin-Martin (2003, 2005) states that abstracts save the time through revealing the content of the article. According to Martin-Martin (2005, p. 67), abstract provide answers to the following questions: "What was the general purpose of the study? What was the particular aim of the study? Why was the study carried out? How was the study carried out? What did the study reveal?"

A common framework for abstract includes these sections: background, purpose of the study, the research methodology, and the results and findings of the study. Abstracts are considered to be "advance indicators of the content and structure of the following text." (Swales 1990, p. 179). Writing thesis or dissertation in addition to writing and publishing articles in all fields including TEFL is a necessity for post graduate students. All of these publications have abstract. Nearly all journals need the articles to be accompanied with an abstract up to 250 words. Post graduate students usually have difficulty writing an abstract. This can be due to the fact that abstracts should be as informative as possible and they should contain certain pieces of information.

Most of Iranian post graduate students are not familiar with the genre of abstract, and this leads to many problems in jotting down an abstract. Having students work on the structure of the abstracts is a technique which can be of great positive effect for Iranian post-graduate students.

This being so, not many studies have so far been conducted to elaborate on the rhetoric structure of their abstracts, and to consider gender differences in this regard. Thus, this study tried to fill the gap and compare some abstracts written by English native and nonnative authors, and examine the possible differences between the abstracts written by male and female writers. In fact, the present study intended to answer the following research questions:

1. Is there any significant difference between abstracts written by native English speakers and abstracts written by Iranian nonnative speakers of English in terms of gender?
2. Is there any significant difference between abstracts written by native English speakers and abstracts written by Iranian nonnative speakers of English based on Swales' (1990) IMRC model?

LITERATURE REVIEW

The genre of abstract needs to be explored deeply, and thus some studies have compared the abstracts written by authors with different language backgrounds. As a case in point, the in the study by Nasser and Nematollahi (2014), the researchers investigated the genre of abstract in terms of the generic structure and compared Iranian's and natives' MA thesis abstracts. They analyzed the abstracts in terms of five moves including: "situating the research, presenting the research, describing the methodology, summarizing the results, and discussing the research. The last move, "discussing the research", with some variation was common between the two groups. They also concluded that in abstracts both N and NN authors tried not to include their identity in their theses.

In other studies, different models have been used to investigate the rhetoric structure of abstracts. For example, Ismail and Mohamed (2014) investigated the rhetorical structure of the abstracts of the Islamic research articles written for research papers about different topics in Islam. They chose 100 abstracts from five Islamic journals. They intended to investigate if these abstracts followed or deviated from Swales' IMRD (Introduction-Method-Results-Discussion) model. It was shown that only a small number of the abstracts followed this model. They also analyzed the abstracts using the CARS (Create a Research Space) model. The results also showed that most of the Introduction sections of the abstracts themselves had all the moves prescribed by the CARS model. However, only a small number of abstracts followed the linear order 1-2-3.

In the same vein, Talebinezhad, Arbabi, Taki, and Akhlaghi (2011) studied the structural variations in the translated abstracts from Persian into English and compared them with abstracts originally written in English and published in international journals of medical sciences. They compared 64 medical articles according to Swales' (1990) model. They also analyzed the Introduction section based on CARS model (Swales, 1990). The researchers found the IMRC (Introduction, Methods, Results, Conclusion) sequence to be the structural conventions for the analysis. The results showed that in terms of structural units, there was a significant difference in using the Methods unit between the two groups of abstracts ($p = 0.002$). It was shown that the translated abstracts were based on the criteria for scientific writing while the original ones were not.

In a similar study, Al-Ali and Sahawneh (2011) investigated the rhetorical and linguistic variations between English and Arabic abstracts. Fifty English PhD dissertation abstracts written by English native speakers and fifty Arabic PhD dissertations written

by native Arabic speakers were studied using Swales' (1990) CARS model and Bhatia's (1993) IMRD move structure. Some variations were observed in generic structure preferences in terms of the type and frequency of moves. They concluded that the observed rhetorical variations are because of sociocultural and academic expectations. They also stated that the differences in linguistic realizations like voice and tense are because of linguistic differences between the two languages or to academic practice.

