

Textual Glosses, Text Types, and Reading Comprehension

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Abstract—Studies conducted in the field of second language (L2) learning have revealed that the impact of gloss types on reading comprehension is an issue of debate. The present study investigated this issue across narrative and expository texts. The glosses applied in this study included single gloss in participants' first language (SL1G), single gloss in participants' second language (SL2G), and multiple-choice gloss (MCG) in participants' L2. A total of 108 undergraduate students majoring in English Literature and Translation at the University of Kashan in Iran read the texts under three conditions: SL1G, SL2G, and MCG. After reading, participants answered a multiple-choice (MC) reading comprehension test. To control the participants' reading proficiency, an MC cloze test was given to them a week later. One-Way ANOVA and follow-up post hoc Tukey's HSD tests ($p < .05$) showed that the most facilitative gloss type for the participants' reading comprehension of the narrative and expository texts were SL1G and SL2G respectively. When surveyed, participants showed their preference for marginal glosses in L2.

Index Terms—reading comprehension, single gloss, multiple-choice gloss, narrative text, expository text

I. INTRODUCTION

The attention to unfamiliar words in reading is a matter of high importance. Stahl (1983) described the connection between vocabulary knowledge and reading comprehension as a well-established relationship in reading research. This is because "vocabulary knowledge is fundamental to reading comprehension; one cannot understand text without knowing what most of the words mean" (Nagy, 1988, p. 1). Davis (1968) found that the most correlated factor with comprehension is word meaning knowledge. Researchers have studied glosses as one of the useful and practical devices in enhancing vocabulary and reading comprehension. As Nation (2001) puts it, gloss is "a brief definition or synonym, either in L1 or L2, which is provided with the text" (p. 174). Different scholars have pointed out to some advantages for using glosses while reading a text. The first benefit of applying glosses is that they can help readers understand new words more precisely through preventing incorrect guessing since deriving meaning from context can be difficult and risky owing to readers' lack of language or reading strategies (e.g., Hulstijn, 1992; Nation, 2001). In addition, glosses can help readers link the new information in the text with their previous knowledge. Moreover, glosses let learners gain greater autonomy and be less dependent upon their teachers since it is feasible for them to look up just the words they do not know (Jacobs, 1994; Nation, 1990). Hulstijn (1992) proposed the use of multiple choice gloss (MCG) to combine both advantages of vocabulary glosses and meaning inferring. Since there was a diminishing long-term effect of glosses on vocabulary learning. The design of MCG was based on the *mental effort hypothesis*, that claimed inferring requires mental effort. The greater the mental effort, the better and learner's recall and retention of information acquired through that effort (Hulstijn, 1992; 2001).

There have been some studies done on the effect of glossing on enhancing L2 language reading comprehension. Holley and King (1971), Johnson (1982), Jacobs et al. (1994), Bell and LeBlanc (2000), Cheng and Good (2009) showed no significant effect for glossing in L2 reading comprehension, whereas Davis (1989), Jacobs (1994), and Ko (2005) showed that glosses did in fact enhance it.

On the basis the above, it is observed that research on the utility of glosses for EFL readers has been inconclusive. Some research has suggested glosses to be helpful for such readers, whereas others have challenged their efficacy. Taking into account the positive findings of the effectiveness of gloss, researchers have shifted their focus from gloss effects to gloss types (Nagata, 1999; Watanabe, 1997). In other words, there has been an attempt to determine what gloss types generate more positive learning effects. One of the issues on gloss types is which gloss facilitates students' reading comprehension the most.

Another issue that is of great importance but has greatly been ignored in literature is the issue of gloss type. As Joyce (1997) put it, "text type must also be considered when performing research on reading comprehension" (p.63). Joyce also referred to an empirical study conducted by Luo (1993). Luo found that marginal glosses in the participants' L1 facilitated comprehension of literary texts. Further, Joyce (1997) proposed that future research should compare the

impact of glossing on different text types. Present findings based on one text type restrict the extent to which research results can be generalized to other reading environments. However, the effectiveness of gloss types on reading comprehension has been a controversial issue. Some research revealed no significant difference between gloss types (e.g. Jacobs et al., 1994) and others indicated the superiority of one gloss type over another type (Hulstijn et al., 1996; Ko, 2005; Miyasako, 2002).

