English Language Teaching; Vol. 9, No. 2; 2016
ISSN 1916-4742 E-ISSN 1916-4750
Published by Canadian Center of Science and Education

The Effects of Giving and Receiving Marginal L1 Glosses on L2 Vocabulary Learning by Upper Secondary Learners

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Received: October 3, 2015 Accepted: January 5, 2016 Online Published: January 7, 2016

doi:10.5539/elt.v9n2p66 URL: http://dx.doi.org/10.5539/elt.v9n2p66

Abstract

This paper reports the findings of a study that investigated the effect of giving and receiving marginal L1 glosses on L2 vocabulary learning. To that end, forty nine Iranian learners of English were assigned to three different experimental conditions including marginal L1 glosses Giver (n = 17), marginal L1 glosses Receiver (n = 17), and no glosses Control group (n = 15) with a pretest, immediate, and delayed posttests design. The scores obtained from the fill-in-the-blank and translation test confirmed the homogeneity of the three participating groups in the pretest. During three treatment sessions, participants in the giver group were required to perform the three reading comprehension tasks and consult the bilingual dictionary to look up the targeted lexical items, which were highlighted, and write down their L1 equivalents in the spaces given. The participants in the receiver group were asked to carry out the same reading comprehension tasks which included L1 equivalents of the targeted words. The participants in no marginal glosses group took the same procedure while they had no access to marginal glosses. Two days and four weeks after treatment sessions, all participants took the posttests using the same testing package applied in the pretest. Results of one-way ANOVAs revealed that both the giver and receiver group had an influence on L2 vocabulary learning, the giver group made the most favorable progress over time.

Keywords: giving marginal L1 glosses, receiving marginal L1 glosses, L2 vocabulary

1. Introduction

In the last two decades, there has been a sizeable amount of second language (L2) research into the effect of various methods of L2 vocabulary learning. There are two main approaches in L2 vocabulary learning, including input- and output-based instruction. On the one hand, the output-based L2 vocabulary learning emphasizes the efficacy of production tasks like translation, passage reconstruction, and post-reading vocabulary tasks in prompting L2 vocabulary learning. The input-based L2 vocabulary learning, on the other hand, stresses the positive effect of increased repetition of targeted lexical items and providing marginal glosses on enhancing L2 vocabulary learning. Of these methods, a great amount of L2 research has been devoted to the effect of marginal glosses on enhancing L2 vocabulary learning and reading comprehension. A gloss, as a lexical Focus-on-Form, is defined as a marginal explanation of a key word in a text which can be presented as a first language (L1) or L2 synonym, antonym, or sentence explanation, a picture depicting the targeted key word, or multimedia (i.e., pictorial, audio, and video) elements in computer-assisted language learning context.

There is a growing consensus among L2 researchers and practitioners that providing marginal glosses facilitate L2 vocabulary learning (e.g., Abraham, 2008; Ko, 2012; Mohsen & Balakumar, 2011; Yanguas, 2009; Yoshii, 2006; Yoshii & Flaitz, 2002; Yun, 2011, to cite a few). It is argued that L2 teachers can use authentic texts, without simplification, through the use of marginal glosses which in turn might facilitate L2 reading and vocabulary learning (Abraham, 2008). Additionally, it is assumed that providing marginal glosses might encourage L2 learners to read more authentic texts (O'Donnell, 2013) due to the fact that they are easier than looking up unknown lexical items in dictionary (Nagata, 1999). Furthermore, marginal glosses, with the least interruption to reading, facilitates the creation of accurate form-meaning connections (Huang & Lin, 2014) through providing accurate meaning for lexical items that L2 learners might not be able to infer the correct meaning from the context (Nation, 2001). Similarly, as research findings underscored, lexical inferencing from

context cannot be considered as an effective way to learn a great number of L2 words quickly because of a great number of variables involved in lexical inferencing.