In a similar attempt, Salmani Nodoushan (2011) compared the move structure of Iranian MA graduates' thesis discussions with the discussions authored by non-Iranian writers of journal papers. He also tried to identify the moves that are considered obligatory, conventional, or optional by Iranian MA graduates. Results indicated that there was a significant difference in the move frequency of the discussion section of MA theses written by Iranian versus non-Iranian EFL students. There was also a significant difference in the move frequency of the discussion sub-genre of MA theses written by Iranian EFL students and the discussion subgenre of journal papers published in internationally recognized applied-linguistic journals. Obligatory, conventional, and optional moves were also identified. Similarly, Pezzini (2010) analyzed the rhetorical structure and moves related to linguistics and translation studies abstracts based on Swale's (1990) model. Eighteen abstracts were investigated, and the results showed a common IMRD framework. Simple present tense was mostly used, and active and passive voices were used identically.

The structure of abstracts has also been investigated in terms of academic style. As an instance, in the study by Terzi and Arsalanturk (2014), they evaluated English abstracts of MA and PhD dissertations published in Turkish language and identified translation errors and problems concerning academic style. The corpus consisted of 90 abstracts of MA and PhD dissertations. The abstracts were analyzed based on translation problems and academic discourse and style. They found that Turkish-speaking researchers rely on their translation skills while writing their abstracts in English. However, results of the analysis of rhetorical moves did not indicate great differences in terms of the move structures.

In another study, Khasseh and Biranvand (2013) compared the structured abstracts with the unstructured ones based on content comprehensiveness and also observed the items in APA manual. Abstracts taken from journals like *Faslname-ye Ketab*, *Journal of Academic Librarianship and Information Science*, *Library and Information Science Quarterly*, *Ganjine-ye Asnad*, and *Research on Information Sciences & Public Libraries* were used to collect the needed data. They used a content analysis method to analyze their data. Around 49.4% of 245 abstracts were structured and 50.6% were unstructured. The score mean for structured abstracts was higher than unstructured ones. They found that the structured format increases the quality of abstracts. Hartely (2007) also found that the structured abstracts had more details compared to the unstructured abstracts. In a similar vein, Budgen, Burn and Kitchenham (2011) concluded that the structured abstracts were more comprehensive than the unstructured one. Only 15.79 % of the unstructured abstracts had

comprehensiveness and clarity while 85% of the structured abstracts had good condition.

Martin (2003) in a study compared English article abstracts and Spanish ones and found some distinctions in the frequency of the structural units among Spanish writers. Connor (1996) believes that lack of success among nonnative writers to publish the articles in international journals is because of the ignorance of cross-cultural differences throughout the structure of articles. All these studies have greatly contributed to the field of writing. However, there are not many studies in the literature focusing on the abstracts written by English native and nonnative authors. Therefore, this paper was an attempt to contribute to the literature by providing insights into the nature of abstracts written by English native authors and nonnative authors.

METHODOLOGY

The corpus of the study

To find out reasonable answers to the research questions, a total of 200 articles were selected randomly from the papers in the field of English Language Teaching published in the proceedings of conferences during 2014-2015 within the duration of six months. After skimming the papers by the researchers, 140 articles were selected as the data for analysis. The papers were divided into two categories, 70 papers written by Iranian authors as nonnative (NN) English writers and 70 papers written by native (N) English writers. The reason for extracting those papers from the collected data was because the researchers were not sure whether the authors were N or NN and also if one author had two or more papers, only one paper was selected. In other words, the repeated names were omitted from the data. The criteria for classification of the authors as N or NN were based on their names and affiliations. Whenever needed, the authors were contacted to check their affiliation and status.

Research instrument

As the instrument, Swales' (1990) model of *introduction, method, results, and conclusion* (IMRC) was employed. Swales focused on the research article, and in particular the introduction section of the research article genre (Swales, 1990). According to Swales, "the four-part structure, IMRC, constitutes the structure of abstracts in general" (as cited in Jalilifar, 2009, p. 86).