Surprisingly, most studies involving only one reading passage failed to cite the need for additional research investigating the effects of their treatments across other text varieties. Since there is a gap in the literature related to the effect of gloss types across text types, the present study aimed to investigate the effect of gloss types on reading comprehension across text types. Psychological models of text comprehension have distinguished between two types of texts: narrative and expository. Narrative texts include poems, short stories and novels. As Weaver and Kintsch (1991) stated, narrative texts are those texts “whose main purpose is to entertain” (p. 230). Expository texts are those texts whose main goal is to inform. Weaver and Kintsch (1991) argued that a text cannot be expository and narrative simultaneously. Hence, the researchers decided to select these two text genres for this study. Furthermore, few studies (e.g. Bell and LeBlanc, 2000; Cheng and Good, 2009; Jacobs et al., 1994; Ko, 2005) have taken into account the participants’ preference for gloss types. Jacobs et al. (1994) and Ko (2005) stated that their participants favored L2 glosses, whereas Bell and LeBlanc (2000) and Cheng and Good (2009) pointed out that their participants preferred L1 glosses. Regarding the above-mentioned studies, more empirical evidence on the readers’ preference for glossing is required.

Therefore, this study aims to show whether single gloss in students’ first language (SL1G), single L2 gloss in students’ second language (SL2G), and multiple choice gloss (MCG) in students’ second language differ in facilitating Iranian university EFL students’ reading comprehension across two major text types; namely, narrative and expository texts. To find the Iranian university EFL students’ attitude toward glossing viz. the frequency of attention to the glosses and preferences for the use, location, and language of glosses, a survey was conducted. Within the scope of this study, the following questions were addressed:

Q1: Is there any difference among SL1G, SL2G, and MCG in facilitating Iranian university EFL students’ reading comprehension in a narrative text?

Q2: Is there any difference among SL1G, SL2G, and MCG in facilitating Iranian university EFL students’ reading comprehension in an expository text?

Q3: What is the Iranian university EFL students’ attitude toward glossing?

II. METHOD

A. Participants

To collect the required data for the research questions, a total of hundred eight undergraduate students (31 males and 77 females) in four intact classes were selected for the study. The participants in the present study were fifty-two freshmen and fifty-six sophomores majoring in English Literature and Translation at the University of Kashan. All of the participants had been taught English for 6 years in junior and senior high school. The participants’ age ranged from 18 to 22. Before data collection, the researcher explained the nature of study to the potential participants. Participants were informed that all the information collected during the study would be kept confidential, and their scores would not be shared with their teachers and would not affect their grades.

B. Instrumentation

Gloss Types—Based on the research questions, three different types of glosses were used: SL1G, SL2G and MCG. In other words, the participants read the texts under three different learning conditions: SL1G, SL2G, and MCG. Participants in the SL1G group read both narrative and expository texts with provision of Persian translations that only had one correct meaning. Participants in the SL2G group read both narrative and expository texts with provision of English synonyms or definitions that only enjoyed one correct meaning. The L2 synonyms or definitions which were provided in both texts were selected such that the participants could easily understand them. Participants in MCG group read the texts provided with MCGs which contained not only one correct meaning but also another incorrect one as a distracter. This device is based on the mental effort hypothesis (Hulstijn, 2001) that claims students have the opportunity to infer from context and undergo the process of mental effort in searching and evaluating the best word meaning. It must be noted that the criterion for MC glossing was polysemy, namely those words which had more than one meaning. However, those target words which had just one meaning were provided with SGs.

Reading Texts—In the present study, two texts were selected. A short story entitled “The Cellist of Sarajevo” was selected from the study conducted by Ko (2005). It is a story about a cellist in Sarajevo who played his cello on the street while bombs and bullets flew during the war in 1992. The length of text was 931 words and its readability was 10.4 on the Flesch-Kincaid Grade Level readability scale. The expository text entitled “The Great Australian Fence” was selected from IELTS Practice Tests Plus (2001). This text is an interesting piece of writing about the existing marvelous fence in Australia and its ecological impact on the environment. It also describes dingo and kangaroo as vermin for Australian wool growers and grazers. The length of text was 901 words and its readability was 11 on the Flesch-Kincaid Grade Level readability scale. To control the difficulty of texts, the readability level of the texts needed

to be almost at the same level. Similar to the narrative text, the expository text was administered under three conditions, namely text including SL1Gs, text accompanied by SL2Gs, and the story with MCGs.

