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An error analysis of journal papers written by Persian authors

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Abstract: This research was conducted to pinpoint common errors in Iranian authors' writings, which was done by extracting the errors in the writings of 40 scientific articles written by students, which were edited by an editing team at Sharif University of Technology, Languages and Linguistics Center. As a result of this investigation, eight types of errors were extracted as the following: errors in word usage, articles, preposition, conjunction, tense, errors in word order active-passive structure and subject-verb agreement. Among these, errors in word usage received the highest frequency (36.2%) and the least frequent common error was related to subject–verb agreement (0.7%). The reasons of these common errors are highly related to the L1 transfer. Furthermore, it can be generally concluded that the errors were due to the similarity or difference between Persian and English. The findings of the study have implications for the authors of scientific papers especially in the realm of science and engineering.

Subjects: Applied Linguistics; English Language; Language Teaching & Learning

Keywords: needs analysis; error analysis; ESP; contrastive analysis; Persian authors

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PUBLIC INTEREST STATEMENT

The current research identified the most common errors in the writings of Persian authors. This was done by extracting the error patterns occurring in the writings of scientific articles, which were edited by an editing team at Sharif University of Technology, Languages and Linguistics Center (Tehran,Iran). As a result of this investigation, eight types of errors were extracted as the following: errors in word usage, articles, preposition, conjunction, tense, errors in word order, active-passive structure and subject–verb agreement. The error patterns extracted can pave the way for probing the gaps of writing ability among Iranian writers and designing an appropriate academic writing syllabus, which will meet the needs of the students, which are supposed to publish high-quality scientific articles in reputed journals. Also, journal editors are suggested to use the findings of the study in assigning language editors to papers written by Persian authors. We hope that the findings can be of use for students by helping them to avoid the same pitfalls.

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1. Introduction

Within the scientific era, science is developing rapidly through innovation and expansion (Dalhlman, 2007). Scholars are concerned with writing high-quality scientific articles and publishing them in high index and reliable journals. In order to publish their research findings and spread and make them available worldwide, scholars must be capable of coping with English as a lingua franca, which is the language of intercultural communication, science, trade and business between people with different native languages (Jenkins & Leung, 2016).

Dudley-Evens (1998) defined English for Specific Purposes (ESP) and contrasted it with general English in which it is supposed to meet the specific needs of the students through need analysis and using the methodology and activities on the basis of the discipline it serves. ESP is centered on language appropriate for each situation which includes grammar, lexis, register, discourse, genre and etc. ESP is designed for specific disciplines and in a specific teaching situation for adults learning English at upper-intermediate and advanced levels using English for the needs of their profession (Gatehouse, 2001).

Researchers in ESP carry out need analysis to point out the basic requirements and leaners' needs within an educational system which further paves the way for designing a syllabus which will meet the needs of the students in that specific context (Zorabi, 2015). According to Atique and Khan (2015), within the procedure of need analysis, the writing needs of students can be illustrated by using error analysis alongside needs analysis.

In this research, the need for scientific article writing syllabus within Iranian context is probed. This is done by using error analysis and extracting the most common errors within 40 manuscripts written by Iranian students that were published in high-quality journals after being edited by a professional team at Sharif University of Technology, Languages and Linguistic Center. The most common errors detected within the writings of Iranian authors were errors in word choice, articles, preposition, subject–verb agreement, tense, active-passive structure, conjunctions and errors in word order. The authors of these articles can be considered a representative sample of Iranian authors because of their high level of English proficiency besides their competency in their own fields and their noteworthy achievements in science and engineering.

There have been several research studies conducted within the approach of ESP, needs analysis and extracting errors from learners' composition but the significance of this study is that the researchers selected their sample from scientific articles. It is unique because no similar study has been done on the topic. The error patterns extracted can pave the way for probing the gaps of writing ability among Iranian writers and designing an appropriate academic writing syllabus, which will meet the needs of the students, which are supposed to publish high-quality scientific articles in reputable journals.

