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ESP Learners' Use of Dictionaries Alone and Dictionaries Plus Google Translate for Vocabulary Development and Phraseology

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Abstract

Millions of users worldwide nowadays use Machine Translation (MT) systems such as Google Translate (GT). The present study aimed at investigating the effects of using GT in class activities on the vocabulary development and phraseology of Iranian ESP learners. To this end, after assuring the homogeneity of the students, 60 ESP learners majoring in Persian Language and Literature and Physical Education and Sports Sciences were selected and randomly assigned to two experimental groups. After administering the pretest, the students in the first experimental group (Only-Dictionary) used available dictionaries but those in the second experimental group (Dictionary plus Google Translate) employed both GT and available dictionaries. As for homework, the participants were asked to translate a passage from their textbook for the following session. The students were given feedback on their translations so that they could understand their weaknesses and strong points. Ultimately, the posttest was administered which indicated that both groups improved in their vocabulary knowledge and equivalent-finding skill. However, the mean score for the Dictionary plus Google Translate group students was significantly higher than that of the Only-Dictionary group. As for phraseology, there was not a significant difference between the two groups.

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INTRODUCTION

Translation has always been regarded as a helpful communication tool, which can bring nations closer and helps them share their knowledge, technology, and science. Moreover, as Wu & Pan (2013) aptly put it, "In today's world, globalization and localization have become a trend throughout the world leading to a rapid growth of international demand for translation" (p. 2240). Meanwhile, with the rapid advances in technology and the greater need for accurate and fast translation, the need to use MT is felt much more than before. Khodeir (2004) defines MT as the translation of a text or speech from one language to another which is done automatically with the help of a computer. MT is increasingly used today as human translators are not always available, and human translation services are costly. MT also helps human translators greatly since it can produce translation from and into many different languages simultaneously; moreover, its use is on the rise since it is available everywhere.

In language classrooms, translation can be used as a pedagogical tool to facilitate both language teaching and learning, especially when teaching domain-specific vocabularies. Cook (2010), for instance, argues that the use of translation in English classes can improve the efficacy of the Direct Method of language teaching. Davies (2004) also highlights that the features used in the Communicative Approach, namely autonomy of the learners, peer work, meaningful learning, and student-centred classes, are also inherent in translation classes. She further stresses that translation tasks can boost students' reading and writing proficiency. Thus, based on the views mentioned above, if translation tasks are designed correctly, they can develop accuracy, flexibility, clarity, and the four language skills. Therefore, in the English as a Foreign Language (EFL) situation, translation can assist language learning and help students gain more information in dealing with their first language. Thus, translation is a guide to language learning or a means to an end, which helps students to arrive at their objectives and build up their insight into English. Finally, translation is an action that requires the cautious thought of both teachers and learners. However, be that as it may, giving the students a book and telling them to translate it is anything but an appropriate method to teach translation or language skills; instead, it requires systematic exercises incorporating reading, writing, listening, grammar, and vocabulary practice. When and how to use MT in language classrooms depend on the students' objectives, teaching objectives of the courses, and the situation in which the teacher is.

On the other hand, vocabulary is an integral component in developing listening, speaking, reading, and writing skills and an essential element of ESP courses. Richards and Renandya (2002) and Linse and Nunan (2005) maintain

that vocabulary is an essential and integral part of language learning.

Cameron (2001) and Lia (2005) have underlined that by learning the vocabulary of a language, students can boost their knowledge about that language. Based on Lai (2005), "words are interwoven in a complex system in which knowledge of various levels of a lexical item is required in order to achieve adequate understanding in listening or reading to produce ideas successfully in speaking and writing" (p.11). This essentially points to the fact that words are not discrete items in a language and are not used and learned alone.

Considering phraseology, Hunston (2010) states that "phraseology is a very general term used to describe the tendency of words, and groups of words, to occur more frequently in some environments than in others" (p.5). Rühlemann (2007) explicates that phraseology is how words co-select and to combine with other words, or more specifically, for any translator, the ability to create a text that is as natural and linguistically correct as possible. In the nomenclature of linguistics, phraseology has had a multitude of other names such as fixed expressions, set expressions, conventional expressions, word combinations, multiword units, multiword lexical units, multiword lexemes, formulaic sequence, collocations, idioms, phrases, expressions, formulas, formulaic language, sentence stems, lexicalized constructions, chunks, lexical bundles, prefabricated routines, clusters, idiomatic expressions, fixed phrases/strings, prefabricated constructions, and the list goes on (Coxhead, 2008; Hinkel, 2017; Pawley, 2001; Wray, 2000). However, for ease of discussion, in this study, phraseology refers to natural collocations, fixed expressions, and multiword units of the target language.

