

Iranian doctoral students' perceptions of publication in English

Motives, hurdles, and strategies

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Abstract

Purpose – The purpose of this paper is to investigate the English for publication purpose practices of doctoral students in Iran. The overall objective was to explore their motives, hurdles and strategies in academic writing.

Design/methodology/approach – This case study draws on a narrative inquiry to explore nine science and engineering doctoral students' perceptions of academic publication. The data were analyzed through a hybrid process of inductive and deductive thematic analysis.

Findings – The qualitative results showed three dominant themes, namely: motives for publication, hurdles to publication and strategies for dealing with these challenges were extracted. The main sources of motives were students' desire to publish their works for their graduation, improve their resume, satiate the universities' evaluation system, and finally share their knowledge worldwide. Their hurdles included: political reasons, language-related problems, center-periphery priorities and the lack of academic writing instruction. In order to overcome these hurdles, the participants employed some strategies in academic writing.

Research limitations/implications – Due to qualitative nature of this study, only nine PhD students were recruited and therefore the research results are not intended to render generalizability. Besides, only narratives were employed to collect the required data. Future researchers can use surveys to collect more data.

Practical implications – The findings are discussed within English for academic purposes discourse and some recommendations are provided to alleviate the plights of non-native-English-speaking academic writers.

Originality/value – The methodology and the higher education context in which this paper was conducted are new to the literature.

Keywords Academic publication, Doctoral students, Higher education, Narrative inquiry

Paper type Research paper

1. Introduction

English for Research Publication Purposes (ERPP), as a newly developed sub-discipline of English for Academic Purposes (EAP), has extensively dealt with the issues pertaining to the role of English as the dominant language in today's academic milieu (Cargill and Burgess, 2008). With English language becoming the de facto and global lingua franca of academic discourse (Flowerdew, 2015), especially in higher education programs, previous studies show that non-native-English-speaking (NNES) academic writers who use English as an Additional Language (EAL) have grappled with the publication race more seriously (Li and Flowerdew, 2007). A plethora of studies, regarding the obstacles encountered by non-Anglophone academic writers, have been conducted and their results confirm the difficulties encountered by these NNES writers (Ferguson *et al.*, 2011). Moreover, there have been studies that echo the severity of challenges posed on doctoral students in higher education (Cho, 2004; Kwan, 2010; Li, 2002; Langum and Sullivan, 2017). Doctoral students have to present in international conferences and publish in international journals due to



either employment policies or endeavor to incorporate themselves into their discourse communities (Cho, 2004).

Given the pressure of publishing in high profile journals among academic writers in Iran, paper submission rates from Iranian researchers have accordingly soared (Thomson-Reuters, 2012 as cited in Hyland, 2016). However, to date, no studies have been conducted on Iranian doctoral students' attitudes toward publishing articles in international journals and the role of English as their academic language. In an attempt to shed light on the very issue in the Iranian context, this paper utilizes a narrative inquiry to report the perceptions of Iranian doctoral students about academic writing and publication.

2. Review of literature

An increased attention to publication in English has led to numerous hurdles for NNES academics. A growing body of literature can be found regarding the hegemony of English in publication across different countries (Bocanegra-Valle, 2013) and the hurdles that these scholars encounter, the motives that encourage them to try harder, and the strategies these academic writers employ to overcome these constraints on the way to publication. St John (1987) was among the pioneers who focused on 30 Spanish scholars' academic writing and publishing experiences. Her results showed that Spanish scholars had a good command of English language structure, scarcely took editorial revision and tried to do most of their writing in English rather than translate from Spanish to English but still they were having a hard time publishing in international peer-reviewed journals.