2. Literature review

2.1. Error analysis

Corder established the field of error analysis in the 1970s (Sawalmeh, 2013). According to Khan and Khan (2016), error analysis is a kind of linguistic analysis and is a qualitative approach which is a reliable method because of its focus on the linguistic interference of the errors occurring in learner's language usage while learning a second language. Brown (2000) identified error analysis as the process of observing, analyzing, and classifying the differences between the learners' language use and that of the standard language. In other words, error analysis refers to analyzing the errors of the second language learners and then presenting the system of errors to teachers and teacher educators. Further, Crystal (1987) defined error analysis as a technique and way of

identifying, classifying and systematically interpreting the errors within the language of the second language learners through any rules and principles theorized by the linguists.

Error analysis, attempts to explain the errors within the language of the second language learners by comparing the language produced by the learners to the standard norms of the target language (James, 1988). Additionally, AbiSamra defines error analysis as a linguistic analysis, which has the analysis of the learner's error as its primary concern (as cited in Sawalmeh, 2013).

Khansir and Hozhabri (2014) compared error analysis with contrastive analysis and pointed out that error analysis considers not only the impact of the native language on errors the learners make but also it takes into consideration the universal strategies among learners with different native languages. Contrastive analysis, on the other hand, followed the behaviorist approach and limited the causes of errors among the language to the native language interferences while using the second language. In order to present a system and set of errors to identify them and later find a solution to these errors, we should understand the difference between error and mistake. Brown (2000) indicated that the difference between mistake and error is in that mistake is related to the error occurring in the performance of an individual due to many reasons such as slip of the tongue and fatigue but he/she has the language competence. On the other hand, He indicated that error is related to the competence of the learner and when an error occurs within the language of a learner it is due to the lack of knowledge, competence and also the interference of the native language.

According to Xie and Jiang (2007), one of the most prominent characteristics of language learning is the occurrence of errors due to L1 transfer which means the impact of the native language on the performance of the second language. The impact of the transfer may be negative and in this situation, it is called developmental error, which causes overgeneralization. The second reason for linguistic errors is the cultural interference, for example, an individual says or writes something in a specific cultural context and expects a specific response but due to the cultural difference between the speaker or writer and the audience, they will interpret it in a different way. In order to solve these types of problems, first it is useful to identify the errors within the language the speaker or writer makes. Second, it is important to classify them and to present a set of errors to design a syllabus within the education system which will fulfill these gaps among language users.

2.2. English for specific purposes

The origin of ESP goes back to two periods in the history. According to Hutchinson and Waters (1987) first, the second world war. Second, the 1970s oil crisis which caused English, the language of the west to become the language of technology and commerce. This demanded all professions in the society other than the language teachers like doctors, mechanics, businessmen and women learn English for their specific purpose to survive and meet their demands within the new era. The important point to note was that they knew their purpose of learning English (Hutchinson & Waters, 1987).

More, Hutchinson and Waters (1987) viewed ESP as an approach and stated that the linguistic development was the other origin of ESP. During the 1970s linguists had a new approach toward language and believed that different language who used for different contexts and demands. In addition, the language we used in a different context was different. This gave rise to ESP and linguists attempted to plan to teach language for a specific purpose for different professions to meet their needs and interests. The focus of the language teachers shifted toward planning to teach in a way that it would meet the learners' needs, for example, the language thought to physicians and engineers had to be different because they did use and needed language in different ways (Hutchinson & Waters, 1987).

Crocker (1981) stated that ESP is an approach to language teaching and it is concerned with language beyond the communicative and general language used for daily conversation. Individuals need ESP in order to be successful in their profession. Moreover, according to Astika

(1999) McDonough considered ESP as an instructional activity that focuses on its own interests but is not something totally different from language teaching.

Dudley-Evans and St John (1998) provides characteristics of ESP by Strevens (1988) which are as following:

(1) "ESP is designed to fulfill students' specific needs.
(2) ESP themes and topics are related to particular disciplines, occupations, and activities.
(3) ESP is concerned with language appropriate for a specific context and for a specific purpose.
(4) ESP is in contrast with 'General English".
(5) ESP is related to the skills which can be learned. For example, writing.
(6) ESP may not always follow a specific method and may change from context to context" (p. 3).

Robinson (1991) indicated that ESP is goal oriented meaning that it follows an approach to reach a certain goal and actually the goal is the learners' needs. To reach this goal and to provide the learners with their needs, researchers go through needs analysis and analyze, recognize and classify the needs and gaps of the learners and plan how to cover these gaps.

