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THE EFFECT OF DIFFERENT TYPES OF MARGINAL GLOSSING (FIRST LANGUAGE & SECOND LANGUAGE) AND PICTORIAL GLOSSING ON IRANIAN AND TURKISH ENGLISH AS FOREIGN LANGUAGE LEARNERS' READING COMPREHENSION

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**ABSTRACT**

**Purpose:** Researchers and educators have expressed interest for providing techniques that facilitate reading. A technique that has received a lot of attention in the area of second language acquisition is glossing. This study aim to explore the effect of Textual Glossing (First Language (L1) & Second Language (L2)), and Pictorial Glossing on University students' reading comprehension. **Method:** Subjects of the study were 120 University students, 60 in Tabriz University-Iran and 60 students in Ataturk University, Erzurum, Turkey. Each group were divided randomly into 4 group of 15. First, to determine the homogeneity of the subjects, a general English test was used. Then a passage was give to the students as the reading comprehension passage with four glossing conditions (First language (L1), Second Language (L2), Pictures with text, and no gloss). Students are classified, according to their proficiency levels, and then they are divided randomly into experimental and control groups who received reading with or without glosses. Multiple-choice tests were used to collect data. After data collection, One-way ANOVA and SPSS software were used to determine whether there was significant differences among the performances of 4 groups. Also, I used a Post-hoc comparison to show the differences among different groups. **Findings:** First, the results of the study manifested that all Gloss styles were obvious in EFL learners at different degrees. Secondly, students' nationality and place of education did not play significant roles in their reading comprehension after using different kinds of Glosses. Thirdly, instructors with First Language (L1) Glosses had distinguishably better reading comprehension results. **Conclusion:** The results of the study showed that the experimental groups performed better in reading comprehension tests compared with the control group. The researcher concluded that when the text is difficult, students tend to use glosses while reading; in addition, different types of gloss effect positively on student's reading comprehension.

## INTRODUCTION

### Overview

Reading comprehension is essential for successful functioning in second or foreign language learning contexts. Reading is perhaps the most stable and durable skill of the language skills (Xie, 2013). The main purpose of foreign language teaching in Iran is reading, and according to this claim, it is a very important skill in which coordination and integration of many processes are necessary. Review of the literature suggests that reading comprehension is a multidimensional construct that can be subdivided into several subcomponents and processes; and according to this point and because reading is a complex process, Shiki says that many researchers attempt to understand and explain the fluent reading process by analyzing the process into a set of component skills (Shiki, 2008). Reader's skills of vocabulary and background knowledge are particularly important in this skill which is comprised of both cognitive and linguistic processes (Lee, 2015). It can be said that mastering and acquiring this skill also require some complex strategies. However, both in L1 and L2 texts, there are a large number of unfamiliar words that often impede learners' comprehension. Previous studies and literature reviews about reading instruction and reading strategies (e.g., Davis, 2010; Salataci & Akyel, 2002; and Wright & Brown, 2006; Ko, 2012) emphasized that reading comprehension strategy instruction had a beneficial outcome on learners' reading comprehension ability or their awareness of reading comprehension strategies. This problem is more significant where written text is in a foreign language.

The high correlation between word knowledge and reading comprehension in research literature indicates that if students don't adequately grow their vocabulary, reading comprehension will be negatively affected (Jung, 2016). Research has shown that lack of vocabulary knowledge is the main obstacle for second language readers to overcome. Some researchers argue that vocabulary is the most important and crucial factor in the reading comprehension process (Ko, 2012) others claim that without understanding texts' vocabulary, both L1 and L2 text comprehension, is impossible. Nation (2001) maintains that when the amount of unfamiliar vocabulary in a text increases, the text comprehension decreases. Glossing is a strategy through which a simple explanation of a word, in first language (L1) or in second language (L2), is provided to readers during the reading comprehension test.

Actually, glossing has some advantages. First, it allows texts which are not simplified and adapted to be used. Second, glossing provides readers with the more accurate meaning of new words preventing them to incorrectly guess their meaning. Third, glossing minimizes the interruption of the reading process by providing the meaning near the word being glossed. Fourth, it draws the reader's attention to unknown words, and persuade them to learn incidental vocabulary. Fifth, glosses can help students to be less dependent on their teachers, and have more autonomy (Cheng and Good, 2009).