To date, L2 researchers and practitioners have investigated the effect of providing marginal glosses on L2 vocabulary learning from different perspectives, in particular multimedia glosses (e.g., Al-Seghayer, 2001; Chun & Plass, 1996a, 1996b; Jones & Plass, 2002; Turk & Ercetin, 2014; Yanguas, 2009; Yoshii & Flaitz, 2002), paper-based and computer-assisted glosses, i.e., e-glosses (e.g., Abraham, 2008; Abuseileek, 2008; Kim & Gilman, 2008; Yun, 2011), single and multiple-choice glosses (e.g., Hulstijn, 1992), the role of individual differences in taking advantage of multimedia glosses (e.g., Rouhi & Mohebbi, 2013; Yeh & Wang, 2003), and L1 and L2 marginal glosses (e.g., Cheng & Good, 2009; Jacobs, Dufon, & Hong, 1994; Rouhi & Mohebbi, 2012; Taylor, 2006; Yoshii, 2006). In more recent studies, Hu, Vongpumivitch, Chang, and Liou (2014), Huang and Lin (2014), and Yoshii (2014) have further investigated the effectiveness of glosses on L2 vocabulary learning and reading comprehension from new perspectives, namely the effect of L1 and L2 e-glosses on incidental vocabulary learning of high and low-proficiency junior high school English students, the impact of combining glossing with inferring or meaning retrieval on vocabulary learning, and the effect of glosses and reviewing of glossed words on L2 vocabulary learning through reading.

As already mentioned, the empirical L2 studies on the effect of marginal glosses on L2 vocabulary learning have confirmed the advantage of providing marginal glosses on enhancing L2 vocabulary learning. Yet, there are aspects of marginal glosses which are under-researched. To our best knowledge, to date, hardly any L2 research has been done to investigate the differential effects of giving and receiving marginal glosses on L2 vocabulary learning and reading comprehension. To bridge this gap in second language acquisition (SLA) literature, this study examines the effects of giving and receiving L1 marginal glosses and repetition of targeted lexical items on enhancing L2 vocabulary learning in English as a foreign language (EFL) context. Also, as Hu, Vongpumivitch, Chang, and Liou (2014) rightly underscore, the previous studies comparing the effectiveness of L1 and L2 marginal glosses have yielded mixed results. So, this study is an attempt to bridge the perceived gap in this field of study. The following section of the article reviews briefly the recent L2 studies inquiring into the effect of L1 and L2 marginal glosses on enhancing L2 vocabulary learning and reading comprehension.

1.1 Background to the Study

1.1.1 Comparative Studies of L1 and L2 Marginal Glosses

Marginal glosses studies have contributed to the body of SLA literature with insight into enhancing L2 vocabulary learning and reading comprehension. A number of studies have touched on this area to investigate the differential effects of L1 and L2 marginal glosses on L2 vocabulary learning and reading comprehension.

Taylor (2006) conducted a meta-analysis study investigating the effect of paper-based and computer-assisted L1 glosses on L2 reading comprehension. He concluded that providing learners with computer-assisted L1 glosses has significant effect on reading comprehension. Likewise, Ko (2005) investigated the effect of L1 (Korean) and L2 (English) glosses and no glosses conditions on L2 learners' reading comprehension. The data analyses revealed that only L2 glosses condition had a positive effect on reading comprehension. Additionally, Ko inquired into the participants' preference about L1 and L2 glosses conditions and observed that majority of the participants were in favor of L2 glosses. In another research, Ko (2012) studied the effect of three conditions, namely L1 glosses, L2 glosses, and no glosses on L2 vocabulary learning. The analysis of the data obtained through immediate and delayed unexpected multiple-choice vocabulary test showed a significant difference between glosses and no glosses conditions in terms of L2 vocabulary learning. However, there was no significant difference between L1 and L2 glosses conditions. Moreover, the survey revealed that the participants favored L2 glosses.

Xu (2010) investigated the impact of L1, L2, and L1 coupled with L2 glosses on L2 vocabulary learning. The analysis of the data provided support for the positive effect of L1 glosses on fostering L2 vocabulary learning. In the same line of research, Hulstijn, Hollander, and Greidanus (1996) found that L1 glosses were effective in improving L2 vocabulary learning.

Yoshii (2006) examined the effect of L1 and L2 glosses on L2 vocabulary learning in a multimedia context. Surprisingly enough, the data analysis showed that both L1 and L2 glosses were effective for L2 vocabulary learning. However, further data analysis revealed no significant difference between L1 and L2 glosses.

