On the Impact of Lexical Glossing on Receptive Skills of EFL Learners

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Abstract: The current study served as an attempt to investigate the effect of lexical glossing on the receptive skills of Persian EFL language learners. To put another way, the paper tried to see whether Persian or English lexical glossing bear any influence on the reading and listening performance of language learners. To achieve the purpose, two TOEFL tests (one for ensuring the homogeneity of language learners and one for testing the learners' performance) were distributed among the availability-based selected participants of the study. Gathering and analyzing the data, the study revealed that as far as both reading and listening skills are concerned, there is a significant difference between the performances of the two groups. The study further indicated that the learners who received Persian glossing outperformed those who received English glossing. The study contributes significantly to the effective language teaching and even testing.

Key words: Lexical gloss · Receptive skills · Iranian EFL learners

INTRODUCTION

One aspect of language which is considered as one of the most important aspects of every language is vocabulary. Researchers and theorists also have pointed to the fact that vocabulary knowledge is multi-faceted. For example, as noted in [1], it is a disarmingly simple term for a complex multidimensional phenomenon. Due to this complexity, classroom teachers must take a more comprehensive approach to vocabulary development in order for students to reach a higher quality and quantity of L2 output [2,3]. They [2,3] state that there are three facets of this complexity: (a) receptive versus productive vocabularies, (b) breadth versus depth of vocabularies and (c) direct teaching versus contextual inferencing.

Moreover, vocabulary learning is essential for the learning of a second language, which constitutes a great challenge and enormous task for both second language learners and teachers. As stated in [4], without grammar very little can be conveyed, but without vocabulary nothing can be conveyed. According to [5], "basic communicative competence is largely concerned with the strategies the learners use to solicit the vocabulary they need in order to get meaning across" (p.75). Therefore, lots of studies have been done on second language vocabulary acquisition. Students learn vocabulary by reading and listening and these two skills of language have a special importance in learning English.

There has been much discussion of the effectiveness of various reading text enhancement for enhancing vocabulary learning. It is generally accepted that the use of gloss is facilitative for learners' vocabulary learning while reading [6-9]. The positive effects of gloss on fostering vocabulary learning can be attributed to several factors. First, gloss is more accessible and easier to use than dictionary in that it provides accurate meanings for words that might be guessed incorrectly [10]. With its bold-faced design, gloss salience can draw learners' attention to target words, supporting the notion of "consciousness-raising" and "input-enhancement" [7]. Gloss also helps to connect word forms to meanings with minimal interruption of reading process and consolidate the form-meaning connection [11]. The presence of gloss finally encourages learners to read back and forth between the target words and gloss, triggering more lexical processing, which in turn leads to word retention [12].

Glosses act, in fact, as substitutes for the dictionary. However, they do not interrupt the reading process as much, since the definition is easily available in the text. Traditionally, they have been used to promote comprehension of the text and incidental vocabulary learning [13]. In general, when comparing marginal glosses, whether multimedia or traditional, with the absence of any type of gloss, glosses have been shown to be of help to the student in the comprehension of a

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written text [13-15]. In addition, Attempts to compare the effectiveness of L1 and L2 glosses have brought mixed results, some indicating no difference between the two types and others suggesting the advantage of one gloss type over the other type [12,16,17]. In [12], for instance, L1 and L2 glosses were compared with 85 English-speaking participants who were studying Spanish as a second language. They read a Spanish text with 613 words under three conditions: (1) L1 (English) gloss; (2) L2 (Spanish) gloss; and (3) No gloss. After reading the text with 32 words or phrases glossed and presented in boldface, the participants received two vocabulary tests unexpectedly: one immediately after the reading and the other four weeks later. The results of the immediate test showed that the gloss conditions (either L1 or L2) were better than no gloss; however, the results did not indicate any significant difference between L1 and L2 glosses. The questionnaire also revealed that the participants preferred L2 glosses to L1 glosses. Chen [16] examined L1 and L2 glosses with 85 college freshmen in Taiwan who were studying English as a second language. The participants were divided into three groups - (1) L1 (Chinese) gloss; (2) L2 (English) gloss; and (3) No gloss - and read a 193 word-English text with 20 target words being glossed. The results showed that the L2 group outperformed the no gloss group and that the difference between L1 and L2 glosses was not significant. Chen also pointed out that the L2 gloss group took a longer time for reading the text than the L1 gloss group did.