Procedures

After collecting the papers, as stated above, IMRC was used as the coding scheme to classify the abstracts written by N and NN. Since genre analysis (the genre of abstract in this case), involves a degree of subjectivity, a PhD holder of TEFL, as the third rater was asked to identify the components of 20% of the abstracts. Then, the researchers and the third rater sat together to check the degree of conformity in their analysis. Slight differences were found, but a consensus was reached after discussing the differences. The researchers compared and contrasted the abstracts in the corpus in order to find

the similarities and differences. The obtained data were then codified and made ready for analysis and comparison.

RESULTS

Research question one

As it was stated earlier, the first research question sought to investigate the possible significant difference between abstracts written by native English speakers and abstracts written by Iranian NN English speakers of English teaching in terms of gender. To this end, 70 abstracts written by native English speakers and 70 abstracts written by nonnative English speakers were analyzed. The frequency and percentage of the abstracts in terms of the gender of the first author are presented in Table 1.

Table 1. The Distribution of Abstracts in Terms of Gender of Authors

	Male authors		Female authors	
	F	P	F	P
Native English authors	33	47.15%	37	52.85%
Nonnative authors	25	35.72%	45	64.28%

The results showed that female authors published more papers compared to male authors in both native and nonnative data (See Figures 1).

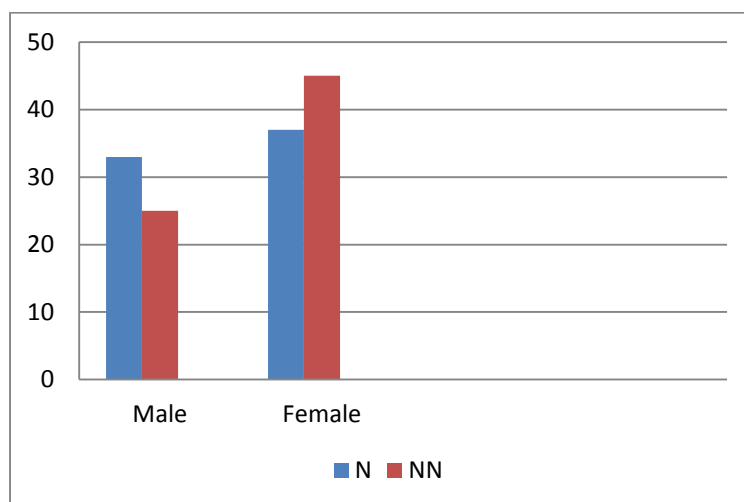


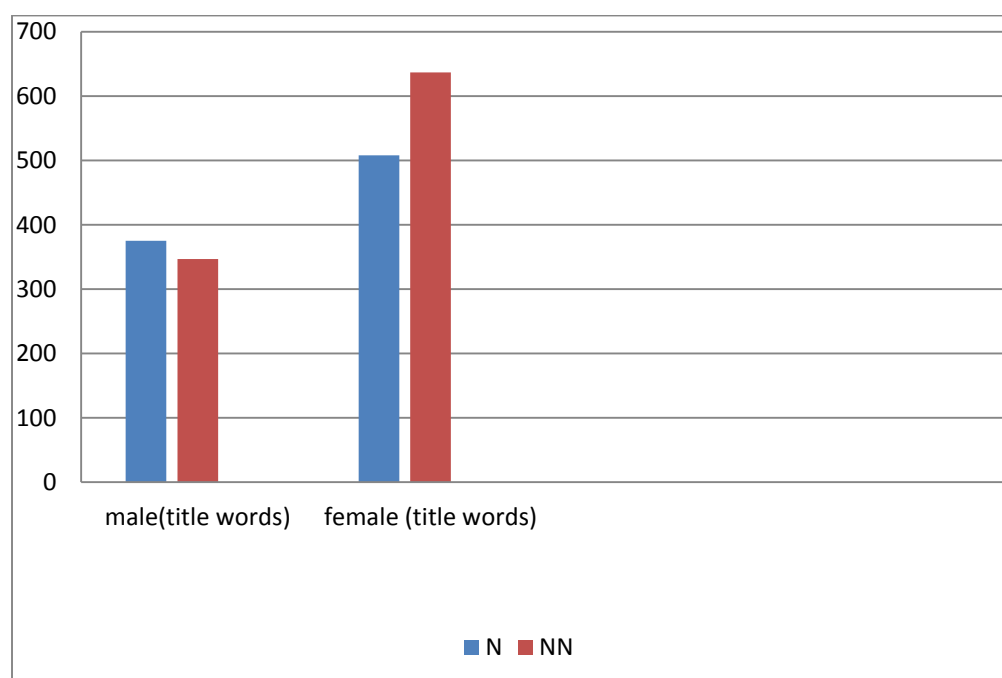
Figure 1. Distribution of Gender in Authorship in N and NN Data.