Cheng and Good (2009) investigated the differential effects of L1 marginal glosses, L1 in-text glosses, L1 glosses coupled with L2 example sentences, and no glosses on L2 vocabulary learning and reading comprehension and found support for L1 glosses. However, reading comprehension did not improve

significantly in glosses conditions.

Rouhi and Mohebbi (2012) studied the effect of computer-assisted L1 and L2 glosses on L2 vocabulary learning. The results of the recognition and production measures, namely immediate and delayed Persian equivalent test, multiple-choice test, and fill-in-the-blank tests lent support to the positive effect of providing glosses on L2 vocabulary learning compared with no glosses condition. Further data analysis showed that the participants in L1 glosses condition performed better than the participants in L2 glosses condition, although no significant difference was observed.

In brief, the findings of studies conducted to date endorse the positive effect of providing glosses, namely L1 and L2 glosses on improving L2 vocabulary learning. However, as the literature indicates, there is gap in this area of research with respect to studying the differential effects, if any, of asking L2 learners to provide L1 glosses for targeted lexical items rather than giving them the texts coupled with L1 glosses.

1.2 Purpose of the Present Study

This study set out to investigate the effects of giving and receiving marginal L1 glosses on improving L2 vocabulary learning. As already indicated, while providing marginal glosses has been shown to be an effective pedagogical means of improving L2 vocabulary learning and reading comprehension, but more research comparing marginal L1 and L2 glosses are needed (Hu, Vongpumivitch, Chang, & Liou, 2014; Ko, 2012). It is also clear that the issue of giving or receiving marginal glosses requires robust attention and is still open to further investigation. Moreover, as it is rightly stressed, taking advantage of authentic texts through using marginal glosses and avoiding text simplification is one of the advantageous points of marginal glosses. Hence, we used authentic materials and aimed at further investigating whether increased frequency and repetition of the targeted glossed words has any effect on retention compared to the words glossed but repeated once in the texts. As Taylor (2010) commented, amount or frequency of targeted words marginal glosses seems a neglected key variable in research in this field of study.

Additionally, this study requires the participants in experimental conditions, namely giver marginal glosses to use bilingualized dictionary to give translation equivalents of targeted lexical items. This is in line with recent research findings (e.g., Augustyn, 2013; Chen, 2011) indicating the positive effect of bilingual dictionary practice and taking advantage of L1 for effective vocabulary learning. The questions that we seek to address in this study are the following:

1) How would giving marginal L1 glosses condition affect the L2 vocabulary learning in immediate and delayed testing times?

2) How would receiving marginal L1 glosses condition affect the L2 vocabulary learning in immediate and delayed testing times?

2. Method

2.1 Participants

A total of 95 learners (female and male aged from 15 to 17) available at English Institute participated in the study. They have enrolled for an English course in one of the private language institutes of Ardabil, in northwest of Iran. Based on Ellis's (2014) clarifications of terms, the participants were upper secondary students. All participants had been studying at high school and were majoring in different subjects: mathematics, science, humanities, and art. The present study was conducted in first semester of 2014 academic year. The participants, except two, were bilingual in Azari-Turkish, as their native language, and Persian as the formal language of the country and instruction. However, based on the results of Preliminary English Test and Vocabulary Size Test, it is explained later, 49 learners were selected applying non-probability criteria-based sampling at the beginning. Accordingly, it is imperative to mention that the age of participants was not considered as an influencing factor. The participants were randomly assigned to three different experimental conditions including marginal L1 glosses Giver (n = 17), marginal L1 glosses Receiver (n = 17), and no glosses (n = 15). Furthermore, one-way ANOVAs run on the scores obtained from the pretest were submitted into one-way ANOVAs which revealed no statistically significant difference among the three participating groups in relation to the fill-in-the-blank and translation test.

2.2 Materials

2.2.1 Reading Texts

Three short stories were selected from the Internet. The reason behind choosing stories, following Ko (2012), was that we wanted to minimize the possible background knowledge on reading comprehension. As research indicated, learners take advantage of the topic familiarity and background knowledge to perform lexical

inferencing or answer reading comprehension questions.