Different theoreticians and researchers have used various terms and names to refer to ESP vocabulary, including special purpose, specialized, technical, sub-technical, and semi-technical vocabulary (Coxhead, 2013). The type of vocabulary ESP leaners need to learn has always been an issue of concern surrounding ESP discussions (Paltridge & Starfield, 2014). Coxhead (2013) maintains that ESP vocabulary has now gone beyond the level of a single word and has reached lexical patterning and multiword units. Therefore, it is believed that ESP vocabulary should be taught using an approach that captures both single word and multiword unit levels. An approach that fulfils this requirement is the lexical approach which "follows the principle that lexis is the most important part of any language and should be treated that way" (Xhaferi, 2009, p. 234). Other components of effective vocabulary instruction used in English for General Purposes, e.g. teaching word-learning strategies such as using the dictionary, can also be employed in ESP vocabulary instruction. These components were discussed above.

To check the meanings and forms of new vocabulary items, learners can use a myriad of tools such as dictionary entries and machine translation. These comprise important devices for this purpose since they are easily available for learners. Extensive reading also plays a central role in vocabulary development. Teachers should also introduce new strategies to

their students to facilitate their vocabulary learning. Johnson (2001) points out that students learn vocabulary items through direct instruction, i.e., teaching strategies, which helps them learn difficult words. Therefore, learning specific words requires direct instruction as well as teaching the learners some word-learning strategies so that they can use them independently to improve their vocabulary knowledge. Johnson also believes that students ought to be helped to build up their own strategies for word learning from written and oral discourse and contexts; these strategies include using contextual clues and dictionaries and breaking down important parts of words such as roots prefixes and suffixes.

There were several motives behind the present study encouraged by the preceding discussions. The heightened interest in using MT programs, the importance of vocabulary development in ESP learning and teaching at both single word and multiword unit levels, and the use of translation to enhance vocabulary knowledge led the researchers to investigate a nexus of relations among such phenomena from a different perspective. The present study was, therefore, carried out to fulfil two main objectives: first, to investigate the effect of using a top-rated MT application, i.e., Google Translate on the vocabulary development of Iranian English for Specific Purposes (ESP) learners; and second, to empirically investigate whether the translations produced by ESP learners are natural as far as English phraseology is concerned. Google Translate was selected as the translation tool in the study since it is free and online and has high usability. While translation in other similar studies (e.g., Afshin & Alaeddini, 2016; Mirzaeian, 2010) has been from English to Persian, the present study has chosen a reverse direction, i.e., translating from Persian to English, as its distinctive feature. The following research questions were, therefore, formulated in line with the objectives of the study:

1.Does GT plus paper dictionaries for translating ESP texts from Persian to English significantly affect Iranian ESP learners' vocabulary development?

2.Does the use of GT plus paper dictionaries for translating ESP texts from Persian to English significantly improve Iranian ESP learners' phraseology development?

One can easily use the Internet and online MT systems to produce a rough translation of texts or words whose language one does not know. This is very helpful, especially in facing domain-specific vocabulary and texts in different languages. Using technology in the classroom changes the class atmosphere increases motivation of the students for participating in class activities, and increases teachers' motivation for teaching. It also encourages students' autonomy and independence in learning new vocabulary items and improves cooperation among teachers and students. Using MT in class activities, especially in ESP classes, highly impacts on the teaching and learning process.

ESP has become a regular fixture in numerous theoretical and empirical studies regarding second/foreign language pedagogy

(Basturkmen, 2006; Paltridge & Starfield, 2014). Based on Paltridge and Starfield (2014) , ESP is characterized as "the teaching and learning of English as a second or foreign language where the goal of the learners is to use English in a very particular domain" (p.2). They stress that an essential aspect of an ESP course is that the content and objectives of the course be based on learners' needs. Beshaj (2015) postulates that exchanges of information on a global scale and interactions among different nationalities have increased the requirement to have a good general English and a good command of vocabulary in various scientific, social, and political fields. Thus, to her, knowing and practicing ESP is a necessity as it plays an important role in global communication and allows for different types of registers where people exchange their ideas by applying certain functional types, forms, and genres. Basturkmen (2006) points out that in ESP, language is learnt to facilitate and organize greater linguistic efficiency in academic and workplace contexts. Therefore, ESP helps learners to get the required abilities and competencies to use in a specific field of inquiry or occupation.