Gibbs (1995), on the other hand, focused on the invisibility or exclusion of the third world countries in international scientific journals. Flowerdew (1999a, b) explored the challenges of Hong Kong academics in their English publications in international journals. Similarly, Canagarajah (1996) studied the Sri Lankan scholars' publication experiences and Duszak and Lewkowicz (2008) investigated the attitudes of Polish academics in this regard. Cho (2004) examined non-native doctoral students to explore the challenges they faced and the way they dealt with those challenges. Jiang *et al.* (2015) interviewed young scholars of China to examine the difficulties they encounter in publication. In addition, Ferguson *et al.* (2011) studied the attitudes of Spanish academics about the difficulties of publishing in English. Langum and Sullivan (2017) also conducted a narrative analysis to explore the perceptions of doctoral students at a Swedish university.

As for science and engineering students in different academic contexts, Cho (2009), using questionnaires, conducted a research on graduate students and faculty members of engineering and science in a research-based university of Korea. The results indicated that 74 percent of the graduate students faced language-related problems when writing in English. In another study, Huang (2010) investigated the attitudes of 11 Taiwanese PhD students of science toward publishing in English and learning to write in English. The results implied that the participants felt disadvantaged in comparison to native speakers. In a more recent study, McDowell and Liardét (2018) focused on perceptions of 84 materials scientists of using English as the language of publication in Japan. Interestingly, the participants believed there are advantages to using English as the lingua franca of publication; however, they mentioned some hurdles including the burden of time and linguistic limitations.

Briefly, the majority of these studies demonstrate "that non-Anglophone scholars are linguistically disadvantaged relative to native-speaking academics when it comes to publication in English" (Ferguson *et al.*, 2011, p. 45). Given the variety of attitudes of academics in different contexts, the present narrative inquiry research is conducted in the Iranian higher education context to investigate Iranian doctoral students' perspectives toward publication in English. However, before moving to the method section we bring an overview of academic publication in the Iranian higher education to better help the readers understand the context of this study.

3. Academic publication in Iranian higher education

Iran has a large number of public and private universities that offer different programs in higher education. As for the PhD programs in Iran, several requirements are stipulated by universities for the applicants to become qualified for both admission and graduation. These requirements include passing a written test, oral interview and knowing a foreign language, especially English. In the oral test, the selection criteria rely on many factors for their decisions including the rank of the written test from University Entrance Examination, the number of published books and articles, the number of conference attendance and presentation and the proficiency of applicants on different areas related to their disciplines. Applicants with better publication records have higher chances, indeed. Besides selection criteria, there are some rules for graduation. PhD students have to publish their works before being granted the permission to defend their theses/dissertations. Some universities only accept papers published in the so-called ISI journals but some others are lenient and accept local journals too.

As for academic publications, the Scimago Journal and Rank (SJR), as a publicly available portal developed from the information contained in Scopus database, provides interesting and updated information regarding the scientific indicator and production of each country. Based on SJR statistics in 2017, Iran stands in the sixteenth place in the world. In the Middle East, Iran comes first followed by Turkey and Saudi Arabia. Besides, in the SJR list of journals in 2017 Iran has secured some 172 journals with Q1 to Q4 quality status. In science and engineering category, which is the focus of this paper too, there are more than 100 Iranian journals indexed in Scopus.

Iranian academics do not publish only in international journals. To serve the local academic and scientific needs of the country and fill the domestic research niche, Iranian Ministry of Science, Research and Technology (MSRT) has encouraged universities to establish their own scientific journals as outlets for the dissemination of knowledge in Persian as the national language. Therefore, the establishment and publication of local journals, usually founded by universities, have thrived. Most of these journals are ranked as “scientific and research based” – a national ranking system approved by MSRT. Some of these local journals have been even added to international indexes (e.g. WoS and Scopus) and most, if not all, of these academic journals provide English abstracts to their Persian translations to reach wider readership and visibility in search engines. Besides, the Islamic World Science Citation Center – known as ISC following the ISI index – has been founded to include a citation system for Islamic countries. All these attempts show the significant role that academic publication has for the Iranian academic context. The present study is situated within this backdrop in Iranian higher education.