To get assurance as the texts are appropriate for the participants in terms of their L2 proficiency level, we checked their readability through readability software (http://www.readability-score.com) and Flesch-Kincaid Reading Ease. In the Flesch-Kincaid readability test, higher score indicates that the texts are easier to read and lower score implies that the texts are more difficult to read. Table 1 represents the readability index of the texts. The indices computed underscored that the texts were appropriate for the participants. Furthermore, the results of The Fry Graph Readability Formula (http://www.readabilityformulas.com) approved the appropriateness of the texts for the level of the participants of this study. The three texts given were at G grade, based on Fry Graph Readability Formula. Also, the texts were roughly at the same length, text 1 = 364 words, text 2 = 310 words, and text 3 = 327 words; though text 1 was longer than the others we did not modify the text.

Table 1. The readability index of the texts

Texts	**Flesch-Kincaid Reading Ease**
Text 1: A Glass of Milk, Paid in Full	88.9
Text 2: A Letter to God	85.3
Text 3: Graduation	77.2

2.3 Targeted Words

We conducted a pilot study to select the targeted words. We asked 16 pre-intermediate and intermediate English learners to underline the words which would seem unknown for them. Also, we asked 4 teachers to underline the words which they thought the learners in pre-intermediate and intermediate level would not know their meaning. Based on their ideas we selected 41 targeted words in total, 16 words from text 1, 10 words from text 2, and 15 words from text 3. We also checked the words' based on Common European Framework of Reference for Languages (CEFR) from Cambridge dictionaries online (www. Dictionary.cambridge.org). Majority of the targeted words were at B1 and B2 (independent user) level. Table 2, Table 3, and Table 4 show the targeted words, their L1 equivalents (Persian), and their frequency in the texts.

Table 2. Targeted words, frequency in texts, and marginal L1 glosses of text 1

Targeted Words	**L1 Glosses (Persian Equivalent)**	**Frequency**
Goods	کالاها	1
Dime	سکه ده سنتی	1
Owe	بدهکار بودن	2
Faith	ایمان	1
Quit	منصرف شدن	1
Baffled	متحیر	1
Specialist	متخصص	1
Disease	بیماری	1
Consultation	مشورت	2
Gown	لباس	1
Recognize	شناختن	1
Determined	مصمم	1
Struggle	تقلا	1
Win	برنده شدن	1
Approval	تایید کردن	1
Sign	امضا کردن	1

Table 3. Targeted words, frequency in texts, and marginal L1 glosses of text 2

Targeted Words	L1 Glosses (Persian Equivalent)	Frequency
Process	رسیدگی کردن	1
Illegible	ناخوانا	1
Shaky	لرزان	1
Handwriting	دست خط	1
Widow	زن بیوه	1
Pension	مستمری بازنشستگی	2
Purse	کیف پول	1
Touch	تحت تاثیر قرار گرفتن	1
Generosity	سخاوت	1
Thieve	دزدیدن	1

Table 4. Targeted words, frequency in texts, and marginal L1 glosses of text 3

Targeted Words	L1 Glosses (Persian Equivalent)	Frequency
Graduation	فارغ التحصیلی	5
Admire	تحسین کردن	1
Dealer	واسطه	3
Afford	از عهده هزینه برآمدن	1
Approach	نزدیک شدن	1
Await	منتظر ماندن	1
Purchase	خریدن	1
Wrapped	کادو شده	1
Leather	چرمی	1
Bible	انجیل	4
Pass away	فوت کردن	1
Will	وصیت کردن	1
Possessions	دارایی ها	1
Regret	پشیمانی	1
Desire	آرزو داشتن	1

2.4 Tests

2.4.1 The Cambridge Preliminary English Test (PET)

To get assurance as the homogeneity of the participating groups in terms of L2 proficiency level, the participants took PET. PET, as the second level Cambridge ESOL exam, is an intermediate level qualification. PET is at Level B1 of CEFR. This test has three main sections including reading and writing, listening, and speaking. Reading and writing is worth 50 percent of the total marks and each of the other skills, namely listening and speaking is worth 25 percent. It is assessed based on "pass with distinction 90-100 CEFR Level B2", "pass with merit 85-89 CEFR Level B1", "pass 70-84 CEFR Level B1", and " fail 45-69 CEFR Level A2". In fact, test takers need to get 70 percent to pass test. It should be mentioned that we, in this study, excluded listening and speaking sections because of feasibility concerns.