Dudley-Even and St John (1998) in their book after presenting three definitions in the history of ESP provide their own definition. They considered ESP as the attitude of mind and is related to the learners' needs for learning in which they categorized ESP into two groups which have the following characteristics. "First, absolute characteristics which are as following:

(1) "ESP is designed to meet specific needs of the learner.
(2) ESP makes use of underlying methodology and activities of the disciplines it serves.
(3) ESP is centered on the language appropriate to these activities in terms of grammar, lexis, register, study skills, discourse, and genre" (pp. 3–5).

Second, the variable characteristics which are as following:

(1) "ESP may be related to or designed for specific disciplines.
(2) ESP may use, in specific teaching situations, a different methodology from that of General English.
(3) ESP is likely to be designed for adult learners, either at a tertiary level institution or in a professional work situation. It could, however, be for learners at secondary school level.
(4) ESP is generally designed for intermediate or advanced students.
(5) Most ESP courses assume some basic knowledge of the language systems" (pp. 3–5).

Anthony (1998) points out the importance of needs analysis within the ESP approach and compares ESP with general English in that general English teachers do not bother themselves to do need analysis and understand the gaps within the learners' linguistic competence; but on the other hand, lots of attention is paid to needs analysis in ESP and the syllabus design within the ESP approach is all done according to the needs of the learners.

2.3. Needs analysis

ESP and needs analysis are intertwined within each other (Brown, 2016). In order to discuss needs analysis, we have to go through the word "need". Hutchinson and Waters (1987) discuss three terms which are: want, need and lack; want is something the learners desire to get from the teachers and the education system, need is something the learners require and want to have which they may also not achieve and lack is something the learners do not have and is their gap.

According to Zohrabi (2015) needs analysis is done to design a syllabus, which will gather data and use those data to come to a conclusion regarding the needs, the goals of the students and also requirements of a specific course within an institution and plan the syllabus according to those needs. Kharma (1998) states that there are two types of needs. First, societal needs, which are the needs learners have while learning a language to survive in a society which is, for example, learning English for trade, business, technology and cultural purpose. Second, are the educational needs which are met by learning language skills such as writing, reading, speaking and listening to deal with their educational needs.

Brown (2016) states that if there is no need analysis there is no ESP. Regarding needs analysis, Brown states that it is important first for the teachers, students, administrators and the ones interested in the curriculum designing for the learners' needs. Second, a defensible curriculum is one that is accepted by all teachers, students, and administrators and it covers all needs and requirement of the learners in a specific institution. Third, there should be necessary qualitative and quantitative information regarding the needs of the learners to design a reliable and appropriate curriculum.

Ferguson (1966) pointed out that there is a lack of methodology by which researchers can show the learners' needs. Also, Corder (1982) explains that by systematically studying learners' errors (error analysis) researchers and syllabus designers will be able to design syllabus based on the needs of the learners as he clearly states that "we may learn to adapt ourselves to the learners needs rather than imposing him our preconceptions of how he ought to learn, what he ought to learn and when he/she ought to learn" (Corder, 1982, p. 13). In addition, James (2013) asserts that recognizing the needs of the learners helps minimize their errors.

2.4. Previous studies

Darus and Ching (2009) extracted and investigated the most common errors from written essays of 70 Chinese students. A total of 18 types of errors were extracted from these essays. These errors included mechanics, tenses, preposition, and subject–verb agreement. The main cause of the errors was considered the effect of their first language which caused Intra-lingual transfer among these students. The solution given to this problem was that the learners should understand the differences between the languages and try to use these differences in a way to produce high-quality writings.

The essence of the latest studies done in this specific area within the last few years include a research done in 2012 by Priya Sasidharan in India. She examined the English language needs of engineering students studying in Orissa engineering colleges, which was done by examining the syllabus already being used there to probe whether the syllabus met the needs of these students who were supposed to use English for real life situations. The result of her study was that "engineering students need not only linguistic competence in English but also certain life skills and technical skills related to language learning that needs to be included in the syllabus to handle real-life situations on completion of their engineering course" (p.100).

Sawalmeh (2013) investigated the common errors in the 32 essays written by the same number of male students and the errors extracted and classified by the researcher included 10 categories as the following: verb tense, word order, singular/plural form, subject-verb agreement, double negatives, spellings, capitalization, articles, sentence fragments and prepositions.