Background to the Study: It was already pointed out that the nature of vocabulary learning and acquisition is complex and involves several processes that can inform instruction. In [18] five noteworthy components of word knowledge are described. The authors pointed out that word learning is incremental; that is, we learn word meanings gradually and internalize deeper meanings through successive encounters in a variety of contexts and through active engagement with the words. For example, the average tenth grader is likely to have a deeper and more sophisticated understanding of the term *atom* compared to the knowledge of an average fourth grader, who, they believe that, still has a more simplistic understanding of the term. We also know words at varying levels of familiarity from no knowledge to some knowledge to a complete and thorough knowledge, which serves us especially well in speaking and writing [19,20]. It may be that, for some words, students may only need to have a general understanding of a term to keep comprehension intact. For other words, a deeper

understanding may be necessary for students to successfully comprehend a passage.

Another important to point out is that while there is agreement on the importance of vocabulary knowledge in reading comprehension [21], researchers disagree about what it means to fully know a word and what kind of knowledge this is. Chen [16] categorizes vocabulary as the knowledge of word meaning and the level of one's accessibility to this knowledge, but this definition ignores other aspects of lexical knowledge such as spelling, pronunciation and morpho-sytactic properties, as noted by [22]. Richards [23] offered the first inclusive definition of vocabulary knowledge, which not only included the morphological and syntactic properties but also other aspects, such as word frequency. Yet, his definition was still missing the pronunciation and spelling aspects. In 1990, Nation [24], however, included these missing aspects in his framework of vocabulary knowledge. He argued that a person's knowledge of a word should involves both receptive and productive knowledge, all aspects of what is involved in knowing a word, which such as forms, meaning and usage.

In addition, Vocabulary knowledge plays an important role in reading comprehension. Researchers tend to agree that vocabulary knowledge is a major prerequisite and causal factor in comprehension and that there is a relationship between vocabulary size and reading comprehension. Some studies have investigated this relationship and used vocabulary size as a predictor variable for reading comprehension [25-28]. Furthermore, researchers and theorists have pointed to the fact that vocabulary knowledge is multi-faceted, "a disarmingly simple term for a complex multidimensional phenomenon" [1, p. 4]. Due to this complexity, classroom teachers must take a more comprehensive approach to vocabulary development in order for students to reach a higher quality and quantity of L2 output [2,3]. There are three facets of this complexity: a) receptive versus productive vocabularies, b) breadth versus depth of vocabularies and c) direct teaching vs. contextual inferencing.

Glossing: The use of lexical glosses is usual in second language materials [14]. Bell and LeBlanc [29] state that glossing is the most common form of text adaptation since it assists the reader in comprehending words and phrases and, therefore, helps second language learners to comprehend reading materials. Recent literature on glossing has caused a controversial debate; one that remains problematic even today in foreign language (FL) reading research. Gloss is defined as an explanation of the

meaning of a word [30] or a brief definition or synonym either in L1 or in L2 [31]. Traditionally, glosses provided a short definition or note in order to facilitate reading and comprehension processes for L2 learners. Nation [24] defined glosses as short definitions; Laufer [26] refers to them as explanations of the meanings of words. Typically located in the side or bottom margins, glosses are most often supplied for unfamiliar words, which may help to limit continual dictionary consultation that may hinder and interrupt the L2 reading comprehension process.

Moreover, as put in [32], a gloss is an auxiliary informal description for the common perception of humans of the intended meaning of a linguistic word. Jarrar [32] specifically dealt with the role of glossing in otology. He further adds that an ontology will have twofold parts: its typical formal axioms (i.e. concepts, relations and rules/constraints) and informal descriptions (i.e. glosses of concepts). The purpose of a gloss he asserted is not to provide or catalogue general information and comments about a concept, as conventional dictionaries and encyclopedias do.