4. This study

In recent years, there has been an urge to publish in international journals among academics of various disciplines especially in Iran. Despite the underfunding, this urge has been highlighted more especially for doctoral students of research-intensive universities in Iran. This pressure on academics, and in this case postgraduate students, has pressed them to publish more and more. However, little is known about Iranian doctoral students' perceptions of the processes of publication in international journals and the hurdles they may encounter as NNES academic writers. Hence, we conducted a narrative inquiry on doctoral students' perceptions of the very issue at a university in Tehran. The findings of the present study will shed light on the perspectives of Iranian doctoral students and hence the information gleaned from narratives can contribute to future pedagogical plans for improving academic writing.

4.1 Participants

For the purpose of this study, we focused on nine Iranian NNES doctoral students who were working on their PhD dissertations at a research-intensive university in Iran. Drawing on snowball and purposeful sampling, we were able to reach out to participants of four fields of study including Physics, Chemistry, Nano technology and Electronics. The selection criteria were made based on their level of research productivity and field of study (i.e. purposeful sampling). All the participants had the experience of writing articles in English and submitting them to international journals at least once. We asked each participant to introduce potential participants for our narrative inquiry (snowball sampling). As seen in Table I, each participant was given a code to remain anonymous.

4.2 Narrative inquiry

Narrative inquiry is a very popular and useful research method that has recently gained more attention in qualitative research. Narratives furnish researchers with dialogic, engaging, self-revealing and multi-layered data that are less possible to obtain in survey research (Rezaei, 2017; Langum and Sullivan, 2017). As for the design of the current research, we employed an emergent a posteriori design based on which inductive and deductive thematic analysis was employed to extract the dominant and recurring themes. In the present research, one of the researchers acted as a narrative inquirer by establishing a friendly rapport with the participants. Hence, an emic perspective was present in the process of data collection and analysis. The narrative inquiry was held in Persian and English (involving code switching between the two languages in some cases) and took between 20 and 30 min for each participant. Piloting was also done on a smaller sample (three MS/PhD students) to dispense with the logistics and practicalities of the current research. Although the results from the piloting phase were not included in final research findings, the data collection procedure in this phase assisted the researchers to better select their participants and collect their data.

The final participants were requested to recount their academic writing practices and stories in Persian or English. Following Flowerdew and Li (2009), and to reach better results, some contrastive questions were also asked while the participants were telling their publication stories. In this technique, the participants were further prompted to produce their narratives by referring to what other peer participants had said about their publication experiences. It should be noted here that the narratives heard from the participants are not meant to result in generalizations; rather, they will give us valuable data regarding the participants' perceptions of academic publication. As for the reliability and internal validity of the themes extracted and the conclusions made, the narratives were handed over to a third researcher to check against what we had obtained as the dominant themes. The themes which had an above 80 percent consensus with what we had obtained were

Participant code	Gender	Field of study	Years of education as a PhD student
P1	Female	Chemistry	4
P2	Female	Chemistry	4
P3	Male	Nano technology	3
P4	Male	Nano technology	4
P5	Female	Chemistry	4
P6	Female	Nano technology	4
P7	Male	Electronics	2
P8	Male	Physics	3
P9	Male	Physics	2

Table I.
The participants

Note: P stands for participants

approved and reported. Besides, participant validation or member checking (Dörnyei, 2007) was executed by asking the participants to reflect on what we had categorized as the motives, hurdles and strategies. In this narrative inquiry research, the participants were contacted after the data collection and analysis to cross-check the themes with the participants. In one case, there were some minor changes in what we had reached and what the doctoral student added later in member checking.

5. Results

For data analysis, we adopted hybrid thematic analysis (inductive and deductive) and followed Polkinghorne's (1995) analysis of narratives. Given the open-ended process of data collection, the narratives were analyzed rigorously to categorize the dominant recurring themes. We first transcribed the narratives (in Persian and English) and then extracted the commonalities and recurrent themes evident in them. In deductive thematic analysis, we drew on the pre-existing literature and theories, whereas in inductive thematic analysis, new emergent themes were extracted.