In a study done by Atique and Khan (2015) the needs of business students of a private business university were extracted and analyzed by in-depth interviewing three of the English language teachers teaching in this university. The results categorized error patterns of the students as the following: grammar, subject–verb agreement, vocabulary, sentence structure and organization of ideas.

In a research conducted by Zafar (2016), the researcher extracted the common errors among the writings of business undergraduate students as the following: verb tense errors (the past and present were the most common errors), the interference of first language, the transfer of structure errors and the overextension of analogy errors. After evaluating students' performance before and after instruction according to the error analysis and extracting the needs of the students she concluded that if error analysis is done and instructions follow a syllabus which fulfils the gaps within the students and instruct them in a way that their errors are treated, teachers will save time and also the teaching process will have a positive outcome.

Khan and Khan (2016) investigated writing paragraphs of 120 students (60 males and 60 females). The students were Arab and were supposed to write paragraphs in English. The results of the investigation categorized the common errors within the paragraph writings as the following: verb tense and form, subject–verb agreement, word order, prepositions, articles, auxiliaries, and spellings. Further, the researchers interviewed four of the coordinators and suggested that the errors in the writings of the Arab students were related to intra- inter-lingual transfers.

2.4.1. Needs analysis in Iran

Haddadi and Tahririan (2014) studied the common errors within corpuses of individuals in two phases. In the first phase, they analyzed a corpus of 3,200 words from statuses, posts, and comments of 30 Iranian and 30 Malaysian individuals including both genders (male and female) which were 18 to 21 years old. In the second phase, the researchers analyzed a corpus of 3,200 words from essays written by IT and computer engineering students at Sheikhbahaee University. The errors extracted from the corpuses were analyzed by *t*-test, Mann-Whitey and Chi-square and the results showed significant differences and similarities between the groups compared regarding their errors. The most common error patterns among Iranian students extracted by these researchers included "verb forms, diction, and preposition. In addition, the common errors among the Malaysian included verb forms, diction, and plural 's' in the virtual environment" (Haddadi & Tahririan, 2014, p. 629).

Lastly, Khansir (2014) carried out a needs analysis for a general English course by administering a questionnaire which probed the general English language needs in Bushehr University, Iran. The participants of the study were 40 English language teachers who taught at this university and the findings of this study supported the use of needs analysis in Iranian context to enhance the quality of teaching and also to design syllabi's which could fulfill the needs of the students in Iran.

2.4.2. Needs analysis at Sharif University of Technology

Within the context of Sharif University of Technology which is a top ranked university in Iran and attracts intelligent and high demanding students, two studies related to need analysis were conducted which are as the following:

Salehi (2010) administered a questionnaire to 225 students at Sharif University of Technology while taking their final exams. One of the features of the questionnaire was that it dealt with the students' self assessment of themselves which correlated positively with their final score. The researcher ran confirmatory factor analysis and principle component analysis to validate the questionnaire. Further the results of the study indicated that translation and note taking was not important to their future career but technical writing which is completely put aside within the education system was important regarding their future career.

Salehi, Jahangard and Moradi Mousavi (2013) investigated the needs of language skills among engineering students at Sharif University of Technology. The participants of this study were 607 undergraduate students which were administered a five-point Likert scale questionnaire. Also, a semi-structured interview was conducted with 20 under-graduate students and 6 graduate

and post graduate students. The findings of the study indicated that reading and writing were the most useful skill in English for these students to surf the net and write scientific articles.

Research Question:

The following research question was raised to be answered by the researchers:

What are the most common errors within the scientific articles of Iranian authors studying in different majors at Sharif University of Technology?

3. Methodology

3.1. Participants and samples
This study was conducted to extract the most common error patterns within 40 scientific articles, which were published in reliable and high-quality journal after being edited by a professional team at Sharif University of Technology, Languages and Linguistic center. Each of these articles was written by two or three students studying in different majors at Sharif University of Technology. The students were either master or Ph.D students. As for master students they had taken an English exam, which was below TOEFL in terms of difficulty. As for Ph.D students it was incumbent upon them to take a national exam, which could be on a par with the TOEFL.