In view of the positive findings of the effectiveness of gloss, researchers have shifted their focus from gloss effects to gloss types [7,33,34]. That is, an attempt to determine what gloss types generate positive learning effects. One of the issues on gloss types is whether gloss should involve learners' decision-making process or not [6,8,10,11,34]. The concern about whether to involve decision-making process comes from the argument that the use of gloss might deprive learners of the opportunities to infer, which, in turn, reduces the amount of processing. As a compromise between inferring the meaning from context and understanding the meaning from gloss, Hulstijin [35] suggests providing multiple-choice meaning-inferred gloss rather than direct meaning-given gloss because the former can activate learners' processing by enhancing their involvement through need, search and evaluation of the meaning of unknown words.

In another study, Bell and LeBlanc [29] studied learners' actual behavior to determine which gloss; L1 or L2 is used more frequently for computer-based reading. Forty third-semester Spanish learners were divided into two groups; one read the Spanish text with English glosses and the other read the same text with Spanish glosses. The text was a 409-word short story with 67 glossed words. Participants read the text on the computer screen and the glossed words appeared underlined and highlighted in blue. By clicking on the underlined word,

another screen is opened which contained the target word and the gloss information. There was a tracking system to record each hit on the page. Subjects took a comprehension test immediately after reading the text. Results showed that participants demonstrated a preference for using glosses in L1 since "the English gloss group clicked on about twice as many of the words as did the Spanish group" (p.279). The result of the comprehension test showed that the difference between English gloss group and Spanish gloss group was not statistically significant. Thus, the language of glosses was not a significant variable. Participants preferred L1 glosses over L2 glosses. [16] investigated the same issue with Taiwanese participants studying English as a second language. Eighty-five college freshmen were divided into three groups: L1 gloss (Chinese), L2 gloss (English) and No gloss. They read a 193word English text with 20 glossed words. Results of this study showed that the difference between L1 and L2 gloss groups was not statistically significant and that the L2 gloss group outperformed the no gloss group.

Finally, Kost *et al.* [36] investigated the effects of pictorial and textual glosses and a combination of them on incidental vocabulary growth of foreign language learners. Subjects from second-semester German classes read a narrative text passage under one of three marginal gloss conditions: textual gloss (English translation); pictorial gloss; and text and pictures in the gloss. Subjects were tested on production and recognition of 15 target words both immediately following and two weeks after the reading. Support was found for the hypothesis that subjects using a combination of text and pictures in the gloss would outperform subjects under the other two gloss conditions on the recognition of target words on both short-term memory and retention.

Not many studies have been done on the effects of lexical glossing. The available ones, however, have been mainly on the following issues: what kind of language the glosses shall be in; where the glosses shall be put; and what kind of glosses shall be in (i.e. multiple choice glosses, monomial glosses, or no glosses). Most of these studies have been on the link between lexical glossing and reading comprehension and little research has been conducted on the relationship between lexical glossing and listening comprehension. The present study aims to investigate the effect of lexical glossing on reading and listening comprehension of a group of Iranian EFL learners at the same time. To put clearly, the study is, in fact, an attempt to address the following research questions:

- Do L1 or L2 lexical glossing differ in their effectiveness on L2 reading comprehension?
- Do L1 or L2 lexical glossing differ in their effectiveness on L2 listening comprehension?

The present study enjoys significance in that it intends to shed more light on the link between lexical glossing and the receptive skills through two different types of glosses (L1 and L2 glosses). As mentioned before, most previous studies have explored the link between lexical glossing and reading comprehension or listening comprehension separately. This study also holds significance since it attempts to investigate the relationship between lexical glossing and reading and listening comprehension at the same time.

Method

Participants: To carry out the study two intact classes of male students (N=80) learning English as a foreign language in an English language institute in Shahrekord served as participants. They ranged from 17 to 26 in age and were taking upper-intermediate classes in the institute. As it was above-asserted, they remained in their own classes and no noticeable change was done on them. The participants of the study were required to take TOEFL tests.