### Research Questions

Concerns about the function and usefulness of glossing form are the basis for the research questions of this study. Three conditions of glossing, as Textual First Language (L1), Textual Second Language (L2), and Text with Picture gloss were examined, and their effects were compared on the reading comprehension ability of students. Consequently, the following four research questions are answered in the study:

1. Will students using gloss, perform better on the reading comprehension test than students using no gloss?
2. Will L1 gloss help students perform better on the reading comprehension test than students using L2 gloss?
3. Will pictorial gloss help students perform better on the reading comprehension test than students using textual glossing?
4. Will research results be the same in Iranian and Turkish students?

### **Research Hypothesis**

Four hypotheses are corresponding to the above questions. They were formulated as the following:

1. Students who use gloss will perform better on the reading comprehension test than students using no gloss.
2. Students who use L1 gloss will perform better on the reading comprehension test than students using L2 textual gloss.
3. Students who use pictorial gloss will perform better on the reading comprehension test than students using textual glosses.
4. The result of the study will be the same between the students of Iran and Turkey.

### **LITERATURE REVIEW**

For many people around the world, reading knowledge of a foreign language is often important; especially to academic and professional success, and personal development. In fact, reading ability is often all that is needed by learners of EFL, as well as of other learners of foreign languages. Reading comprehension is a process of recognition of all aspects of information, feeling and thought which are desired to be conveyed by the writer through a text. As Tozcu & Coady (2004) argued, prosperous reading comprehension requires the active participation by the reader. According to Akbulut (2008), reading is the most emphasized skill at the university level. Yet despite this specific need and importance of reading in a foreign language, it is commonly said by EFL teachers that most the students fail to comprehend foreign language texts efficiently.

According to the related literature (e. g. Akbulut, 2008; Ko, 2012; Nation, 2001) successful reading comprehension not only depends on readers' ability to access appropriate content and formal schemata, it also depends on their ability to monitor what they understand and to take appropriate action. According to studies conducted in reading field (e.g. Babaei, 2010; Chang, 2002), it has been confirmed that vocabulary

knowledge plays an important and central role in the comprehension of written text.

In line with this non directional relationship between vocabulary knowledge and reading comprehension, Chen (2002) found cumulative effects of reading and vocabulary knowledge. He found that children with poor reading ability also lacked wide vocabulary knowledge. He concluded that this vocabulary restriction, in turns, makes progress in reading harder. Many studies have been focused on the relationship between vocabulary knowledge and reading comprehension. Some of them will be introduced here as a review of the literature in this area.

Zhang and Anual (2008) studied the role of vocabulary in vocabulary learning and reading comprehension with thirty-seven secondary students learning English in Singapore.

In a study carried out by Babaei (2010), the role of depth and breadth of vocabulary knowledge in reading comprehension was investigated. The Word Associates Test and the Vocabulary Levels Test were administered to 38 senior university students for assessing depth and breadth of vocabulary knowledge.

Chen (2013) stated that the researchers aimed at investigating the lexical glossing effect on reading and listening comprehension of EFL learners. The study is an attempt to ascertain if L1 or L2 lexical glossing may make any difference in their effectiveness on L2 reading and listening comprehension processes. For this purpose, 60 female students who learn English as a foreign language in an English language school were randomly selected and were divided into two intact classes. The students were asked to complete two TOEFL tests: one test is considered as a pretest to ensure their homogeneity concerning language proficiency, and one test to specify the effect of glossing on their listening and reading comprehension. The study confirmed that, there was a significant difference between the two groups receiving glosses. The study indicated that the class which received native language gloss performed better than the class getting the second language gloss in reading and listening comprehension abilities.

## **METHODOLOGY**

This study is an experimental one, because it deals with two variables which included independent variable (gloss types) and dependent variables (reading comprehension and idea recall) and again due to this book because this study involves a comparison of pretreatment and post-treatment performances, it is a comparative study.

The participants were in two different countries to check the effects of different variables on both countries' students. The participants read two reading texts in two different sessions and under four different conditions: the group with First Language (L1) gloss, read the text with Farsi marginal gloss in Iran, and with Turkish marginal gloss in Turkey. The Second Language (L2) Gloss group in both countries read the text with English glosses, Pictorial gloss group also in both countries read the text with pictures, and control group read the texts with no glosses. After reading the texts, they were required to answer reading comprehension questions followed by each text, and after that, the students were asked to write everything remembered from the text. They were not allowed to refer back

to the text. This is called free recall writing. In the last session, the participants were asked to answer a questionnaire to determine which type of glossing they prefer and think is more helpful during reading comprehension and recalling ideas.