The students had written these papers either to apply for foreign universities or as requirement for their Ph.D defense sessions. They belonged to different fields of engineering and science namely, civil engineering, aerospace engineering, chemistry, mechanical engineering, computer engineering, chemical and petroleum engineering and management and economics. The writers were predominantly male students regarding the fact that Sharif University of Technology is a male-dominated university. To guarantee anonymity the name of students were not disclosed.

3.2. Data collection
The data needed to answer the research question in this study were gathered by random sampling of edited drafts of the scientific articles at Languages and Linguistics Center, Sharif University of Technology. For ethical reasons, the identity of the authors and the articles will remain anonymous. The errors within each article were extracted and at the end, after categorizing them the error patterns were discerned.

3.3. Data analysis
The common error patterns were extracted from the sample articles as following: First, collecting error samples. Second, errors identification. Third, describing the errors. In this paper, the error patterns frequency and percentage are presented in a table and figure. In addition, chi-square was run and reported to examine the distribution of the error categories. All these procedures were done with SPSS software version 21.

4. Results
In this section, the analysis of frequency and percentage of the common errors extracted from the articles is presented through a table and figure. Then, few examples from each of the categories are provided. Furthermore, the results of chi-square are reported.

As shown in Table 1, the highest percentage is related to errors in word usage which is 36.2 % and the lowest is related to subject- verb agreement which is 0.7 %. Other errors from the highest to the lowest are as the following: 36.2 % is related to errors in word usage, articles 26.8 %, preposition 16.6

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Table 1. Analysis of eight common errors extracted from Iranian authors' articles		Frequency	Percent (%)	Cumulative Percent (%)
Valid	1 Errors in word usage	1484	36.2	36.2
	2 Articles	1099	26.8	63.0
	3 Preposition	680	16.6	79.6
	4 Conjunction	476	11.6	91.2
	5 Word order	144	3.5	94.7
	6 Active-Passive structure	97	2.4	97.1
	7 Tense	91	2.2	99.3
	8 Subject–Verb agreement	28	.7	100.0
	Total	4099	100.0	

Figure 1. The frequency percent of eight common errors extracted from Iranian authors articles.

Cases weighted by frequency
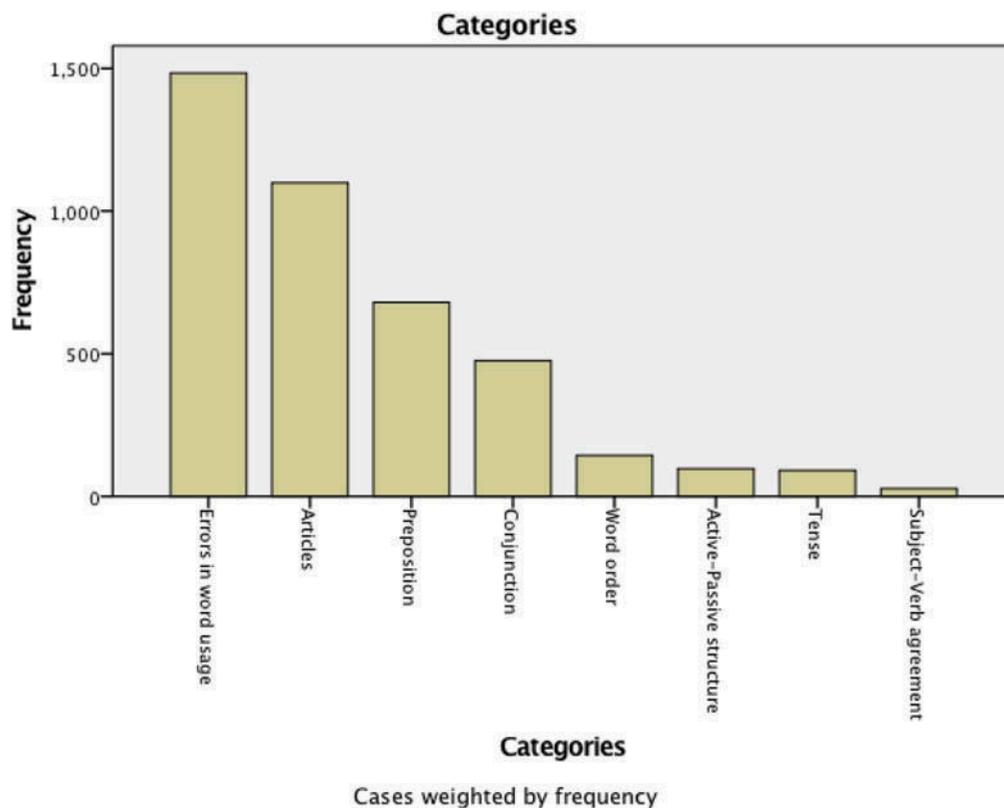
%, conjunction 11.6 %, word error 3.5 %, active-passive structure 2.4 %, tense 2.2 % and finally 0.7% is related to errors in subject- verb agreement. These percentages are illustrated in Figure 1.