The inductive analysis was based on the six phases proposed by Braun and Clarke (2006). According to Braun and Clark, inductive analysis is defined as "a process of coding the data without trying to fit it into a pre-existing coding frame, or the researcher's analytic preconceptions" (p. 83). They introduced six stages of inductive analysis including familiarizing yourself with your data, generating initial codes, searching for themes, reviewing themes, defining and naming themes and producing the report. Following these six steps, we initially collected the data. In the meantime, we extracted the themes through a data-collection-data-analysis iteration, i.e. generating themes, reviewing them, naming them and back to generating or combing the themes.

The three dominant themes in the narratives were motives for publication, hurdles to publication and strategies in academic publication. Table II shows these motives and hurdles along with the strategies that the participants used for publishing academic papers. In the following sections, these motives and hurdles are introduced and the related strategies in academic publication are provided with the participants' narratives.

5.1 Motives for publication in international journals

Doctoral students in this study referred to several motives for academic publication. Each of these subthemes is presented and later discussed next.

5.1.1 Graduation. The most important reason for which doctoral students are interested in publishing papers is related to their graduation which was stated mostly by all participants. According to the regulations stipulated with regard to doctoral students in higher education, they cannot graduate unless they have at least one published paper in

Motives	Hurdles	Strategies
Graduation	Political orientation	reading several sample papers before making a
Resume	Language-related	submission
Evaluation System	problems	learning the stylistic and writing conventions of
Sharing Knowledge around the globe	Center-Periphery priorities	academic writing
	Lack of instruction	consulting with their supervisors or more competent peers/acquaintances
		participating in academic writing workshops
		paying for editing services to the journals or professional agencies

Table II.
Main themes and their corresponding subthemes extracted from narratives

academic journals indexed in reputed databases. Examples of the narratives produced by the participants include the following:

P1: I'm a fourth-year doctoral student; however, I cannot graduate because I have to have two accepted articles to be able to defend my PhD dissertation. My graduation is conditioned to having published articles.

P8: This is the rule. For defending my PhD dissertation, I have to publish in journals that have high impact factors.

P7: During the four years of doctoral education, each student must have two published articles in high profile journals. I cannot defend my dissertation unless I have articles in journals with high impact factors.

5.1.2 Resume. Having an extensive resume seems to be of utmost importance for doctoral students. Students, in this case, believe that a good track record of international publications has an impressive effect on every aspect of their professional and academic life, including taking a sabbatical leave, applying to other universities and employment. All the participants confirmed the predominance and prestige of English as the language of academia. Examples of these narratives include:

P1: I told you that if you want to be a faculty member they ask how many articles you have. Everywhere you want to go having article is necessary, even when we want to work in private companies. If you have articles, they will say "well done, we will hire you." Therefore, we need articles. I was selected at Khwarizmi International Award [an award granted by the Iranian Research Organization for Science and Technology to researchers with outstanding academic achievements] since I had articles; I had four articles from my MA. I know my thesis was not that much innovative, I myself know that it wasn't very special. However, I was selected at Khwarizmi International Award; I think if this very thesis had one or two articles, it would never be selected.

P9: If you want to apply to other good universities abroad, you need to have articles in good journals and in addition if you plan to take sabbatical leave you should have at least one article to receive the fund from the university.

P5: The reason for which I try to publish in international journals is improving my resume; this has turned to an international issue. International journals have high impact factors and you know we as students prefer to publish in these (English) journals.

5.1.3 The evaluation system. As participants made it clear, the system based on which academics are evaluated seems to be highly dependent on the number of published papers they own. For example, the PhD participants said that:

P4: I myself do not insist on publishing in international journals because the path I have chosen is not dependent on articles. It is not important for me. However, when the evaluation system is based on the number of articles we do not have any other options. In order to be seen, we have to publish. In fact, the evaluation system imposes this on us and in addition professors even those who are professors are doing this because they are evaluated based on the number of articles they publish and they want to get promoted. There is a system in which we have to do this if we want to get a promotion. Moreover, if we do not do this we will not be successful.

P6: From an internal perspective, publishing has its own merits. To look at it from this perspective, every professor is ranked based on the number and saliency of articles they have. Sometimes they can get a grant. You know this is even important in being famous.