Reading Comprehension Test— The researcher designed the comprehension test to measure the impact of glosses on reading comprehension. In developing the items for the reading comprehension test for each text type the following reading skills were considered: the purpose of the author, expression meaning, main idea, attention to details, implied ideas, and tone (of the author or passage). The comprehension test was administered immediately after the completion of the reading task. An MC reading test consisting of 20 items in English was given to the participants after the reading. Participants were expected to select a correct answer among four choices. Questions were matched to all parts of the text so that the test could check for overall understanding of the passage. Since the narrative text used in this study was adopted from Ko (2005), the comprehension questions were selected from Ko's study. For the expository text, the comprehension questions were designed by the researcher himself. Two TEFL professors who were adept at writing MC questions were consulted to check each item and to judge the plausibility of the distracters. It was tried that every detail in the texts be tested. Any type of production test was avoided because the texts were quite long and the time allocated to the researcher (60 minutes each session) for the treatment and data collection was not enough to administer other comprehension tests. For narrative and expository texts the comprehension tests enjoyed coefficient alphas of .77 and .81, respectively.

Cloze Test— The previous research has shown that cloze tests correlates well with dictation, reading comprehension tests, essay writing, and standardized proficiency tests. Like Pak (1986), the present study determined the participants' reading comprehension ability by a cloze test which was administered a week later. Two cloze passages with the same readability level were selected from The University of Michigan Examination for the Certificate of Proficiency in English by Briggs et al. (1997) in order to control the participants' comprehension ability. Each passage was followed by 20 MC items. Participants were given 30 minutes to answer the cloze test. One score was allocated to each correct answer. So the highest score was 40. The readability of both passages was 12 on the Flesch-Kincaid Grade Level readability scale. After scoring the participants' papers, the mean and standard deviation (SD) of the scores were computed. The mean was 21 and the SD was 4. The researcher decided to exclude those who scored above +2 SD and below -2 SD. That is, the participants who scored above 29 and below 13 in the cloze test were excluded from the study. The number of participants who were excluded was 15 out of 108.

Target Words Selection— Target words were selected primarily based on presumptions made by the researcher that the words would be unknown, unfamiliar, or difficult for the participants in the study (e.g. Hulstijn et al., 1996; Jacobs et al., 1994; Knight, 1994; Watanabe, 1997). A pretest was utilized to assess vocabulary knowledge prior to each of the reading tasks, thus revealing participants' degree of familiarity with the target items. In each text 30 words were glossed. Twenty five words were target words and five words were those presumed to be crucial for comprehension. The frequency of the target words in both narrative and expository texts was strictly controlled through looking their frequency up in the Collins COBUILD English Dictionary (1995), which is organized based on the Bank of English. Bank of English is a corpus of over 200 million words of written spoken English. In the present study, in each text type 25 target words were selected including 1 word in ♦♦♦ frequency band, 10 words in ♦♦ frequency band, 13 words in ♦ frequency band, and 1 word in no diamond frequency band (see Table 1). Moreover, five words in the narrative text, i.e. *cellist*, *cello*, *shell*, *agonized*, *cellar*, and *Joan of Arc*, and five words in the expository text, viz. *dingo*, *conservationist*, *outback*, *topography*, and *carnivore* were considered to be crucial for participants' comprehension and thus they were glossed.

TABLE 1.
TARGET WORDS IN THE NARRATIVE AND EXPOSITORY TEXTS

NARRATIVE TEXT				EXPOSITORY TEXT			
♦♦	♦♦	♦	no diamond	♦♦♦	♦♦	♦	no diamond
grip	accumulate(v)	anguished (adj)	unassuming (adj)	excess (n)	descend (v)	barren (adj)	vermin (n)
defy (v)		anticipation (n)		eccentric (adj)		bounty (n)	
dignity (n)		beckon (v)		erect (v)		cull (v)	
fling (v)		crater (n)		expedition (n)		eradicate (v)	
long (v)		crushing (adj)		flock (n)		futile (adj)	
massacre(n)		exuberant (adj)		levy (v)		horde (n)	
mortar (n)		flawless (adj)		outlaw (n)		ingenuity (n)	
outrage (n)		frenzy (n)		scrub (n)		mesh (n)	
soothe (v)		furor (n)		sovereign (n)		predator (n)	
stark (adj)		haunting (adj)		vividly (adv)		prodigious(ad j)	
		mournful (adj)				supplant (v)	
		splendor (n)				terrestrial (adj)	
		subside (v)				ubiquitous (adj)	