In order to see whether the difference among the categories were significant a chi-square analysis was run whose results are shown in Tables 2 and 3.

According to Tables 2 and 3, the large differences between observed counts and expected counts and $p \leq 0.05$ indicate the relationship and generalizability of the categories from one random sample to the population of the sample.

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Table 2. Frequency analysis of error types

	Observed N	Expected N	Residual
1 Errors in word usage	1484	512.4	971.6
2 Articles	1099	512.4	586.6
3 Preposition	680	512.4	167.6
4 Conjunction	476	512.4	−36.4
5 Word order	144	512.4	−368.4
6 Active-Passive structure	97	512.4	−415.4
7 Tense	91	512.4	−421.4
8 Subject-Verb agreement	28	512.4	−484.4
Total	4099		

Table 3. Chi-square among error types

	Categories
Chi-Square	3977.590[a]
Df	7
Asymp. Sig.	.000

a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 512.4.

Further you can see examples from the errors the authors had in each category.

Common errors in word usage
1.
Incorrect: As it **comes** in Fig. 4-30, it is clear that cases no. 26 and 28 have the highest results for R-factor.
Correct: As it **is observed** in Fig. 4-30, it is evident that cases no. 26 and 28 have the highest results for R-factor.

Articles
1.
Incorrect: In order to have more accurate point of view.
Correct: In order to have **a** more accurate point of view.

Preposition
1.
Incorrect: Heaviside and a Branch function are also used **to** nodal enrichment.
Correct: Heaviside and a Branch function are also used **for** nodal enrichment.

Subject—Verb Agreement
1.
Incorrect: The material properties used for each part **is** as follows.
Correct: The material properties used for each part **are** as follows.

Tense
1.
Incorrect: It should be noted that the temperatures **are** recorded by means of a data logger.
Correct: It should be noted that the temperatures **were** recorded by means of a data logger.

Active—Passive Structure

1.

Incorrect: **We are looking for** simple ways of modeling the spatial distribution of underground heterogeneities.

Correct: Simple ways of modeling the spatial distribution of underground heterogeneities **are being sought.**

Conjunction

1.

Incorrect: The probabilistic approach is less than the seismic load in both directions **so**; the seismic load has applied more force to the structural members.

Correct: The probabilistic approach is less than the seismic load in both of directions **therefore**; the seismic load has applied more force to the structural members.

Word Order

1.

Incorrect: **Most methods for** secure steganography, use of a shared key between the sender and the receiver.

Correct: In order to have a secure steganography, **most methods make** use of a shared key between the sender and the receiver.

5. Discussion

Errors of word usage received the highest percentage. This is fathomable on the grounds that the writers chose words that came to their minds. For instance, instead of academic words, they opted for everyday words. To illustrate it, here are some examples: "different" for "diverse", "effect" for "impact", "use" for "employ", "show" for "illustrate", "clear" for "evident", "done" for "conduct". The writers received academic instructions in Persian and some of them would first write the papers in Persian and then translate them into English. As it is clear, they had little if any knowledge of the contexts in which the words were appropriate.

Articles are really problematic areas in writing papers. There were cases that articles were omitted or they were used redundantly. Students do not normally receive explicit instructions in their curriculum in terms of proper use of articles. There are sharp contrasts between Persian articles and those of the English language which leads to erroneous sentences on the part of the Iranian authors. The finding of this study regarding articles as one of the common errors in writings are in agreement with the those of Sawalmeh (2013) who extracted 10 categories of common errors including: verb tense, word order, singular/plural form, subject–verb agreement, double negatives, spellings, capitalization, articles, sentence fragments and prepositions.