This study was conducted in one week. The study at Tabriz University was conducted 3 days before Ataturk University. The data collection procedures were administered as follows: In the first stage, official permission from Tabriz University and Ataturk University were obtained and the standard proficiency test was administered one week before the treatment. Then, the vocabulary pretest was conducted to measure participants' knowledge about 56 target words and to determine the target glossed vocabularies. Afterward, in each country 60 participants, and overall 120 students, were assigned randomly to four groups; each group consisted of 15 subjects. Among 120 students who participated in this study, 55 students were male, and 65 students were female.

**Table 3-1. Frequency distribution of the subjects**

Subjects		Frequency	Percent
	Male	55	46%
	Female	65	54%

This study had three experimental groups (a group that received first language gloss (L1 Gloss), a group that received second language gloss (L2 Gloss), and a group that received a text with pictures (Pictorial gloss), and one control group (a group with no gloss treatment). After that, the participants in the first language gloss group (L1) were asked to read the text with a definition of target words in their mother tongue, the students in the second language gloss group (L2) read the same passage with L2 target gloss words, and Pictorial gloss group read the same passage with pictures. The participants in three experimental groups should answer 14 reading comprehension questions following the reading texts. Then the subjects were asked to write a recall protocol and to write everything they remembered from the text, without referring back to the text, immediately after they completed the reading comprehension questions, they were given 15 minutes for recalling the text. The students in the control group read the text without any gloss type and wrote their recall protocol after completion of reading comprehension questions.

### Participants

At first, a total number of 120 male and female undergraduate students, at Tabriz University and Ataturk University in English language faculty, were selected to take part in the study. The students were between 19 to 23 years old, and they consisted of 55 male and 65 female students. Prior to the study and before treatment phase administration, a standard proficiency test was used to make sure that all the students were homogeneous in terms of language proficiency and to become sure that all of them were advanced language learners.

For this purpose, participants whose scores were above 70, arbitrary, were considered as advanced language learners. Participants whose scores were below 50 were considered as the students who didn't have enough

academic language knowledge, all the students whose scores were below 60 were excluded from the study. So the rest of 60 participants were randomly assigned into one of the three groups: First language (Farsi) gloss group, second language (English) gloss group, a group who receives pictures as gloss, and a group who receives no gloss. The first three groups were named as the experimental groups and the last group of students, who received no gloss type during reading, was assumed as the control group.

**Table 3.2. Level and number of participants**

Conditions	No	Proficiency level
No gloss	15	advanced
L1 gloss	15	advanced
L2 gloss	15	advanced
Pictorial Gloss	15	advanced
Total	60	

Reading comprehension test, recall protocols, a vocabulary pretest, and a 9 item questionnaire were employed to answer three research questions of this study. In the following parts, the details of each are mentioned.

The reading texts, as well as their reading comprehension questions, were used. They were previously used in two studies conducted by Ko (2005) on “glosses, comprehension and strategy use” and the second one was used by Farvardin & Biria (2012) on “the impact of glossing on Iranian EFL students’ reading comprehension and lexical retention”. The length of the texts was 573 words (see appendix 1). The readability of text on the Flesch-Kincaid Grade Level was between 10 to 11 which is appropriate for advanced language learners. After the text, 13 questions are followed to measure the reading comprehension of the students. With the end goal of this examination in regards to the idea of thought review convention and on the grounds that the writings were very long and the distributed time in every session was very utmost (25 minutes in the session) length of writings diminished and adjusted types of these writings were utilized. It means that parts of the texts that relate quietly to the details were omitted. Then the comprehension questions which relate to the omitted parts were excluded. This test was administered before conducting the research to exclude the target words which subjects may already be familiar with and those words which may be known to the participants. A total number of 56 target words selected from both of the texts were presented in the pretest. The participants were asked to write any possible meanings, either in Persian or English, by mentioning any possible synonyms for the given 56 English words. This test is helpful to remove any target words known by the students. After scoring the correct answers a total number of 34 target words were excluded because more than 25% of the participants knew them.

After the subjects read the text, in the last session, they were asked to fill the questionnaire, composed of 14 statements about effects of the gloss types on their reading comprehension, to survey their attitudes towards using glossing. The questionnaire was employed to know what types of glossing (L1, L2, or pictorial) is more preferable for the participants. This questionnaire was designed by the researcher.