The meaning of glossed words was provided for the participants in the margin of both texts. The meaning of L1 glossed and L2 glossed words was according to their meaning in the text. The MC glossed words were provided for the participants with two meanings. One meaning served as distracter and another was the word meaning related to the text. The adoption of two options in each MCG follows the design adopted by Hulstijn (1992). Hulstijn (1992) found that many students did not infer correctly from contextual clues and thus many distracters were chosen, Hulstijn speculates that the four choices in MCG were too many. Therefore, the current study used two options instead of four in order to decrease the chance of wrong inferring by utilizing a fewer number of distracters. In addition, the distracters in MCGs were constructed based on polysemy. In other words, the words which were selected to be glossed for MCG group had more than one meaning and the meaning that did not refer to the text served as distracter (see Table 2).

TABLE 2.
POLYSEMOUS TARGET WORDS IN THE NARRATIVE AND EXPOSITORY TEXTS

NARRATIVE TEXT		EXPOSITORY TEXT	
accumulate(v)	mortar (n)	barren (adj)	supplant (v)
anticipation (n)	outrage (n)	bounty (n)	terrestrial (adj)
beckon (v)	soothe (v)	cull (v)	vermin(n)
crater (n)	splendor (n)	descend (v)	vividly (adv)
defy (v)	stark (adj)	erect (v)	ubiquitous (adj)
dignity (n)	subside (v)	expedition (n)	
exuberant (adj)	unassuming(adj)	futile (adj)	
flawless (adj)		ingenuity (n)	
fling (v)		levy (v)	
furor (n)		predator (n)	
grip(n)		prodigious(adj)	
haunting (adj)		scrub (n)	
massacre(n)		sovereign (n)	

Questionnaire— A four-item questionnaire was designed to gather information about participants' attitudes toward glossing, the location of glosses, and the language of glosses (Persian or English) in a reading text. In addition, a question regarding how much they looked at the glosses was included.

C. Procedures

Four intact classes including freshmen and sophomores (N=108) who majored in English literature and translation at the University of Kashan were selected. As there were three versions of glossed reading text (SL1G, SL2G, and MCG), participants were randomly divided into three groups. The number of participants in each group was 36. But after administering the cloze test a week later, the number of participants in each group decreased to 31. Fifteen participants were dropped since the researchers considered them as outliers, i.e. those who scored above +2 SD and below -2 SD. In data collection, first, three versions of reading texts were randomly distributed to each participant: target words aided by SL1Gs, target words aided by SL2Gs, and target words aided by MCGs. Each reading text followed a comprehension test including 20 MC items. Participants had to read the text and answer reading comprehension questions within 30 minutes. Then, a four-item questionnaire was given to the participants to examine the participants' attitude toward glosses in a reading text. One week later, a cloze test was given to all participants to determine their reading ability.

D. Data Analysis

Regarding the first and second research questions, participants' reading comprehension scores of each text type (narrative and expository) were analyzed separately with One-Way ANOVA to determine if there were statistically significant main effects for the differences in paired comparisons. The independent variable was gloss types, and the dependent variable was the participants' reading comprehension of narrative and expository texts. Following the ANOVA, post hoc comparisons were done using Tukey's HSD. A Tukey's HSD test (HSD stands for "honestly significant difference") is a post hoc ANOVA test that compares each mean with all others, separately. Therefore, the Tukey's HSD test reveals if the mean score of sample A is significantly different compared to sample B or sample C. In the case of this study, a Tukey's HSD test distinguished between the means of the three groups.

III. RESULTS

The results for the study are presented below. The descriptive statistics are presented first, followed by the inferential statistics. In the inferential statistics, the results are presented according to the research questions. For each question, there is a short description of how the results were obtained, followed by a summary of the results, and a brief statement of what the results illustrate.

A. Results of Descriptive Statistics

In this section, the descriptive statistics of the collected data are presented. This includes the mean, standard deviation, and the range of participants' scores of the comprehension test in each text type. The results were obtained from 93

participants who distributed randomly in each group (SL1G, SL2G, and MCG) (each group $N=31$). Table 3 illustrates the means, standard deviations, and ranges of the comprehension scores for the narrative and expository texts.