In terms of prepositions the writers omitted the required prepositions, misplaced them or used them redundantly. This is due to the fact that Persian and English defer in terms of prepositions. For example, the word "tired" requires "of" in English and "from" in Persian. The errors in prepositions are also among the 18 type of errors extracted by Darus and Ching (2009) who studied the errors in the essays of 70 Chinese students. Also, the prepositions were mentioned by Sawalmeh (2013) as one of the ten common errors of 32 essays he investigated. The results of these two studies are in line with the findings of this study.

As for of conjunctions, Persian and English also differ. For example, in Persian it is perfectly grammatical to use two conjunctions in the same sentence as evidenced by the example, "although he worked hard but he failed". Erroneous sentences might be due to mother tongue interference.

Pertinent to word order, Persian is a subject-object-verb language whereas English is a subject-verb-object language. Understandably Iranian authors made erroneous sentences but these sentences ranked lower because there are explicit instructions in schools and universities on word order in English. The findings of this study in terms of errors in word order are in conformity with those of Sawalmeh (2013) and Atique and Khan (2015) who interviewed teachers and concluded an error pattern of the students which also included word order.

Concerning passive and active structures, passive structures are more marked than the active ones. This predictively might have caused some problems. The role of the mother tongue influence cannot be substantiated.

As far as tense is concerned, the writers made some mistakes but the notion of tense does not differ significantly between Persian and English. That is why erroneous sentences in terms of frequency were low. Errors in tense were also extracted from written corpuses in other studies such as Darus and Ching (2009) and Zafar (2016) who identified verb tense as one of the common writing errors of business undergraduate students.

In terms of subject verb agreement, the findings are surprising as Persian differs in striking ways from English when it comes to subject verb agreement. The reason for better performance of Persian authors might be due to avoidance strategy. In other words, Persian authors must have avoided structures that are different from those of English and opted for simple but English structures that were not erroneous. The findings of this study regarding subject verb agreement are in agreement with those of Darus and Ching (2009), Sawalmeh (2013), Atique and Khan (2015) who extracted subject–verb agreement as one of the errors from the writings of their participants.

6. Implications
The study lends itself to the following implications:

First and foremost, the teachers are advised to work on errors in terms of the frequency of occurrence. In other words, teachers are suggested to work on word usage and articles more than other areas. They are advised to adopt the right strategies for this purpose (see, Salehi & Vafakhah, 2013). Secondly, syllabus designers are suggested to use the findings of the study to devise books that are tailored to specific needs of Persian authors. Finally, journal editors are suggested to use the findings of the study in assigning language editors to papers written by Persian authors. In other words, it might be best if language editors have a working knowledge of problematic areas in the papers written by Persian authors.

7. Conclusion
The study has the following conclusions:

First and foremost, it is possible to delineate errors in the writings of Persian authors. The study delineated eight error types committed by master and Ph. D. students at one of the best universities in the middle east. The same types of errors are likely to be committed by other students and even teachers. We hope that the findings can be of use for these students who are writing papers and their command of English is not good enough. At least, the results can give them some pointers as to the areas where they are likely to commit errors: they can avoid the same pitfalls. Secondly, contrastive analysis can really help in error analysis of sentences. It might be a language specific device but it can be an effective tool. Iran is a developing country and students are eager to publish papers either to apply for foreign universities or as requirement for their Ph.D dissertations. In Iran, Ph.D students are supposed to publish two papers before their professors authorize their defense sessions so these students can gain some insight into the typology of their potential errors.

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Appendix

Common errors in word usage

1.

Incorrect: The results are extensively informative that **cover different** fields of future **works**.

Correct: The results are extensively informative that encompass diverse fields of future **studies**.

2.

Incorrect: There have been several attempts to separate and distinguish some useful items and gain appropriate view points and ideas about the **effect** of the properties of a model.

Correct: There have been several attempts to separate and distinguish some useful items and gain appropriate view points and ideas about the **impact** of the properties of a model.

3.

Incorrect: The calculated responses are **very** sensitive to the characteristics of the individual ground motion **used** as seismic input.