It should be noted that although female authors were more than male authors in both N and NN data, the percentage of females were higher in NN data compared to N ones. On the other hand, percentage of male authors in N data was higher than male authors in NN ones. In the next phase of the study, in order to gain a better understanding of the issue under question, the number of words of the whole corpus was counted, and the results were presented in terms of gender in Table 2.

Table 2. Comparison of Number of Words in Titles and Texts of Abstracts Written by N and NN English Speakers

	Male authors		Female authors	
	No. of title words	No. of words	No. of title words	No. of words
Native English authors	375	5092	508	6075
Nonnative authors	347	4737	637	7989

According to the statistics presented in Table 2, the number of words used in titles of articles written by native and nonnative male authors were 375 and 347, respectively. On the other hand, the female native authors used 508 words in article titles, and nonnative authors used 637 words in article titles. Figure 2 depicts the number of title words in the abstracts written by native and nonnative English speakers.

**Figure 2.** Number of Title Words in the Abstracts Written by Native and Nonnative English Speakers

Female nonnative speakers used more wordy abstract titles compared with female native speakers, while male native authors surpassed male NN authors in terms of the number of words in abstract titles. The total number of words in abstracts written by N and NN English speakers is compared in Figure 3.

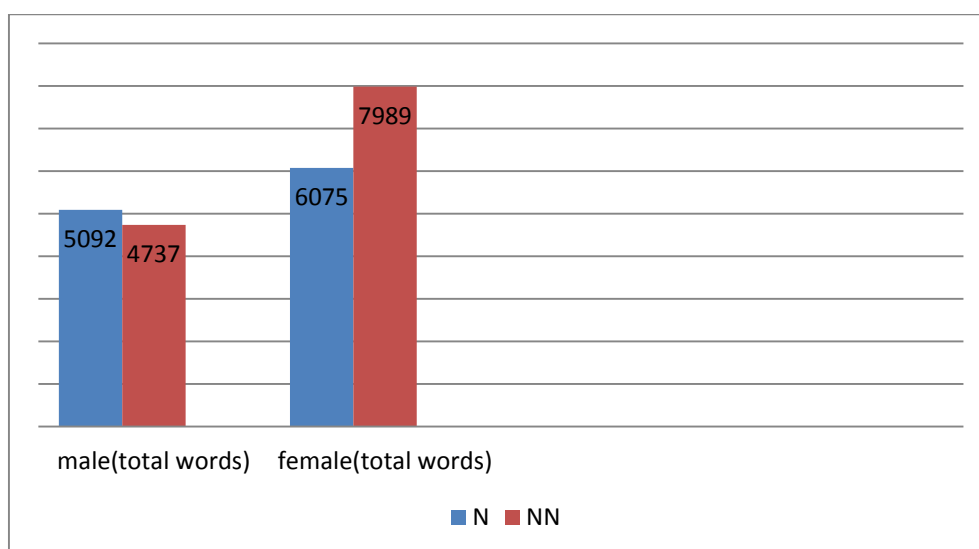


Figure 3. Number of Words in the Abstracts Written by Native and Nonnative English Speakers in Terms of Authors' Gender

In order to determine the significance/insignificance of the difference between abstracts written by N and NN authors in terms of the number of words, Chi-square test was run between the number of words used by native and nonnative male authors on the one hand, and between native and nonnative female authors on the other. Table 3 shows the results of the Chi-square between native and nonnative male authors.