Basturkmen (2006) has identified five significant reasons for teaching ESP as follows: (a) to reveal domain-specific language so that learners know how language is employed within the target situation; (b) to develop target performance competencies which are related to what learners do with language and the needed skills to be competent; (c) to show a specific type of underlying knowledge, whose ultimate goal is to concentrate on developing students' knowledge of a specific field of study or work; (d) to develop strategic competence which shows the link between the context of the situation and language knowledge and enables students to have a successful communication and finally (e) to foster critical awareness, the aim of which is to make students conscious of and culturally awake to the target situation.

Learning English involves learning the four language skills, namely speaking, listening, reading and writing as well as the three components of language, i.e., vocabulary, grammar, and pronunciation, all of which English language learners need to master to be able to use the English language fluently and accurately. As one of the primary skills in ESP courses, reading comprehension depends largely on vocabulary knowledge, so ESP learners need to develop both their receptive and productive vocabulary. According to Fauziati (2010), with low vocabulary knowledge, one cannot convey one's message effectively or express one's ideas appropriately. Schmitt and Schmitt (2020) propounds that vocabulary lies at the centre the center of language learning and communication.

Different scholars have presented a wide variety of definitions for domain-specific vocabulary. Nation (2013), for instance, argues that domain-specific vocabulary or specialized words are made up of words that frequently appear in a particular book or knowledge domain but do not occur or are of shallow frequency in other fields of study. Birmingham (2014) defines domain-specific words as the technical words or specialized words related to a specific content area including law, medicine, science, etc. Considering domain-specific vocabulary in ESP, Paltridge and Starfield

(2014) point to several reasons to highlight the importance of vocabulary in ESP course and domain-specific areas: "(a) teachers and learners must know that precious classroom time is directly associated with their language needs, (b) they must be reading material that contains important ideas and therefore the language of their field and writing using those ideas and language" (p.116). Therefore, such lines of reasoning indicate that, in all academic disciplines, addressing the challenging component of vocabulary is a problem that cannot be avoided, and ESP and its domain-specific vocabulary is not an exception in this regard. Thus, the relationship between vocabulary and conceptual understanding in disciplinary vocabulary is an important one.

Students might face different problems in language learning, including grammatical problems, finding accurate equivalence for domain-specific vocabulary, etc. To solve and manage such problems, modern technology such as the Internet, MT and cell phone applications can be utilized in language teaching classrooms. One such freely accessible MT system is Google Translate (GT). Different studies have been carried out to investigate the use of GT and its effects on various aspects of translation and learning processes. Li, Graesser, and Cai (2014) examined formality and cohesion variables in texts translated from Chinese into English. Saffari, Sajjadi, and Mohammadi (2017) studied grammatical, lexical, and semantic accuracy in translations from English to Persian. The findings of the study showed that GT can provide a proper meaning/equivalence for words. Afshin and Alaeddini (2016) performed a contrastive analysis to examine the performance of GT in translating verb tenses from English into Persian. They concluded that GT was not able to translate verb phrases correctly. Mirzaeian (2010) compared the translation of three machine translations, namely, Pars, Padideh, and Google Translate, to evaluate and compare their performances considering variables such as Nouns, Pronouns, Verbs, Tenses, Passives, and Verbals. Bozorgian and Azadmanesh (2015) conducted a study to investigate subject-verb agreement in GT translations from English into Persian. They found that GT could not apply subject-verb agreement rules properly in all sentences. Azer and Aghayi (2015) study indicated that the semantic aspects of translations of legal texts, political texts, and poetry from English into Persian by GT were acceptable.