### Proficiency test

As it is said before the proficiency test used in this study was an Oxford Placement Test (OPT) written by Colchester English Study Centre and comprised of hundred grammar questions. Those subjects whose scores were above 70 were classified as advanced language learners.

### Data analysis

In this study, the researcher used descriptive and inferential statistics. First, descriptive statistics were used to demonstrate the differences between reading tasks and also the recall protocol writing of the four groups. After that, to compare the differences between reading comprehension scores and recalling ideas of four research groups, we used "Independent Samples Test". Also, we used a t-test to indicate in which, a significant difference was clear.

## RESULTS

In this study, the reading comprehension test results show a significant effect of using L1 glosses on reading comprehension. The results also showed that use of L2 glosses and pictorial glosses are not very effective on reading comprehension. Thus, the present study confirmed the usefulness of L1 glosses in L2 reading comprehension. In addition, the difference between different gloss types and no gloss is considerable. The experiment showed that the experimental groups who received treatment through L1 textual glosses and pictorial glosses annotations outperformed the one who received treatment through L2 textual glosses. In order to study the effect of gloss types on reading comprehension and answer the research question, a t-test has been used, and the results have been analyzed by SPSS software for each hypothesis.

#### Research Question 1

The first hypothesis of this research is that if students who use gloss types perform better on the reading comprehension test than students who use no gloss.

The first hypothesis has two tests as follow:

- The first test is between L2 gloss group and the control group
- The second test is between L1 gloss group and the control group and

**Table 4-1. Paired Samples Statistics**

	Mean	N	Std. Deviation	Std. Error Mean
<b>Control Group</b>	12.63 33	30	3.18924	.58227
<b>L2 Gloss Group</b>	15.23 33	30	2.01175	.36729
<b>Control Group</b>	12.63 33	30	3.18924	.58227
<b>L1 Gloss Group</b>	18.60 00	30	1.45270	.26523

As Table 1 clearly shows, participants who read the text with L1 (Persian in Iran and Turkish in Turkey) glosses answered more questions than other participants. In turn, participants who read the text with L2 (English) glosses answered fewer questions than other participants. The results of both countries were calculated in the same table. The number of students in each group was 30(15 in Iran and 15 in Turkey). The control group mean is 12.6333, and mean amount for the L2 gloss group is 15.2333, therefore, there is a difference between L1 gloss group and L2 gloss group. On the other hand, when we compare the mean amounts of the control group (12.6333) and L1 gloss group (18.6000) we notice that there is a significant difference between them.

**Table 4-2. Paired Samples Correlations**

	N	Correlation	Sig.
<b>Control Group &amp; L2 Gloss Group</b>	30	.299	.109
<b>Control Group &amp; L1 Gloss Group</b>	30	-.107	.573

**Table 4-3. The Results of Paired Samples Test**

	Paired Differences						t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					
				Lower	Upper				
Control Group & L2 Gloss Group	-2.60000	3.22276	.58839	-3.80340	1.39660	-4.419	29	.000	
Control Group & L1 Gloss Group	-5.96667	3.64345	.66520	-7.32715	4.60618	-8.970	29	.000	

These results are similar to those in Table 1. Participants who read the text with L1 (Persian in Iran and Turkish in Turkey) glosses recalled more ideas than other participants did. In both tests, calculated t for the first test is 4.419 (between L2 gloss group and the control group) and for the second test is 8.97 (between L1 gloss group and the control group) that are greater than the t table, with freedom degree of 29 (2/756); therefore, the contrary hypothesis is confirmed with 95% confidence level. It means that there is a significant difference between the learning of the L2 gloss group and L1 gloss groups and control group (p = 0.00).

**Research Question 2**



The second hypothesis of this research is whether students who use first language gloss (L1) perform better on the reading comprehension test than students using second language gloss (L2).

**Table 4-4. The Results of Paired Samples Statistics**

	Mean	N	Std. Deviation	Std. Error Mean
<b>L1 Gloss Group</b>	18.6000	30	1.45270	.26523
<b>L2 Gloss Group</b>	15.2333	30	2.01175	.36729

As table 4 shows clearly, the results of paired sample statistics between the first language gloss group and the second language gloss group are different. Therefore, a significant difference between the results of the first language gloss group and the second language gloss group is obvious.