TABLE 3.
MEANS, STANDARD DEVIATIONS, AND RANGES OF COMPREHENSION SCORES FOR THE NARRATIVE AND EXPOSITORY TEXTS

NARRATIVE TEXT						EXPOSITORY TEXT				
Gloss Type	N	M	SD	max	min	N	M	SD	max	min
SL1G	31	15.71	2.73	19	8	31	13.41	2.22	17	10
SL2G	31	12.23	2.74	19	10	31	14.77	2.68	17	7
MCG	31	12.58	3.33	20	7	31	13.13	2.53	18	9

SL1G group obtained the highest mean score on the comprehension test of the narrative text ($M=15.71$, $SD=2.73$), and SL2G group had the lowest mean score ($M=12.23$, $SD=2.74$). The results indicate that participants provided with SL1G were more successful than other groups in comprehension of the narrative text, whereas participants provided with MCG underperformed in comprehending the narrative text. In the Expository text, SL2G group ($M=14.77$, $SD=2.68$) had the highest mean scores on the comprehension test, and MCG group had the lowest mean score ($M=13.13$, $SD=2.53$).

Questionnaire— To investigate the third research question, a questionnaire including four items was given to each participant. Then, the questionnaire data were analyzed. To analyze the data, frequency counts and percentages were recorded for the responses on the four items. The first three items in the questionnaire asked about the participants' preferences for the use, location, and language of glosses. The last item tried to elicit the participants' frequency of attention to the glosses in reading texts. On the questionnaire, 94% responded that they preferred glosses. Concerning the location of the glosses, 90% said they preferred them to be located in the margin, 8% at the bottom of the page, and 2% at the end of the passage. With respect to the language of the glosses, 35% preferred glosses in L1 (Persian), 65% preferred glosses in L2 (English). Regarding the frequency of attention to the glosses in the reading texts, 53% responded that they noted nearly all of glosses, 41% paid attention to the most of glosses, 5% observed half of the glosses, and 1% gave attention to few glosses. In brief, 94% gave attention to all or most of glosses while reading the texts.

B. Results of Inferential Statistics

To address the research questions, the collected data in each text type (narrative and expository texts) were analyzed through applying One-Way ANOVA and post hoc Tukey's HSD ($p < .05$).

Results of the Effect of Gloss Type on Reading Comprehension of the Narrative Text

First, the participants' reading comprehension scores in the three groups (SL1G group, SL2G group, and MCG group) were scored. To determine if there were statistically significant main effects for the differences in paired comparisons a One-Way ANOVA was conducted. Table 4 shows a significant main effect of gloss type on the participants' reading comprehension scores of the narrative text, $F(2, 90) = 16.05$, $p < .05$.

TABLE 4.
RESULTS OF ANOVA ON READING COMPREHENSION TEST OF THE NARRATIVE TEXT

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	638.90	2	113.95	16.05	.000
Within Groups	227.89	90	7.01		
Total	866.79	92			

To show which differences are significant, a post hoc Tukey's HSD test was applied. As demonstrated in Table 5, the Tukey's HSD test on the pairwise comparisons revealed a significant difference between SL1G group and SL2G group and another between SL1G group and MCG group ($p < .05$).

TABLE 5.
RESULTS OF THE POST HOC TEST

Gloss Type	Gloss Type	Mean Difference	Std. Error	Sig.
SL1G	SL2G	3.48	.677	.000
SL1G	MCG	3.13	.677	.000
MCG	SL2G	.35	.677	.860

The mean difference between SL1G group and SL2G group is significant ($p = .00$), and the mean difference is positive ($MD = 3.48$). So it can be concluded that the mean in SL1G group is greater than the mean in SL2G group. In addition, the mean difference between SL1G group and MCG group is significant ($p = .00$), and the mean difference is positive ($MD = 3.13$). Therefore, it can be inferred that the mean in SL1G group is greater than the mean in MCG group. According to Table 5, there is no significant difference between MC Gloss and the SL2G group ($p > .05$).

Results of the Effect of Gloss Type on Reading Comprehension of the Expository Text

First, the participants' reading comprehension scores in the three groups (SL1G group, SL2G group, and MCG group) were scored. Afterwards, to verify if there were statistically significant main effects for the differences in paired

comparisons, a One-Way ANOVA was applied. Table 6 depicts a significant main effect of gloss type on the participants' reading comprehension scores in the expository text, $F(2, 90) = 5.40, p < .05$.