METHODS

Participants

The study participants were 60 male and female ESP students studying at the University of Zabol at BA level, and their age ranged from 19 to 29. They were selected based on the results of an Oxford Quick Some 170 students who had been admitted to either Persian Language and Literature program or Physical Education and Sports Sciences program at the University of Zabol in the academic years 2017 and 2018 took part in the test. All of them had passed the General English course and had not taken any ESP course until then. Of these students, 60 ones who scored 30-39 were selected to participate in

the study. Thirty students were randomly assigned to the Only-Dictionary group. Since they were students of two different fields, they were placed in two different classes and were taught how to translate their ESP course passages separately. They were considered only the Only-Dictionary group, and the other thirty were selected as the second experimental group. The students in this group were also students of two different fields, so they were taught in two different classes but were considered as the Dictionary plus Google Translate group.

Design of the Study

In line with the purposes of the study, a quasi-experimental design consisting of two experimental groups were selected in the present study. Farhady (2010) states that it is impossible to ask participants to participate in a research study only to provide data. Therefore, conducting true experimental research has limitations. The study included one independent and two dependent variables. The use of GT with or without dictionaries was the independent variable of the study. The dependent variables comprised Iranian ESP learners' vocabulary development and Iranian ESP learners' phraseology.

Instrumentation and Materials

Oxford Quick Placement Test

This test is considered a robust and reliable means of placing learners at the start of an instructional program. A version of the Quick Placement Test, designed by Allan (2001) was administered to make sure that the participants had the same level of proficiency in general English. The test consisted of 60 multiple-choice items of grammar, vocabulary, and cloze passage. The grammar and vocabulary parts consisted of 35 items, and the cloze passage part contains 25 items, with an estimated time of 60 minutes for completion. The instructions were read to the participants in Persian.

Pretest

This test constituted a 300-word text selected from the textbooks the participants were supposed to cover during the ESP course. The text contained 20 domain-specific English words, which the participants were supposed to translate from Persian into English. These vocabulary items were chosen from a text comprised of several discrete paragraphs selected at random from different passages included in the textbooks.

Translation Materials

Different extracts from the ESP students' textbooks were selected to be used in the study. The Persian Language and Literature students studied the course book entitled *Stylistics in Poetry* written by Shamisa (2014).The book includes different topics such as stylistics, and different periods of Persian poetry. As for Physical Education and Sports Sciences students, the course textbook, i.e., *Preparation and Application of Teaching Materials in Physical Education,* by Nasr Esfahani, Pour

Farahmand, and Soroush (2014) containing topics such as football and gymnastics was taught. Both course books are written in Persian. The extracts were selected from different chapters of the course books.

Technological Tools

Any computerized system or intelligent mobile phone that had the capability of connecting to the Internet could be used by the participants as a tool to make the employment of GT possible.

Google Translate

An MT program called GT was selected as the translation app in the study. This program was chosen for several good reasons: (a) it is free; (b) it is an online program, and people can easily use it; (c) it is also automatic. As (Almufawez & Maroof, 2018) have elaborated, the GT app is a machine or a website that offers online translation for many languages. Translation in Google Translate can be done in many ways. It provides free text translation in 103 languages through typing; it can also translate a text in a photo in 38 languages; it offers translation through conversation in 32 languages and handwriting in 93 languages. Google Translate is a top-rated translation application for accuracy.

Posttest

This test was the same as the pretest in terms of content and structure; however, it was administered three months after the pretest. The participants were asked to translate the text from Persian into English.

Translation Assessment Rubric

The translations produced by the participants were given to two raters to be scored based on a standard rubric of translation quality assessment presented by Khanmohammad and Osanloo (2009) which measures both accuracy of term equivalents and phraseology. The raters scored both the English translation of domain-specific vocabulary and the translated sentences of the students. Based on this rubric, the total score devoted to translation is 100. In this rubric, different aspects of translation, including accuracy (30%), equivalent finding (25%), register, target language (TL) culture (20%), shifts, omissions, additions, the equivalent invention (10%), grammar, and Source Text (ST) style (15%) are considered. However, the categories taken into account in the present study were finding equivalents (25% of total scoring rubric), omissions, additions, and inventing equivalents (10% of total scoring rubric). This rubric devotes different score ranges to each of these categories.