Instruments: Altogether, two main instruments were employed to gather the data. First, to begin the study and to make sure that the students were of the same level of proficiency, they were given a reduced form of an old version of a TOEFL test which contained listening, reading and vocabulary sections. The results of the vocabulary section of the test were also used to see whether the students had the same level of knowledge of vocabulary at the beginning of the study or not. Second, another test of TOEFL consisting of the reading and listening sections accompanied by glosses either in Persian or in English were used to determine the effect of different types of glossing on the two skills.

Data Collection Procedure: At the beginning of the study, the reduced version of the TOEFL test was administered to determine that the students were at the same level of proficiency and that their knowledge of vocabulary was nearly the same. Then, in another session, in one of the classes (class 2) the students received Persian vocabulary glosses when they were taking the listening and reading comprehension tests whereas in the other class (class 1) they received English vocabulary glosses.

Data Analysis: Having collected the required data, the researchers conducted statistical analysis in general and Independent samples t-tests in particular, to see if there existed any difference between the performance of the participants receiving the reading and listening tests with Persian glosses and those with English glosses.

RESULTS

The results of the study are presented below. First of all, in order to ensure that the two groups were adequately homogeneous in their performance, a pre-test was administered to both groups. Table 1 reveals the descriptive results of the analysis. As the table shows, the mean of class 2 (M=11.04) came out to be slightly, higher than the mean of class 1 (M=10.43).

Then, an independent t-test was run to see if the two classes performed significantly different on the pre-test or not. Table 2 displays the results obtained from this statistical analysis. As it is illustrated, the two classes did not differ significantly in their performance on the pre-test (t = -.42, $p > 0.05$).

Having ensured the homogeneity of the two classes in terms of their reading, listening and vocabulary knowledge, the researchers conducted an independent t-test to answer the first research question of the study dealing with whether Persian or English glossing bear different impacts on L2 reading comprehension of the learners. Table 3 presents the related descriptive results.

This table clearly indicates that the mean of class 2 (M=25.23) is remarkably higher than the mean of class 1 (M=11.47). Yet, to make sure that the difference was significant, an independent T-Test was run. Table 4 shows that the difference between the reading performance of the two classes is significant (t= -15.43, $p < 0.00$). Therefore, it can be stated that using Persian glossing in class 2 promoted the students' performance on reading comprehension.

The second research question of the study deals with the effect of Persian and English glossing. However, this time it is related to the other receptive skill namely, listening. Like the previous case, first the descriptive statistics obtained from the independent t-test is illustrated in Table 5.

As it can be understood from this table, similar to the results of reading comprehension, the learners in class 2 (M=17.23) outperformed the learners in class 1 (M=12.13). In other words, the learners who used the Persian gloss performed better than the learners using the English gloss.

Table 1: Descriptive statistics of the pre-test

	Codes	N	Mean	Std. Deviation	Std. Error Mean
pretest	Class1.	40	10.43	2.11	.39
	Class2.	40	11.04	2.22	.40

Table 2: Independent T-Test of the Pre-test

						95% Confidence Interval of the Difference	
	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Class1& Class2 pre-test	-.42	60	.59	-.30	.46	-1.36	.70

Table 3: Descriptive statistics of the Glossing Impact on Reading

	code	N	Mean	Std. Deviation	Std. Error Mean
reading	Class1.	40	11.47	2.13	.36
	Class2.	40	25.23	3.44	.48

Table 4: Independent T-Test of the Glossing Impact on Reading

						95% Confidence Interval of the Difference	
	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Class 1 & Class 2 Reading	-15.43	60	.00	-13.76	.77	-14.21	-11.19

Table 5: Descriptive statistics of the Glossing Impact on Listening

	Code	N	Mean	Std. Deviation	Std. Error Mean
Listening	Class1.	40	12.13	2.44	.35
	Class2.	40	17.23	2.14	.39

Table 6: Independent Samples Test of Glossing Impact on listening

						95% Confidence Interval of the Difference	
	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Class 1 & Class 2 Listening	-14.44	60	.06	5.10	.60	-10.39	-7.96

Besides, Table 6 shows that, unlike the results of reading comprehension, the difference between the two class performance on the listening test is not significant (t= -14.44, $p > 0.00$). Therefore, it can be stated that using Persian or English glossing in the class has no noticeable effect on listening comprehension of learners.