2.4.2 Vocabulary Size Test

To check whether the participating groups are homogenous in terms of L2 vocabulary knowledge, in particular written receptive vocabulary knowledge which is required for reading, the Vocabulary Size Test (VST) (Nation & Beglar, 2007) was given to the participants. The VST was developed to represent a reliable measure of learners' receptive vocabulary size from the first 1,000 to 14,000 word families of English. Each item in the test indicates 100 word families. A test-taker's score is multiplied by 100 to get his/her total vocabulary size up to the fourteenth 1,000 word family level. In fact, according to the participant's L2 proficiency level, their estimated vocabulary knowledge, and the purpose of the study we selected the 7000 word level (P. Nation, personal

communication, November 21, 2014).

2.4.3 Reading Comprehension Tasks

Participants of the study were required to finish the reading tasks under different marginal glosses conditions and take reading comprehension tests. These tests included true-false and short answer questions based on the texts. Following Chen (2011), the reading comprehension questions were word-focused approach. It means that most of the reading comprehension questions were related to the comprehension of the targeted lexical items. The reason behind administering reading comprehension tests was to make participants read the texts carefully and focus on the targeted lexical items.

2.4.4 Unexpected Post-tests: Fill-in-the-blank Test and Translation Test

To assess the effects of different treatment conditions, the participants were required to take two unexpected tests including fill-in-the-blank and translation tests, once two days after the treatment sessions, as immediate post-tests although there was two days interval, and once more after four weeks, as delayed post-tests to assess the retention of the targeted lexical items.

2.5 Procedures

Before the main study, we conducted a pilot study, as above mentioned, to select the targeted lexical items. Also, the pilot study served another purpose. We asked 6 learners to perform the tasks under different experimental conditions to come up with the time on task. Based on the results of the pilot study 45 minutes was allotted to participants in marginal L1 glosses Giver group and 30 minutes for marginal L1 glosses Receiver and no marginal glosses groups.

Firstly, the participants were asked to take PET and VST. Based on the results of these two measures, 46 participants in the study were excluded. Then, the participants, who were 49, were randomly assigned to three participating groups and their homogeneity was assumed based the scores obtained from the pretest.

On the first, second, and third treatment sessions, the participants in marginal L1 glosses Giver group were asked to perform the reading comprehension tasks 1, 2, and 3 and consult the dictionary, bilingualized (BLD) Longman learner's dictionary of American English, to look up the targeted lexical items, which were highlighted, and write down their L1 equivalents in the spaces provided. They also needed to answer the reading comprehension questions. The participants in marginal L1 glosses Receiver group were required to carry out the same reading comprehension tasks and answer the reading comprehension questions. It should be mentioned that their texts included the L1 equivalents of the targeted words. The participants in no marginal glosses group took the same procedure while they had no access to marginal glosses. Two days after performing reading task 3 under different experimental conditions, the participants were given two tests including translation and fill-in-the-blank tests, which were administered in the pretest, to assess the immediate effect of different marginal glosses conditions on L2 vocabulary learning. After 4 weeks, we administered the same tests; they were counterbalanced, to assess the retention effect of the different marginal glosses conditions on enhancing L2 vocabulary learning. Table 5 shows the design and timeline of the study.

Table 5. The summary of the study

SESSION	**1**	**2**	**3**	**4**	**5**	**6 (After 2 days)**	**7 (After 4 weeks)**
TREATMENT & TESTING	PET & VST	Translation & Fill-in the-blank Pretest	Reading Task 1	Reading Task 2	Reading Task 3	Translation & Fill-in-the-blank Posttest	Translation & Fill-in-the-blank Posttest 2

3. Analyses and Results

3.1 Fill-in-the-blank Test

The descriptive statistics for the fill-in-the-blank test are presented in Table 6.

Table 6. Descriptive statistics for the fill-in-the-blank test

Treatment		Pretest		Posttest 1		Posttest 2	
Group	*n*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Giver	17	16.88	4.02	23.41	5.55	23.29	5.57
Receiver	17	15.76	3.56	20.94	4.14	19.35	3.72
Control	15	16.26	3.39	16.20	3.32	15.33	3.33
Total	49	16.30	3.66	20.34	5.29	19.98	5.36

The repeated measures ANOVA run on the scores obtained from the three testing times for the fill-in-the-blank test revealed a significant effect for time with a big effect size, $F = 50.53$, $p < .001$, $\eta_p^2 = .69$ and a significant effect for treatment with a big effect size, $F(2) = 7.08$, $p < .05$, $\eta_p^2 = .23$. Furthermore, there was a significant interaction effect between time and treatment with a big effect size, $F = 13.68$, $p < .001$, $\eta_p^2 = .37$. Table 7 represents the results of repeated measures ANOVA for the fill-in-the-blank test.