Data Collection Procedures

To meet the objectives of the study and to assess the effects of GT, initially, the Oxford Placement Test-was administered to assure the homogeneity of the participants in terms of language proficiency. Then, 60 students who scored 30-39 were selected to participate in the

study. They were randomly assigned to two groups, i.e., Dictionary plus Google Translate group and Only-Dictionary group. Afterwards, the pretest containing discrete paragraphs selected from the participants' course textbooks was administered to the participants to check their domain-specific vocabulary and phraseology level. The participants were asked to translate the domain-specific extracts from Persian into English. All the participants took this test as a pretest before the instructional phase. To fulfil the goals of the research, a weekly two-hour ESP course was taught to the participants during the first semester of academic year 2018.

The Dictionary plus Google Translate group participants were provided with information on GT and how to maximize their success in using it. These explanations were supported by giving successful and unsuccessful examples of using GT. The learners used GT to help them learn and use ESP vocabulary and phraseology while translating ESP texts from Persian into English. The Dictionary plus Google Translate group was asked to use both GT and available dictionaries during translation. The Only-Dictionary group, however, used only available dictionaries for translation. As for homework, the participants were given a passage from their course textbooks to translate and bring with them to the class for the next session. The translations that they did for homework were checked in the class, so they could find out about their strengths and weaknesses. This process continued for the whole semester. In the end, the posttest was administered to the two groups of the study so as to measure the effects of GT on Iranian ESP learners' vocabulary development and phraseology and to compare its effects with those of using available dictionaries during the translation process.

Data Analysis

The scores of the pretests and posttests of the two groups were analyzed using One-Sample Kolmogorov-Smirnov Test of Normality. A standard level of significance of 0.05 was chosen. Results of the Kolmogorov-Smirnov Test showed that the value of test statistics and significance were higher than 0.05 (>0/05). Therefore, a parametric test, namely t-test could be used for analyzing the data to compare the scores of the two groups to identify the improvement of phraseology and vocabulary development. Since, there are two independent groups; an independent samples test is used.

RESULTS

First Research Question

The descriptive statistics of the posttest for both groups is shown, including mean, sample size, standard deviation, and standard error mean for vocabulary development. It gives basic information about the posttests comparisons of the two groups.

Table 1

Descriptive Statistics of Posttests for Vocabulary Development of the Two Groups

	group	N	Mean	Std. Deviation	Std. Error Mean
Dictionary plus Google Translate	1.00	30	74.3167	10.32363	1.88483
Only Dictionary	2.00	30	67.5333	11.01405	2.01088

There was a significant difference in the scores of vocabulary for Dictionary plus Google Translate (M= 74.3, SD= 10.3) and Only Dictionary (M=67.5, SD= 11.01) conditions.

Independent samples test gives results from the independent t-test. An independent samples t-test indicates whether there was a statistically significant difference between the mean scores for the two groups or not. It shows t (df), p value which are presented below

Table 2

Independent Samples Test of Both Groups

	Levene's Test for Equality of Variances		t-test for Equality of Means						
								95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Equal variances assumed	.001	.972	2.461	58	.017	6.78333	2.75612	1.26635	12.30031
Equal variances not assumed			2.461	57.759	.017	6.78333	2.75612	1.26586	12.30080

The results of the Levene's Test for Equality of Variances shows that sig.>0.05. So, we use the top row of this table. The results suggested that using Dictionary plus Google Translate affected the vocabulary development of Iranian ESP learners. The results suggest that when ESP

learners used Dictionary plus Google Translate during the translation process, their vocabulary knowledge developed and improved. Since the value of sig. (2-tailed) <.05 (sig.=.017) and t=2.46, the two samples are statistically significantly different from each other.

Second Research Question

The posttests descriptive statistics for both groups are shown, including mean, sample size, standard deviation, and standard error mean for phraseology. It provides information about the posttest comparisons of the two groups.

Table 3

Descriptive Statistics of Posttests for Phraseology of the Two Groups

	group	N	Mean	Std. Deviation	Std. Error Mean
Dictionary plus Google Translate	1.00	30	54.3333	9.90797	1.80894
Only Dictionary	2.00	30	43.6667	8.54415	1.55994

There was no significant difference in the scores of phraseology for Dictionary plus Google Translate (M= 54.3, SD= 9.9) and Only Dictionary (M=43.6, SD= 8.5) conditions.