P9: One reason for submitting papers to international journals is that promotion of faculty members is tied to the number of articles they publish. If they publish a great number of articles, they can easily be promoted to associate professorship.

5.1.4 *Sharing knowledge around the globe.* Some participants believed that by publication in international journals, they could communicate information throughout the world, which is considered a positive phenomenon. Some of the participants said that:

P2: Publishing in international journals is a positive phenomenon since this represents what we have done in the laboratory and our work will be recorded somewhere. We can share our knowledge with the world through articles and this can represent how my work is accepted by the world, how new my work is, or even we can say that for example how much progress I have made in science.

P6: To look at it from an international perspective, it can present us to the international world of science, this is obligation but the reason is that we can introduce ourselves to the world and we can say that Iran's scientific ranking is higher than other Islamic countries.

P5: We like to compare ourselves with researchers and students around the world. Maybe it can be said that this is not happening by force, we ourselves are interested in publishing our papers in high profile journals.

5.2 *Hurdles to publication in English*

Doctoral students in this study talked of some constraints and hurdles they had in the process of academic publication. Each of these hurdles is introduced and later discussed next.

5.2.1 *Political reasons.* Some participants said that when Iranian academics submit their papers, some journals react and judge politically and sometimes reject the papers without considering their contents or sending them to reviewers. Examples of the narratives from the PhD students include:

P3: We have to look for suitable journals however because we are submitting articles from Iran, we do not receive good reactions.

P6: Sometimes we are rejected in the first phase without the content of our manuscript being checked. This can be related to political sanctions.

P1: In addition, journals react politically when a paper is submitted from Iran. I think they reject for political issues while students from other countries publish much more easily. I had a paper which was under review for eight months and it was revised twice and the reviewers for example stated that the point mentioned by me was so novel and perfect but finally the editor rejected the paper. It was shocking for both my professors and me. What is my fault? Imagine if I want to graduate, I should have two articles. I could have those 6 months ago but with the political changes recently, I do not.

5.2.2 *Language-related problems.* A wide range of hurdles are placed on the route to publication by NNESS. Some of these language-related hurdles are mentioned by the participants in this research. Examples include:

P1: Once, I had one native speaker edit my paper before submission but still the editor said that the paper was written informally and the language was not scientific. The thing is that I do not know what scientific language exactly means, which phrase is colloquial or which expression is scientific.

P6: Maybe we have attended English classes as a child but writing articles is a totally different procedure. We have studied because we have to explain articles in a very exciting way that everybody likes [...]. These procedures are really irritating because you have to do two things simultaneously. On the one hand, you have to work on the process of your project to make it better and on the other hand you have to work on your English. Students whose language is native-like write papers easier than we do because this is the language they speak, while this language and its structures do not exist in our mental system. Even Indians, who attend English courses at school, write papers more easily because we have to get familiar with the words and structures.

P8: Writing in English is very difficult for me, maybe it does not seem difficult for those who are good at English but for me it is very difficult and time consuming. I spent so much time on editing my papers.

P5: The process is very time consuming and the hurdles we go through is more for non-natives than those whose first language is English.

P3: English is not my own language thus it is difficult and we mainly have problems in translation since we should try to convey the message in a way that readers understand. However, I think English is the scientific language of the world and it is better for us to learn it and communicate through it since it is not limited to just sharing knowledge but also even when we want to use articles from other researchers we have to use this very language to receive the knowledge.

P2: Writing in English can cause difficulty but I do not know if it is fair because the entire world has accepted that. Other countries, whose native language is not English, have to do the same thing. For example, someone who is French but has to present his work in English because this is the scientific language.

5.2.3 Center-periphery priorities. Some participants were dissatisfied with the fact that they had to publish articles based on the priorities of other English-speaking countries. Some were also concerned about the hegemony of English as the language of science and instead preferred publishing their works in Persian and in the local journals. Some of the narratives pertinent to this theme are brought below:

P8: Why should we forget about our own countries' priorities and work on issues which have the potential of publication in international journals?