Table 7. The results of repeated measures ANOVA (Wilks' Lambda) for the fill-in-the-blank test

Effect	*F*	*p*	η_p^2
Time	50.53	.001*	.69
Treatment	7.08	.05*	.23
Treatment*Time	13.68	.001*	.37

The results pertaining to the groups' performance through Post-Hoc (LSD) analysis revealed no significant difference between the giver and receiver groups, $p = .07$ but a significant difference between the giver and control group, $p < .001$. There was, also, no statistically significant difference between the receiver and the control group, $p = .06$. Table 8 shows the results of Post-Hoc analysis for the fill-in-the-blank test.

Table 8. The results for the Post-Hoc analysis (the fill-in-the-blank test)

Group		*M*	*SD*	*p*
Giver	Receiver	2.50	1.35	.07
	Cont.	5.26	1.39	.001*
Receiver	Cont.	2.75	1.39	.06

The results of the post-ANOVA analysis (Bonferroni adjustment) comparing groups in the posttest 1 and 2 revealed that the giver group outscored the receiver and the control groups in the posttest 1 and 2 with a significant difference between the giver and the control groups, $p < .001$ in both testing times and a significant difference between the giver and receiver groups in the posttest 2. Additionally, the receiver group performed better than the control group in the posttest 1 and 2 with a significant difference, $p < .05$. Table 9 shows the post-ANOVA analysis (Bonferroni adjustment) results.

Table 9. The results of post-ANOVA analysis (Bonferroni adjustment) for the fil l-in-the-blank test

Posttest 1: giver > receiver > control Posttest 2: giver > receiver > control	
<u>Posttest 1</u>	<u>Posttest 2</u>
giver > receiver	giver > receiver*
giver > control*	giver > control*
receiver > control*	receiver > control*

3.2 Translation Test

Table10 displays the means and standard deviations for the translation test.

Table 10. Descriptive statistics for the translation test

Treatment		Pretest		Posttest 1		Posttest 2	
Group	*n*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Giver	17	17.23	3.73	23.76	5.35	25.41	5.19
Receiver	17	16.35	4.01	21.82	4.43	20.52	4.57
Control	15	16.60	2.79	16.20	3.09	15.80	3.48
Total	49	16.73	3.52	20.77	5.38	20.77	5.90

We ran the repeated measures ANOVA on the scores obtained from the three testing times. The analyses yielded a significant effect for time with a large effect size, $F = 54.15$, $p < .001$, $\eta_p^2 = .70$ and a significant effect for CF treatment with a big effect size, $F(2) = 8.81$, $p < .001$, $\eta_p^2 = .27$. Moreover, a significant interaction effect was observed between time and CF treatment with a big effect size, $F = 31.58$, $p < .001$, $\eta_p^2 = .58$. Table 11 summarizes the results of repeated measures ANOVA for the translation test.

Table 11. The results of repeated measures ANOVA (Wilks' Lambda) for the translation test

Effect	*F*	*p*	η_p^2
Time	54.15	.001*	.70
Treatment	8.81	.001*	.27
Treatment*Time	31.58	.001*	.58

To statistically determine where the significant differences lay among the groups, we ran a Post-Hoc (LSD) analysis. The analysis revealed that the difference between the giver and receiver groups was not significant, $p = .06$. The difference between the giver and control groups was significant, $p < .001$. Also, the difference between the receiver and control group was significant, $p < .05$. The results of LSD analysis for the translation test are represented in Table 12.