The Independent samples test gives results from the independent t-test. An independent samples t-test indicates whether there is a statistically significant difference between the mean scores for the two groups or not. It is used here, since the participants in each group are independent from each other. It shows t(df), and p value which are presented below:

Table 4

Independent Samples t-test of Both Groups

Independent Samples t-test

	Levene's Test for Equality of Variances		t-test for Equality of Means						
								95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Equal variances assumed	.209	.650	4.466	58	.000	10.66667	2.38866	5.88525	15.44808
Equal variances not assumed			4.466	56.773	.000	10.66667	2.38866	5.88305	15.45029

There was not any significant difference in the scores of phraseology for Dictionary plus Google Translate (M= 54.3, SD= 9.9) and Only Dictionary (M=43.6, SD= 8.5) conditions; t (58) = 4.4, p= .00. These results suggest that GT does not affect the phraseology of Iranian ESP learners. The results suggested that when ESP learners used Dictionary plus Google Translate during the translation process, their phraseology does not improve.

DISCUSSIONS

This study investigated the effect of using Google Translate in class activities and homework on the vocabulary development and phraseology of Iranian ESP learners in two fields of study, namely Persian Language and Literature and Physical Education and Sports Sciences at BA level. As for the relation between using Dictionary plus Google Translate and vocabulary enhancement, the results showed that Dictionary plus Google Translate and Only Dictionary conditions significantly affected the vocabulary development of the ESP participants. This shows that GT is, roughly speaking, a suitable aid for translation at least when it regards domain-specific vocabulary knowledge at the single word level. This finding corroborates the results of a comparative study conducted by (Saffari et al., 2017) . After analyzing the English to Persian translations generated by GT and Bing Translator of 240 law, literature, medicine, and mass media texts, they found that GT outperformed BT in terms of lexical, semantic, and grammatical accuracy. However, further analysis of the data indicated that, compared to human translation, GT is still in its infancy and has still a long way to fully replace human translation. Another comparative study by Azer and Aghayi (2015) came to more or less the same conclusions. Applying Van Slype's translation assessment rubric and using end-users' evaluations, these researchers compared the translations of six different text types, including political, legal, and computer science texts from English to Persian made by GT and Padideh Software. The researchers reported that both MT programs generated intelligible and acceptable Persian versions in the semantic translation of political and legal texts. Furthermore, from the perspective of the end-users, the translations generated by GT were more acceptable than those of Padideh Software. These findings all bear witness to the fact that using dictionaries (both MT programs and available dictionaries) is a useful instructional strategy for vocabulary development at least at the level of single words. When it comes to ESP, in a similar vein, one can maintain that GT can function as a good source for finding ESP equivalents. All that said though, ElShiekh (2012) reported different findings regarding the performance of GT. In their Research Writing Course, students, who were under the supervision of the researcher, majoring in English Translation handed in short assignments in which they used GT to translate advertisement, literary, and religious texts from English to Arabic and vice versa. ElSheikh found that GT was not able to deal with morphemes attached to verbs in different conjugations, did not recognize rhyme, and did

not provide an appropriate equivalent of a lexical item in its context of use. ElSheikh, therefore, concluded that MT is much of a good bilingual dictionary rather than a suitable MT from one language to another. Another reason might be related to the structural architecture of the program which makes it possible for some languages, but not for many others, to be easily analyzed and decoded by the application and then rendered into the target language.

Regarding the second research question of the study, the findings showed that using GT did not significantly improve ESP participants' phraseology. This means that GT did not have a good performance when it came to the level of lexical patterning and phraseology. These results are in harmony with those of Afshin and Alaeddini (2016) who compared the GT translation of four passages extracted from Oliver Twist with that of Gharib to check their efficiencies in translating verb tenses from English to Persian. The findings of their study indicated that GT did not do well in translating verb tenses. Moreover, GT was not able to recognize verb meanings in their contexts of use. In addition, these researchers found that most of the grammatical errors committed by GT in the process of translation were related to aspects, passives, and compounds, respectively. Consistent with the findings of the present study, Bozorgian and Azadmanesh (2015) also found that GT was not successful in translating subject-verb agreement in its English to Persian translation of 50 sentences extracted from the BBC's English website. Considering the unsuccessful performance of GT regarding ESP phraseology from Persian into English, different program. One possible reason for these mixed results seen in these research studies might lie in the inherent linguistic characteristics and structures of different languages, which differ sources of problem can be identified as follows:(a) Persian and English languages have different structures and GT, as a machine translation, does not have the appropriate architectural structure to provide learners and translators alike with correct translated versions in terms of grammatical structures, shifts, lexical patterning, and phraseology, just to name a few. Persian passive structures, for instance, are difficult for GT to correctly translate and, thus, the output is not a correct and natural utterance; (b) Persian language sentences were not fully understandable for GT, or the degree of this understandability was low; (c) the students' heavy reliance on GT translations; they do not check appropriateness and naturalness of GT translations and merely rely on the translations that are presented by GT; (d) another possible reason is related to the fact that a word has different layers of meaning, and it is not easy for an MT to choose an appropriate one based on the context of use; (e) long sentences and compound and complex structures are difficult for MT to translate correctly; thus, it is suggested that before getting the sentences to MT for translation, they be changed into simple and understandable sentences; (f) inherent drawbacks that exist in MT(s); a case in point is MT programs failure to analyze real world knowledge, and (g) limited resources that are available to GT for translation from Persian into English.