DISCUSSION AND CONCLUSION

In the last section of the paper, the main findings of the study are presented and discussed in detail. The first research question of the study addressed the probable effect of Persian and English lexical glossing on the reading performance of language learners. As it was mentioned in the previous section, the results revealed that first of all, there is a significant difference between the two groups receiving Persian and English glosses. Besides, the study indicated that the class receiving native language gloss (that is, Persian lexical gloss) outperformed the class getting the second language gloss (English gloss). Miyasako [17] also revealed the advantage of one gloss type over the other. He looked into the effectiveness of multiple-choice glosses and single glosses and compared the effectiveness of L1 and L2 glosses. He found that the L2 gloss groups (multiple-choice or single) outperformed the L1 gloss groups (multiple-choice or single) significantly for the immediate test. However, the multiple-choice and single gloss types did not differ in their effect on vocabulary learning. The researcher also found that L2 glosses tended to be more effective for higher-proficiency level learners whereas L1 glosses were more effective for lower-proficiency learners.

Although Miyasako [17] suggested the advantage of L2 over L1 glosses, especially for higher-proficiency learners, Jacobs *et al.* [12] and Chen [16] did not find any differences in the effectiveness of L1 and L2 glosses in enhancing incidental vocabulary learning. The results of the comparisons between L1 and L2 glosses are still few and inconclusive and we need to further investigate the effectiveness of L1 and L2 glosses and to examine which gloss type is more effective in what conditions and for which learners. In another study, Bell and LeBlanc [29] studied learners' actual behavior to determine which gloss type, L1 or L2, is used more frequently for computer-based reading. The results showed that the participants demonstrated a preference for using glosses in L1 since "the English gloss group clicked on about twice as many of the words as did the Spanish group"(p.279). The result of the comprehension test in [29] showed that the difference between English gloss group and Spanish gloss group was not statistically significant. Thus, the language of glosses was not a significant variable. However, in the present study, the participants preferred L1 gloss over L2 gloss.

The other research question of the study deals with the same issue, however, in terms of the other receptive skill, that is, listening skill. Although the findings of the study showed no significant difference in the performance of the two classes, the second class with Persian gloss, had a better performance than the other class with English gloss. Jacobs *et al.* [12] compared L1 with L2 glosses with 85 English-speaking participants who were studying Spanish as a second language. The results of the immediate test showed that the gloss conditions (either L1 or L2) were better than no gloss; however, the results did not indicate any significant difference between L1 and L2 glosses. The study also revealed that the participants preferred L2 glosses than L1 glosses. Chen [16] also examined L1 and L2 glosses with 85 college freshmen in Taiwan who were studying English as a second language. The results showed that the L2 gloss group outperformed the no gloss group and that the difference between L1 and L2 glosses was not significant. Chen also pointed out that the L2 gloss group took a longer time for reading the text than the L1 gloss group did. Yoshi [9] also examined the efficiency of L1 and L2 glosses in a multimedia environment. The study could not reveal which type of gloss (L1 or L2) was more effective since both appeared to be beneficial. However, the researcher implied that L1 glosses may be more effective on the long run as evidenced by a delayed post-test that showed a more sustained rate of retention for the L1 group and that level of proficiency may interact with the type of gloss.

Although the author of the study did her best to do as complement and faultless study as possible, it may suffer from a couple of limitations. Because the sampling procedure followed in this study was based on the availability of participants and not random selection, the scope of generalizability of its results should, however, be approached cautiously. Another limitation of the study is also pertaining to the participants. In other words, to reach much more reliable results, the participants should have been more than 80 learners.

The preliminary purpose of this study was to examine the probable effect of glossing (Persian and English) on the reading and listening skills of Iranian EFL language learners. However, in order to generalize the findings of the present study, the topic needs to be further explored in some other studies. The following topics can be suggested for those who are interested in conducting research in the area of glossing in reading or listening comprehension. First, to see the possible effect of sex as a variable, another similar study can be done in which both males and females can be included as participants and then the difference between their performance can be studied. Second, to investigate the probable impact of level of proficiency, another research can be undertaken with participants at three different levels of proficiency, i.e., beginning, intermediate and advanced.

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