Table 3. Chi-Square Test Between the Abstracts Written by N and NN Male Authors

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.20	180	.02
Likelihood Ratio	164.42	180	.79
Linear-by-Linear Association	46.44	1	.000
N of Valid Cases	55		

According to the values presented in Table 3, the significance value was 0.02, which is lower than the present level of significance ($.02 < .05$). This shows that there is a statistically significant difference between the abstracts written by native and nonnative male authors. The results of the Chi-square test between the abstracts written by female native and nonnative authors are presented in Table 4.

Table 4. Chi-Square Test Between the Abstracts Written by N and NN Female Authors

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.28	240	.000
Likelihood Ratio	207.07	240	.93
Linear-by-Linear Association	71.06	1	.000
N of Valid Cases	82		

As shown in Table 3, the significance value was .000, which is smaller than the specified level of significance ($.000 < .05$), indicating a statistically significant difference between the abstracts written by native female authors and nonnative female authors. According

to the statistics presented above, it can be concluded that there is a significant difference between abstracts written by native English speakers and abstracts written by Iranian NN English speakers of English in terms of gender.

Research question two

The second research question addressed the difference between abstracts written by N and NN English speakers based on Swales' (1990) IMRC model. To this end, the selected sample of abstracts was analyzed and the frequency and percentage of occurrence of each move was calculated. Table 5 presents the results of the investigation.

Table 5. Frequency and Percentage of Each Move in the Abstracts

	Introduction		Objective		Method		Result		Conclusion		Implication	
	F	P	F	P	F	P	F	P	F	P	F	P
NN	40	57.14%	70	100%	67	95.71%	61	87.14%	41	58.57%	18	25.71%
N	38	54.28%	68	97.14%	68	97.14%	60	85.71%	44	62.85%	24	34.28%

As it can be seen in Table 5, the move "Method" constituted the major section of the abstracts written by native and nonnative authors: This was found in 97.14% and 95.71% of abstracts of NN and N authors, respectively. "Result" was the next move with 87.14% and 85.71%, among abstracts written by NN and N speakers, respectively. As the next move with high percentage, the move "Conclusion" was found in 58.57% of abstracts by nonnative authors and 62.85% of abstracts by native authors. The move "Introduction" was found to form 57.14% of the whole abstracts by nonnative authors and 54.28% of the abstracts by native authors.

Table 6. Structure of Abstracts Based on Swales' IMRC Model

	I	IMRC	IM	IMR	IC	IR
NN	40	14	3	9	0	0
N	38	16	4	12	0	0

IMRC: Introduction, Methodology, Results, Conclusion

IMR: Introduction, methodology, Results.

IM: Introduction, Methodology

IC: Introduction, Conclusion.

I: Introduction

It was found that the IMRC model of Swales was fully followed in only 14 (20%) of abstracts written by nonnative speakers, and in 16 (22.85%) of abstracts by native speakers. Around 57.14% of nonnative abstracts utilized the move Introduction, while in the native abstracts this move was used in 54.28%. Figure 4 shows the distribution of different moves found in the abstracts written by N and NN researchers.