**Table 4-5. The Results of Paired Samples Correlations**

	N	Correlation	Sig.
L1 Gloss Group & L2 Gloss Group	30	.210	.265

**Table 4-6. The Results of Paired Samples Test**

	Paired Differences						t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					
				Lower	Upper				
L1 Gloss Group & L2 Gloss Group	3.36667	2.22033	.40538	2.53758	4.19575	8.305	29	.000	

Since obtained t (8/305), is larger than t table with a freedom limit of 29 (2/756), the contrary hypothesis that participants who read their texts with L1 perform better than participants read their text with L2 is confirmed. So, it can be conclude that there is a statistically significant difference between the two groups of first language and second language. Meantime, the mean of the first language gloss group has better performance than the second language gloss group with the mean of 15/2333.

### Research Question 3

The third hypothesis of the research is whether students using picture glosses perform better on the reading comprehension test than students who use textual glosses. It includes 2 tests as the following:

The first test is done between L1 gloss group and pictorial gloss group.  
 The second test is done between L2 gloss group and pictorial gloss group.

**Table 4-7. The Results of Paired Samples Statistics**

	Mean	N	Std. Deviation	Std. Error Mean
<b>Pictorial Gloss Group</b>	17.3667	30	1.99107	.36352
<b>L1 Gloss Group</b>	18.6000	30	1.45270	.26523
<b>Pictorial Gloss Group</b>	17.3667	30	1.99107	.36352
<b>L2 Gloss Group</b>	15.2333	30	2.01175	.36729

As Table 7 clearly shows, groups of participants who read the text with first language glosses (Farsi in Iran and Turkish in Turkey) answered more questions than other participants who read the text with pictorial glosses. The results of both countries were calculated in the same table. The number of students in each group was 40(20 in Iran and 20 in Turkey). As you can see the mean of pictorial gloss group is 17.3667, and L1 gloss group mean is 18.6000, therefore, there is not a significant difference between the first language and pictorial gloss groups. On the other hand, when we compare the mean amounts of pictorial gloss group (17.3667) and second language gloss group (15.2333) it is clear that there is a significant difference between them.

**Table 4-8. The Results of Paired Samples Correlations**

	N	Correlation	Sig.
<b>L1 Gloss Group &amp; Pictorial Gloss Group</b>	30	-.198	.295
<b>L2 Gloss Group &amp; Pictorial Gloss Group</b>	30	-.203	.282

**Table 4-9. The Results of Paired Samples Test**

	Paired Differences				t	df	Sig. (2-tailed)	
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower				Upper

Pictorial Gloss Group & L1 Gloss Group	-1.23333	2.68692	.49056	-2.23665	-.23002	-2.514	29	.018
Pictorial Gloss Group & L2 Gloss Group	2.13333	3.10432	.56677	.97416	3.29250	3.764	29	.001

In the first test, calculated t (2/514) is less than t table with a degree of freedom of 29 (2/756). Therefore, the contrary hypothesis is rejected because there is no significant difference between the learning processes of those two groups.

In the second test, the calculated t (3 /764) is larger than t table with a degree of freedom of 29 (2/756), therefore, the contrary hypothesis is confirmed; because, there is a significant difference between pictorial gloss users and textual gloss users.

#### Research Question 4

The fourth and last hypothesis of the research is whether the result of the study is the same in both countries.

**Table 4-10. The Results of Group Statistics**

	place	N	Mean	Std. Deviation	Std. Error Mean
<b>Control Group</b>	<b>Iran</b>	15	12.0000	2.80306	.72375
	<b>Turkey</b>	15	13.2667	3.51460	.90746
Pictorial Gloss Group	<b>Iran</b>	15	17.2667	2.01660	.52068
	<b>Turkey</b>	15	17.4667	2.03072	.52433
L2 Gloss Group	<b>Iran</b>	15	14.8667	2.03072	.52433
	<b>Turkey</b>	15	15.6000	1.99284	.51455
L1 Gloss Group	<b>Iran</b>	15	18.5333	1.59762	.41250
	<b>Turkey</b>	15	18.6667	1.34519	.34733