Table 12. The results for the LSD analysis (the translation test)

Group		*M*	*SD*	*p*
Giver	Receiver	2.56	1.37	.06
	Cont.	5.93	1.41	.001*
Receiver	Cont.	3.36	1.41	.02*

A closer inspection of these groups' performance comparing groups in the posttest 1 and 2 we ran the post-ANOVA analysis (Bonferroni adjustment)**.** The results revealed that the giver group performed better than the receiver and control groups in the posttest 1 and 2 with a significant difference between the giver and control group, $p < .001$ in both testing times. Additionally, the receiver group significantly outperformed the control group in the posttest 1 and 2, $p < .05$. The post-ANOVA analysis (Bonferroni adjustment) results are displayed in Table 13.

Table 13. The results of post-ANOVA analysis (Bonferroni adjustment) for the translation test

Posttest 1: giver > receiver > control Posttest 2: giver > receiver > control	
Posttest 1	Posttest 2
giver > receiver	giver > receiver
giver > control*	giver > control*
receiver > control*	receiver > control*

4. Discussion

The research questions addressed in this study were whether the giving and receiving marginal L1 glosses would affect the L2 vocabulary learning in immediate (posttest 1) and delayed posttests (posttest 2). Regarding the results obtained from the fill-in-the-blank and translation tests over three testing times among three participating groups, significant effect for time, treatment, and interaction between time and treatment was observed. The results revealed that the giver group outperformed the receiver and control groups both in posttest 1 and 2. Meanwhile, the giver and receiver groups significantly outscored the control group in posttest 1 and 2. Additionally, the giver group significantly outperformed the receiver group in the fill-in-the-blank test in the posttest 2. These findings are in line with those of studies (e.g., Abraham, 2008; Ko, 2012; Mohsen & Balakumar, 2011; Yanguas, 2009; Yoshii, 2006; Yoshii & Flaitz, 2002; Yun, 2011) which examined the effect of marginal glosses on L2 vocabulary learning and found it facilitating in learning vocabulary. The results are also consistent with Huang and Lin's (2014) study, which highlighted the positive effect of marginal glasses. They argued that marginal glosses help create the accurate form-meaning connections since learners are provided with accurate meaning of words that they might not be able to derive the correct meaning from the context or from lexical meaning (Nation, 2001). The findings can also be accounted for by some studies (e.g., Cheng & Good, 009; Greidanus, 1996; Xu, 2010; Yoshii, 2006) comparing L1 and L2 glosses which found support for the positive effect of L1 glosses.

The giver group performed better than two other groups over time as well especially in fill-in-the-blank test. Due to the nature of giving L1 marginal glosses, this can also be explained by the input- and output-based instruction in L2 vocabulary learning on the one hand. The former underscore the increased repetition of targeted lexical items and providing marginal glosses on enhancing L2 vocabulary learning. The latter highlights the efficacy of production tasks like translation, passage reconstruction, and post-reading vocabulary tasks in prompting L2 vocabulary learning. This finding is also well supported by the assumption that providing marginal glosses might encourage L2 learners to read more authentic texts and examples through dictionary (O'Donnell, 2013). Therefore, a possible explanation for this finding might be the resemblance of the fill-in-the-blank test to the treatment given, i.e. the test accompanied by an authentic text which required participants to read the text and fill out the spaces provided with the first two letters of the suitable word given as opposed to the translation test which required participants to provide Persian equivalents of the words given without any text.

5. Conclusions

The present study sought to answer the question if giving and receiving marginal L1 glosses would have any effect on L2 vocabulary learning over the three testing occasions: pretest, immediate posttest, and delayed posttest. According to the findings of the study, giving and receiving marginal L1 glosses appeared to have an effect on the L2 vocabulary learning. Compared to the receiver and control groups, the giver group made the most favorable progress over time.

While the findings of this study are believed to contribute to the field, some limitations need to be acknowledged. In this study, the treatment period was limited to three sessions which were relatively short. Also, the sample size, while acceptable, was smaller than one would have wished for. While marginal L1 glosses and testing instruments used in this study were in written mode, a substantial contribution would have been using computer-assisted mode. The influencing factor of targeted words frequency was not examined, which could negatively influence the findings of the study. This would be a potential area for carrying out further research in order to examine the effectiveness of repetition.

Acknowledgments

We wish to thank the Universiti Sains Malaysia (USM) and the School of Languages, Literacies, and Translation for giving us financial support. I am also particularly grateful to my co-authors who assisted in conducting this

study. It is also an honor for us to appreciate all the people for their help directly and indirectly to complete our study.

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