Correct: The calculated responses are **highly** sensitive to the characteristics of the individual ground motion **employed** as seismic input.

Articles

1.

Incorrect: Capacity of the structure is a complex function of strength, stiffness and deformability conjectured by the system configuration and material properties of the structure.

Correct: **The** capacity of the structure is a complex function of strength, stiffness and deformability conjectured by the system configuration and material properties of the structure.

2.

Incorrect: Results are extensively informative.

Correct: **The** results are extensively informative.

3.

Incorrect: For present simulations.

Correct: For **the** present simulations.

Preposition

1.

Incorrect: The impact of the properties of a model **to** its estimated seismic performance.

Correct: The impact of the properties of a model to **on** its estimated seismic performance.

2.

Incorrect: **With** decreasing cathodic current density, over potential and concentration gradient in diffusion layer decreases.

Correct: **By** decreasing cathodic current density, over potential and concentration gradient in diffusion layer decreases.

3.

Incorrect: Their results show that the maximum temperature decreases with the increase in blockage ratios *of* small fires.

Correct: Their results show that the maximum temperature decreases with the increase in blockage ratios *in* small fires.

Subject—Verb Agreement

1.

Incorrect: Both relations *is* dependent on distance from the fire source.

Correct: Both relations *are* dependent on distance from the fire source.

2.

Incorrect: Building manufacture technologies and the construction industry *has* caused the movement towards sustainable architecture.

Correct: Building manufacture technologies and the construction industry *have* caused the movement towards sustainable architecture.

3.

Incorrect: Transmission and distribution systems *is* a mostly centralized.

Correct: Transmission and distribution systems *are* mostly centralized.

Tense

1.

Incorrect: In the mid of 90's, the potential of pushover analysis *are* certified.

Correct: In the mid of 90's, the potential of pushover analysis *was* certified.

2.

Incorrect: The tunnel model which *is* utilized for double road tunnels.

Correct: The tunnel model which *was* utilized for double road tunnels.

3.

Incorrect: Some experiments *are* performed to investigate the effect of filling ratio on the outlet temperature.

Correct: Some experiments *were* performed to investigate the effect of filling ratio on the outlet temperature.

Active—Passive Structure

1.

Incorrect: **We show** the message as a vector of length k.

Correct: The message **is shown** as a vector of length k.

2.

Incorrect: **We use** the Burgan reservoir dataset of the Norouz offshore oil field in the south of Iran.

Correct: The Burgan reservoir dataset of the Norouz offshore oil field in the south of Iran **was used**.

3.

Incorrect: **We could embed in** the other symmetric side of the image without changing the singular values.

Correct: The other symmetric side of the image **could be embedded** without changing the singular values.

Conjunction

1.

Incorrect: The simulation of the mean wind speed is conducted by logarithmic law that is a deterministic process; **while**, the turbulent component of wind field is simulated by a stationary Gaussian multi- dimensional and multivariate random process.

Correct: The simulation of the mean wind speed is conducted by logarithmic law that is a deterministic process; **whereas**, the turbulent component of wind field is simulated by a stationary Gaussian multi- dimensional and multivariate random process.

2.

Incorrect: Increase in the side ratio reduces the effects of wind on the tall building; **so that**, the earthquake was dominant to wind.

Correct: Increase in the side ratio reduces the effects of wind on the tall building; **thus**, the earthquake was dominant to wind.

3.

Incorrect: Then they studied the effect of blockage ratios on maximum temperature under the ceiling **and** using experimental data from their previous studies.

Correct: Then they studied the effect of blockage ratios on maximum temperature under the ceiling using experimental data from their previous studies.

Word Order

1.

Incorrect: A thermally inert **obstacle like cubic shape are** placed at the fire source position.

Correct: A thermally inert **cubic shape obstacle is** placed at the fire source position.

2.

Incorrect: It seems that **the tendency of the architects** in the developing countries, **and** specially Iran towards the concept of sustainability possesses some features of its own.

Correct: It seems that in the developing countries, **particularly in** Iran, **the architects' tendency** towards the concept of sustainability possesses some features of its own.

3.

Incorrect: For example, **during peak hours the electricity price is high.**

Correct: For example, **the electricity price is high during peak hours.**

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