**Table 4-11. The Results of Independent Samples Test**

Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error

			.09			tailed)	ference	ror Difference	Interval of the Difference	
									Lower	Upper
Control Group	Equal variances assumed	2.073	.161	-1.091	28	.284	-1.26667	1.16073	-3.64432	1.11099
	Equal variances not assumed			-1.091	26.680	.285	-1.26667	1.16073	-3.64963	1.11630
Pictorial Gloss Group	Equal variances assumed	.014	.908	-.271	28	.789	-.20000	.73894	-1.71365	1.31365
	Equal variances not assumed			-.271	27.999	.789	-.20000	.73894	-1.71365	1.31365
L2 Gloss Group	Equal variances assumed	.180	.674	-.998	28	.327	-.73333	.73463	-2.23816	.77149
	Equal variances not assumed			-.998	27.990	.327	-.73333	.73463	-2.23818	.77151
L1 Gloss Group	Equal variances assumed	1.546	.224	-.247	28	.807	-.13333	.53925	-1.23794	.97128
	Equal variances not assumed			-.247	27.211	.807	-.13333	.53925	-1.23939	.97272

In hypothesis 4, calculated  $t$  in each of the four control groups (0.9), the pictorial gloss group (0/271) L2 gloss group (0/998) and L1 gloss group (0,247) are less than  $t$  with a degree of freedom of 28 ( 2/763). So, the contrary hypothesis is rejected, because there is no meaningful difference between those groups in Turkey and Iran.

According to the obtained values, the performance of each group in reading comprehension has been compared by the following Table and the Figures.

**Table 4-12. The Comparison of the Groups**

		<b>Contro l Group</b>	<b>Pictorial Gloss Group</b>	<b>L2 Gloss Group</b>	<b>L1 Gloss Group</b>
N		30	30	30	30
	<b>Missing</b>	0	0	0	0
	<b>Mean</b>	12.633 3	17.3667	15.2333	18.6000
	<b>Std. Deviation</b>	3.1892 4	1.99107	2.01175	1.45270
	<b>Variance</b>	10.171	3.964	4.047	2.110
	<b>Skewness</b>	.161	-.042	-1.023	-.466
	<b>Std. Error of Skewness</b>	.427	.427	.427	.427
	<b>Kurtosis</b>	-1.048	-1.224	1.301	-1.236
	<b>Std. Error of Kurtosis</b>	.833	.833	.833	.833
	<b>Sum</b>	379.00	521.00	457.00	558.00

According to the table above, L1 gloss groups in both countries with a sum of 558.00 perform better than other groups. Pictorial gloss group with a sum of 521.00 is in second grade; it means that it is better than second language gloss group and worse than first language gloss group. Second language gloss group with a sum of 457.00 is in third place, so, it is worse than first language gloss group and pictorial gloss group. At last, as I expected control group with sum of 379.00 is the worst.

This finding of this research is similar to the findings in the previous studies conducted by Farvardin, and Biria (2012), Jung (2016), that confirmed the relevance of vocabulary glossing in aiding learners through reading comprehension effectively.

## CONCLUSION

The main findings of the research can be summarized as follows:

The findings for Research Question 1: Concerning the first research question, the results show that the average reading comprehension score for the first language gloss is higher than for the control group. The mean for the second language glossed reading comprehension score is 15.233 (SD=2.0117) of the standard deviation and the mean for the first language glossed reading comprehension score is 18.600 (SD=1.452) of the standard deviation. This means that first language glossing can positively influence

reading comprehension, so the effectiveness of using first language glosses for second language reading comprehension was confirmed.

The Findings for Research Question 2: As the results show, the immediate vocabulary recognition test score for the first language gloss is significantly higher than the score for the second language gloss. The mean of the second language glossed immediate vocabulary recognition score is 15.23 with a standard deviation of 2.011, and the mean of first language glosses immediate vocabulary recognition score is 18.600 with the standard deviation of 1.452. The paired sample t-test results indicated that there was a statistically-significant difference in the two types of glossing techniques.

The Findings for Research Question 3: According to the results, the vocabulary recognition test score for the first language gloss is higher than the score for pictorial hypertext gloss. The mean of the pictorial gloss vocabulary recognition score is 17.36 with a standard deviation of 1.991, and it shows that this amount is higher than the second language gloss score and lower than the first language gloss score. The paired sample t-test results indicated that there was a statistically-significant difference in the three types of glossing techniques.