P3: I prefer to work on a project that has national priorities and then publish in domestic journals. Why should I spend our country funds on the needs of other countries? We have to search beyond borders to see what problems and challenges foreign countries have and then work hard to publish for them. So many articles really do not have any national applications. We use national funding for something which is not useful for our country.

P1: why should we give our own knowledge to western countries? I try to work on something which can be published and that thing usually is something my own country doesn't need. So, I'm working on something which is not important for my country but is important for the world.

5.2.4 Lack of instruction. Participants believed that the difficulties emerged from the fact that they had not been trained for writing academic papers. These students believed that they had not received sufficient instruction in writing academic articles. In other words, no special courses have been convened to meet these graduate students' needs. The following extracts are from the students' narratives:

P6: We are not taught how to write. This is all by trial and error for example. We write the first one then it is rejected and we have to work to improve it.

P2: I wish now that our educational system insisted on publication in English. Then, we would be trained on how to write scientifically in English. This way the difficulties would reduce because we knew the main template of writing scientifically and we only needed the words related to our field of study. However, we enter university from school without being informed about the processes and this is very difficult to communicate our intentions and thoughts in English.

5.3 Strategies

Despite the hurdles mentioned by participants in this study, there were some strategies for dealing with the challenges of academic writing and development as well. The PhD students

in this study referred to some of their tactics and strategies to overcome the hurdles mentioned above. The following narratives show these strategies:

P5: It is not like impossible, the more papers we read the easier we can write. For example, when I want to write I read several related articles to use the structures of those articles rather than using my own sentences. I myself have never been rejected because my articles have always been edited by my supervisor and friends before submission.

P6: We have to read similar papers to see how they have elaborated on the issue or how they have put emphasis on important points and then we can consult with our supervisors. This is where our supervisors mainly help us on how to highlight the abstract to make editors interested in continuing.

P7: For example, you are working on a certain issue. If you read 100 papers about it, you can memorize the sentences you need to use, and you will learn the required grammar and vocabulary. Once I was writing an article, I read around 60 papers about that issue and the result was not bad. In addition, we usually write papers and hand them to our supervisors and they edit the paper before submission.

In summary, the strategies with the highest frequency among the participants were:

- reading several sample papers before making a submission;
- learning the stylistic and writing conventions of academic writing;
- consulting with their supervisors or more competent peers/acquaintances;
- participating in academic writing workshops; and
- paying for editing services to the journals or professional agencies.

6. Discussion

The findings of this study imply that Iranian higher education researchers are obliged to publish articles for various motives and reasons such as graduation requirement as was the case in Li (2006), who similarly found that scholars publish in international English journals to get their degree. As above-mentioned, universities in Iran force their doctoral students to publish their research findings in reputed journals before they are given the approval to defend their dissertations. Journal publication has a lengthy review process which can keep these students awaiting final decisions on their submissions.

Not only graduation but also some intrinsic motivational factors encouraged doctoral students in this study to publish their work in English. These factors – shown as the subthemes of motives for publication in English – included improving one's resume, meeting the evaluation system in academia for employment or sabbatical leave, and sharing knowledge with the world.

Duszak and Lewkowicz's (2008) study also showed that polish academics tend to publish in English as a way of enhancing their resume or getting their promotions. This finding is in line with the publish or perish discourse and ideology that permeates academia and its promotion system and was similarly mentioned in other previous research contexts (e.g. Curry and Lillis, 2004; Lillis and Curry, 2006). New higher education policies in the world, especially the ones motivated by the neoliberal ideology, has placed more stress on academics. Lai (2010), for instance, has found how the Chinese reforms in higher education have made Chinese academics to sacrifice their standards of living to improve their academic status.