CONCLUSION AND IMPLICATIONS

In today's modern world, the rapid growth and wide appeal of technological tools, which have also found their way into educational settings, have urged educationists to explore and investigate the applicability of these technologies to instructional settings, and the English language teaching profession is no exception in this regard. MT programs such as GT are a case in point. While the jury is still out with respect to using the mother tongue in English language teaching classes, such applications are significantly used by translators and language learners. Thus, an area of research has emerged to probe into the relationship between using such programs and learners' language proficiency from a multitude of perspectives. The present project was, therefore, an attempt to investigate the effects of Google Translate on the vocabulary development and phraseology of Iranian ESP learners. Based on the results, the study came to the conclusion that GT significantly affects vocabulary development of Iranian ESP learners while phraseology did not significantly improve.

The study had some certain limitations and delimitations for sure. In the first place, it was carried out within a certain time period, i.e., during one academic semester. Other studies can be carried out in a developmental, longitudinal fashion using both qualitative and mixed-method approaches through triangulation since "two different types of data can provide validity evidence by seeking corroboration and integrity of findings, establishing triangulation of the study" (Karaolis & Philippou, 2019, p. 403). Secondly, only ESP learners at the BA level participated in the study. Both ESP and English for General Purposes (EGP) or ESL/EFL learners doing an MA or even a PhD can be also researched to investigate their use of MT programs with regard to developing different language components and skills. Moreover, only one automatic translation service, i.e., GT was used in the study as a translation tool for assisting the translation process. Therefore, in order to be able to generalize the findings of the study to a wider context, it is proposed that other systems or programs such as Pars Translators and Padideh Software be utilized for treatment and data collection. New studies can replicate and extend the present study by exploring other fields of study and/or subject matters within the ESP domain such as psychology, biology, and mathematics to find out whether the same patterns and findings will come out. New horizons can be also explored with regard to the relationship between using different MT programs and apps and the improvement of other language skills and components such as writing and reading. Moreover, other translation elements including register, culture, grammar, and ST style can be probed into in future studies. Interested researchers can also employ translation assessment rubrics other than the one used in the present study to see if different, new patterns emerge.

The findings of the present study bear a number of pedagogical and practical implications for ESP teachers and students, ESP course designers and teacher educators, as well as translation and language-teaching-related app developers. When teachers introduce a new

application to their learners, it is necessary to advise them on how to efficiently and strategically use the application to boost their learning and achieve their specified objectives. Consistent with the findings of the study with respect to GT and other MT programs' failure to capture the phraseology dimension of vocabulary and, by implication, translation, ESP learners should be advised to exercise caution when utilizing such apps. ESP practitioners can tell their learners that dictionaries are not the only way to boost their vocabulary knowledge and can instruct their students in using other vocabulary learning strategies. ESP course designers can now trust MT apps to be employed as useful instructional aids for vocabulary development at least for single words and simpler chunks; such apps, therefore, can be integrated, along with other useful instructional tools applications, to ESP and ESL/EFL educational systems. Researchers and practitioners working in the fields of computational linguistics and machine translation can considerably benefit from the findings of this and other similar studies to improve, based on empirical and practical evidence, such applications with regard to the structure of the program itself and the distinctive characteristics of different languages across the globe, which might be the sources of the problems one can witness in the outputs produced by such programs.

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