The Findings for Research Question 4: As the results of the study show, there were no significant differences between two countries' students. Both groups of students in Iran and Turkey show the same results in confronting with different gloss situations. To conclude, it is obvious that first language gloss was the most frequently used by the students of both countries, who were considered low proficient students in English. Such results also indicate that students, seem to have moderate opinions toward reading, see the importance of reading, and want to experience more glossed texts. In addition, the least-frequently-used second language glosses indicated that they did not comprehend the glossing definitions or the second language reading texts. It is suggested that students with higher proficiency levels will benefit from this kind of gloss more.

### **Vocabulary Learning**

In this study, glosses were added into the margin of the texts in order to raise the students, who learn English as a foreign language, awareness of the target words and facilitate the vocabulary learning and retention. Comparisons were made between the first language, second language and pictorial glosses. The results indicated that the first language gloss (L1 Gloss) was advantageous. Particularly, the application of glosses was beneficial for word learning and retention, which is in line with the notion of Babaei (2010). Based on the results of this study, it is recommended that any task aimed at providing students with opportunities to learn subconsciously/incidentally needs to be formed and created in a way that attracts students' attention. This will serve as a learning facilitator to influence them to study in order to reach the vocabulary learning objective. Moreover, it attracts more attention from English as a Foreign Language teachers, reading material developers and researchers as well. Reading texts should be customizable so that they fully benefit the students' needs. Consequently, rather than just simplifying the text by changing the language, it can be made more approachable by judging the students' existing knowledge with a pre-reading test, reviewing their vocabulary threshold before reading, and then asking them to perform tasks

that are within their competence before they begin reading particular texts made for particular students. Although the study has been conducted among the university students in Tabriz University in Iran and Ataturk University in Turkey, it can provide a starting point for studies on the effect of glosses on reading comprehension at another level.

### **The Role of Glossing**

Considering the comparison between the first language and second language glosses, the results of this study are different from those of Ko (2012) in that the second language glossing technique in Ko study had significant effects on the vocabulary learning of the English as a Foreign Language students. In the present study it was proved that the first language gloss had significant effects on the vocabulary learning among learners. The first language gloss scores in the comprehension tests were significantly higher than the second language gloss group and pictorial gloss. It might be claimed that when facing first language definitions, the low achievers remembered the target words and their meanings better. They were not familiar with the second language definitions, and they might have caused wrong inferences which prevented them from using the words effectively. In addition, some lexical items, such as idioms or words with multiple meanings, often misguide the readers and make them misunderstand the words. Moreover, glosses provide instant access to definitions and they help students enjoy their reading tasks without any interruption. The glossing technique is very beneficial for readers in terms of understanding and remembering the content of the text. Therefore, providing such learning aids can relieve the burden of traditional searches to make the reading flow. The results of the comprehension tests and the questionnaire supported the fact that glosses can be a starting key factor that leads students to read success and that leads to academic completion or professional achievement. The more common use of glosses can provide second language readers with support so that they become more independent and successful readers.

### **Vocabulary Retention**

According to the result of the questionnaire, students agreed that glossing helped them to read more easily when they encountered the texts. When the reader first encounters with an unfamiliar word, it may draw the learner's attention. At this stage, the teacher should guide the students to engage in elaborating activities, such as reviewing the learned words regularly or follow-up vocabulary exercises. These activities should be considered in the teaching process. The purpose is to enhance learners' vocabulary retention. Other tests still need to be arranged at intervals to make use of the learned vocabulary in the learners' memories. Repeated reviewing reinforces the integration of these new words and the existing lexicon.

### **The Researcher's Perspectives**

One of the most useful and practical ideas is using gloss in reading text because it makes the text easier and more readable. Students and teachers can possibly use it because there is access to definitions of words in the text. They can learn new words while reading a new text. The reading course should be carefully designed, and it should include first language and second

language glosses or pictorial glosses. In addition to reading task designing, language teachers should also train students in a way that they can effectively employ their reading strategy as well as a vocabulary learning technique. Syllabus designers, curriculum planners, and high stakeholders of the school should be in agreement and select learning tasks in a way that moves from less mental-demanding tasks to high-demanding tasks in order to suit every proficiency level.

The classroom activities that require deeper mental processing should be evaluated first in terms of both the activity itself and the students as well. In this way, the students will get the most appropriate input and effectively communicate with others. This goal cannot be completed without the teachers' efforts. As a university lecturer, the researcher found lots of learning troubles and hopes that teachers and professors will begin motivating their students to learn vocabulary. They should provide students not only with vocabulary knowledge and memorization but also with strategies to access and consolidate their knowledge.

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