One more motive found in the doctoral students' narratives pertained to their incentives for knowledge production and communicating science. Previous studies in different research contexts have also shown similar motives on the part of researchers (e.g. Bennett, 2010). Science communication gives researchers, especially in the field of science and engineering, a great incentive for their findings to reach a wider discourse community and accordingly they

feel more thrilled to contribute internationally. St John's (1987) research, some participants believed that publishing papers in English can help them communicate their findings with the world. This further proves the importance of science communication as a driving force for researchers to publish in English as a widely recognized language of science. Bennett (2010), likewise, referred to the advantage of publication in English as an "opportunity for international exposure" (p. 197). By international exposure, Bennet likewise means science communication. Morley and Kerans (2013) also discussed that by publication in English, academic writers would reach a wider community of readers. The participants in Bocanegra-Valle (2014) also said that they preferred to publish their papers in English as they wished their results to receive a wider audience and readership. The discussions made by Morley and Kerans on bilingual publication and visibility and Bocanegra-Valle's research on scholars' experiences in publishing in multilingual journals underline the role of science communication as an important motive for publication in English.

As for the hurdles on the path to academic publication and in line with previous studies conducted on the challenges faced by NNES (Canagarajah, 1996; Duszak and Lewkowicz, 2008; Jiang *et al.*, 2015; Langum and Sullivan, 2017), the findings of this study also indicate a number of hurdles encountered by Iranian doctoral students. The participants in our research argued that there existed inequities in the space that journals give to Iranian scholars and their academic publications. Although they did not provide any solid evidence, except for one who considered the rejection of his paper due to political reasons, most of them relied on their friends' narratives. One of the participants, however, had received a formal letter from one journal in which the editor had explicitly referred to the sanctions that the US government had imposed on Iranian scholars. Political reasons, as one of the hurdles to publication, is not something new. A historical analysis shows that politically motivated exclusion of scientific papers from publication also inflicted serious harms on German scientists after the end of Second World War (Ammon, 2006). Uzuner (2008) has also referred to biases in the race, nationality, affiliation and social class of the contributing authors. Flowerdew (1999b) also found that NNES academics in Hong Kong felt that prejudice was among one of the disadvantages they felt that they had when compared with native speaker academics. Gibbs (1995), in the same way, has also referred to the exclusion of scientific production coming from the third world countries. These political problems include restricted access to scientific journals and publishers, especially imposed through sanctions, which have wreaked havoc on the Iranian educational system. Such problems have recently been partially resolved and universities are now given access to subscribed journals and publishers.

Another major hurdle that was most significantly referred to by the participants was rooted in language-related problems. Of more saliency were the discursial variations between Persian and English. As two of the participants tacitly said in their narratives in this research, they did not know about the macro-structural features of English and were not much familiar with the conventions, rhetoric and generic features of English discourse community. These language-related problems, as Ammon (2012) argues, have deprived non-native speakers of publishing in international peer-reviewed journals. Ammon further contends that these problems have not only afflicted scholars in other fields but also applied linguistic researchers who are coming from non-Anglophone linguistic backgrounds. For Ammon, the more the language of the academic writer distances from the inner circle norms, the more egregious the language-induced and linguistically caused difficulties would be. As Uzuner (2008) puts it and as corroborated by previous research (e.g. Duszak and Lewkowicz, 2008; Li, 2005), lack of mastery and proficiency in the academic discourse of a language can hinder academics' publication endeavors. Among these language problems, limited knowledge of appropriate vocabulary, simple writing style, the interference of L1 (Flowerdew, 1999a, b), grammar and syntax (Flowerdew, 2001) have been found to be of utmost importance.

As another hurdle to publication, center-periphery conflict in the world of academic publication is not limited to what the participants mentioned in this research. Although some of the participants in our narrative inquiry said that they endeavored to reach international readership by publishing what the core academic community requires, some others argued against this and did their bests to deal with local research priorities so that the international academic community would also read them. This tendency should, however, not culminate in Parochialism as Uzuner (2008) puts it. Local studies with local significance should be strengthened with supporting discussions and arguments to bring their significance to the larger discourse community too. Publishing papers in Persian would make it only accessible and readable to the Persian-speaking community. The ubiquitous presence of English excludes other non-Anglophone languages, such as Persian, from the academic discourse and would make English dominant and other languages subaltern. Some of the participants were critical and favored national journals for publishing their works or they preferred to focus on national research priorities. A problem which arises as a consequence of focusing on local research topics is that some international journal editors and reviewers may find such topics of less pertinence to the scope of their journals or deviating from the submission guidelines and hence the paper may be rejected (Braine, 2005). Undervaluing or underestimating local topics for research was also found in Cho's (2004) research who interviewed NNES doctoral students in the USA.