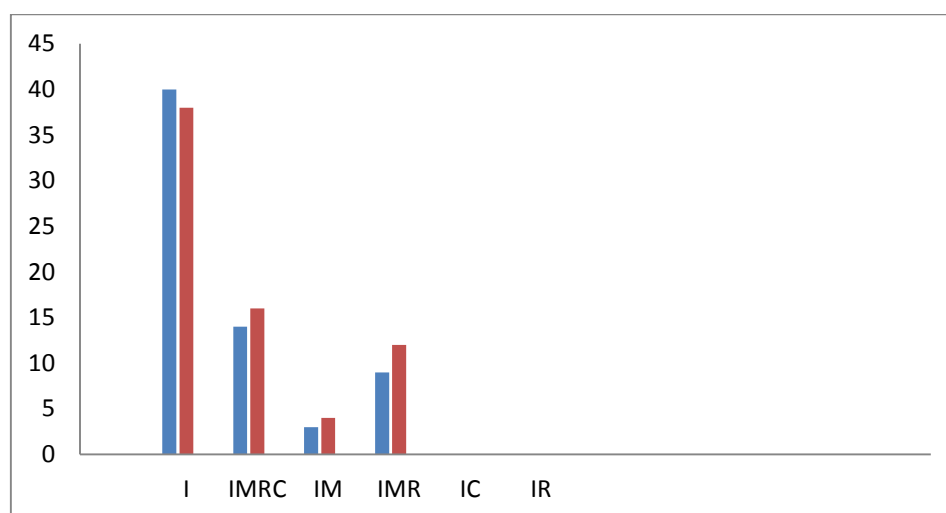


Figure 4. Structure of N and NN Abstracts Based on Swales' (1990) Model

In Figure 4, the color blue shows the moves in NN abstracts and the color orange shows the moves in native abstracts. Based on what is shown in Figure 4, the move Introduction observed more in NN abstracts compared with N abstracts; however, in other moves, native authors gained higher frequencies.

DISCUSSION

The results obtained in the present study are compatible with many of the studies cited in the literature which signified a difference between N and NN speakers of English in terms of their paper abstracts (e.g. Al-Ali & Sahawneh, 2011; Martin, 2003; Salmani Nodoushan, 2011; Terzi & Arsalanturk, 2014). However, Nasser and Nematollahi (2014) found in their study that Discussing the Research move was the commonest move between N and NN authors. Yet, in the current study, the Methods move was found to be the commonest move employed by both N and NN authors.

Similar to the results of the present study, Ismail and Mohamed (2014) found that only a small number of the abstracts followed they investigated followed the IMRD model. Likewise, in the study by Al-Ali and Sahawneh (2011), some variations were observed in generic structure preferences in terms of the type and frequency of moves, which lends support to the results obtained in this study. Moreover, it was observed in the present study that there were discrepancies between the abstracts written by N and NN speakers. Salmani Nodoushan (2011) showed that Iranian NN speakers of English and N English authors also differed in the way they write the Discussion sections of their MA theses. To conclude, the differences between the Iranian NN speakers of English and their N speaker counterparts in the writing of paper abstracts could be attributed to the way phenomena are addressed in each language and also to the academic instruction provided for the graduate and postgraduate students.

CONCLUSION

The present research was conducted in order to investigate if there was any significant difference between abstracts written by native English speakers and abstracts written

by Iranian NN English speakers of English in terms of gender. In addition, it was intended to investigate if there was any significant difference between abstracts written by native English speakers and abstracts written by Iranian NN English speakers of English based on Swales' (1990) IMRC model. The general conclusions based on the findings of the study are as follows: Among both native and nonnative authors, females were found to have more abstracts compared with male ones. In terms of the number of words, the male native authors wrote more wordy abstracts compared with male nonnative authors. On the contrary, the number of words used by nonnative female authors was more than the number of words used by female native authors. In addition, the number of words used by female authors in both native and nonnative authors were more than that used by male authors. The results of Chi-square tests showed that there were significant differences between the number of words used by native and nonnative male authors on the one hand, and native and nonnative female authors on the other.

The results of the move analysis of the corpus under study, using Swales' (1990) model, revealed that this model was followed only in 14 nonnative abstracts and 16 native abstracts as well. Since this study was done with abstracts written by native and nonnative authors, its results may reveal the possible effects of integrating activities to improve the awareness of researchers of abstracts, in order to enhance their abstract writing ability. This study can be a starting point to improve the quality of abstracts and articles among postgraduate students. The findings of the study can also provide insights for university language professors by demonstrating the role of knowing about the structure of the genre of abstract. This way the Iranian professors who teach graduate courses of such as *research methodology* or *advanced writing* may come to know how to teach the instructional materials relating to abstract writing, and how to improve abstract writing ability of MA/PhD students.

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