Among various strategies employed by the participants in this narrative inquiry, reading similar articles extensively seems to be the most efficient strategy which was also the case for Mur-Duenas (2019), a Spanish academic writer, who remarked that "I have read extensively on academic writing and studied manuals due to my research focus and my constant strive to develop academic literacy in English" (p. 107). In addition, it was implied that doctoral students usually asked their supervisors and more proficient friends to edit their articles before submission. These strategies were also found by previous researchers in other contexts. Examples include the Portuguese participants in Bennett (2010). Li (2006) is among those who has probed the strategies that novice multilingual scholars employ in their publications. Fei as an EFL Chinese doctoral student in Li's (2005) research also read the literature extensively to prepare him for paper submissions. Cho (2004) also believes that resorting to co-authorship with native speakers would yield fruitful results for novice writers who would like to get published in good international journals.

7. Conclusion

The results of this narrative inquiry have a number of valuable implications for EAP courses in universities, especially for non-English speaking students in the world. These results should not be limited to the Iranian context but can raise global awareness regarding the hurdles, motives and strategies that learners employ. Some measures can be taken to mitigate the problems that NNES academics face in English academic writing (Ammon, 2012). Having conducted this research, we suggest that universities should organize workshops directed at strategies for academic writing which can instruct academics and hence reduce the burden on their shoulders. In this sense, Cho (2009) argues that journal paper writing should be taught to graduate students of science and engineering fields so that they can get familiarized with writing conventions in their disciplines. As a result, various workshops have been held around the globe to facilitate the process of publication in international journals. For instance, Bazerman *et al.* (2012) ran a workshop on English language publication for mathematicians and physicists of Mexico because they believed that immersion in and engagement with English courses would foster the fluency and accuracy of research papers. In the same vein, Cargill *et al.* (2012) conducted a research in which five-day workshops were run in China for science disciplines and participants' level of confidence were measured both before and after the workshop. The results indicated that a higher rate of confidence had been achieved after the workshops. Early career

researchers and students should be provided with more academic writing services and facilities including enjoying the mentorship of more senior faculties or counterparts in English speaking countries and universities. To remedy these plights, writing courses should be encouraged across curriculum (See Fernsten and Reda, 2011). In science and engineering courses in Iran, only some majors have a specific course for academic writing. The majority others do not have it or have it as part of their seminar courses.

As for the hegemonic role of English in academia, Mauranen (1993) believes that academic publication in English would culminate in the linguistic impoverishment of other languages. In other words, both the vocabulary and the stylistics of local languages – loaded with cultural patterns of thinking and writing – would disappear. Bocanegra-Valle (2014) also refers to English as the lingua franca or the Esperanto of the academic discourse community but argues that the wide use of English as the sole medium to unite academics may wreak havoc on local, national or minority languages and would cripple their generativity in coining new terminologies for academic and scientific parlance. The MSRT in Iran has recently forced its senior faculty members to publish in the local journals and in Persian to flourish knowledge production in the country.

This study focused on science and engineering doctoral students. According to Scopus database, academic papers by Iranian scholars in the field of science, engineering and medicine are more widely published in English journals in comparison to the ones in the field of social sciences and humanities. Further research is required to delve into Iranian scholars in humanities and social sciences to see how they perceive publication in English, what hurdles they have and how they handle them. Moreover, given the small sample size in the current study, it is not logical to make a decisive and conclusive categorization about doctoral students' perceptions of academic writing in Iran. Instead, future studies in the form of questionnaire administration are called on to further probe into higher education students' perceptions and practices in academic writing.

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Further reading

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