TABLE 6.
RESULTS OF ANOVA ON READING COMPREHENSION TEST OF THE EXPOSITORY TEXT

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	47.81	2	23.90	5.40	.006
Within Groups	398.52	90	4.43		
Total	446.33	92			

A post hoc Tukey's HSD test was applied to show which differences are significant. As showed in Table 7, the Tukey's HSD test on the pairwise comparisons revealed a significant difference between SL2G group and MCG group and another between SL2G group and SL1G group ($p < .05$).

TABLE 7.
RESULTS OF THE POST HOC TEST

Gloss Type	Gloss Type	Mean Difference	Std. Error	Sig.
SL2G	MCG	1.64	.534	.008
SL2G	SL1G	1.36	.534	.034
SL1G	MCG	.28	.534	.850

The mean difference between SL2G group and MCG group is significant ($p = .008$), and the mean difference is positive ($MD = 1.64$). Thus, it can be concluded that the mean in SL2G group is greater than the mean in MCG group. In addition, the mean difference between SL2G group and SL1G group is significant ($p = .034$), and the mean difference is positive ($MD = 1.36$). As a result, it can be concluded that the mean in SL2G group is greater than the mean in SL1G group. Table 7 shows that there is no significant difference between SL1G group and MCG group ($p > .05$).

IV. DISCUSSION AND CONCLUSION

Glossing has been recognized as one of the most effective instruments for facilitating L2 learners' reading comprehension and there have been controversial results regarding the effect of gloss types on EFL students' reading comprehension. Therefore, this study aimed to ascertain the effect of gloss types (SL1G, SL2G and MCG) on Iranian EFL students' reading comprehension across narrative and expository texts, as two major text types.

The results of the first research question which asked the effect of gloss types on reading comprehension in narrative texts showed that SL1G yielded the highest effect on participants' comprehension in the narrative text than did by SL2G and MCG groups. In other words, SL1G facilitated participants' reading comprehension in the narrative text the most. In fact, SL1G affected the participants' reading comprehension of the narrative text more than other gloss types, i.e. SL2G and MCG. The interesting point is that although this study adopted the short story used in Ko's (2005) study, the results were reverse. In other words, Ko (2005) showed that L2 glosses were more helpful in a narrative text, but this study by adopting the same reading text and comprehension questions, and with the participants in the same grade (freshmen and sophomores), concluded that L1 glosses were more facilitative in a narrative text. Hence further research is necessary to compare the effect of gloss types on learners' L2 comprehension across narrative texts.

The second research question raised the question of the effectiveness of gloss types in reading comprehension in expository texts. The results showed SL2G yielded the highest effect on participants' comprehension in the expository text than did by SL1G and MCG. That is, in the expository text SL2G facilitated participants' reading comprehension the most. The significant effect of SL2G on reading comprehension in the expository text is in line with Ko (2005) who concluded that L2 marginal glosses are more effective in enhancing learners' reading comprehension than L1 glosses. But the difference is that Ko conducted his study in a narrative text (short story), whereas this study found SL2G to be more facilitative in an expository text. In contrast to Lomicka (1998) and Bell and LeBlanc (2000) that found no significant difference between gloss types in the participants' reading comprehension, the present study found one gloss type to be more facilitative for the participants' reading comprehension in both narrative and expository texts. Moreover, comparing SGs, there was no significant effect of MCGs on participants' reading comprehension. Therefore, more studies should investigate the effectiveness of MCG and mental effort hypothesis proposed by Hulstijn (1992) on EFL and ESL students' reading comprehension.

The results of the questionnaire revealed that most of participants preferred glosses in L2, and in the margin of a text. These findings are in line with those by Jacobs (1994), Jacobs et al. (1994), and Ko (2005). In fact, the surveys conducted in these studies showed that most of participants preferred marginal L2 glosses more than other gloss types.

A. Pedagogical Implications

This study indicates that textual glosses should be available to foreign language learners while they are engaged in reading tasks. When students are engaged in reading, their attention to new words is drawn by the gloss and their knowledge of the unknown words is enhanced by the rich context in the reading material. Moreover, the presence of gloss can alleviate the burden of dictionary consultation on students' shoulders and prevent students from making

wrong inference or assigning an inappropriate meaning for the unknown words in the particular context. Therefore, gloss can ensure students' exact understanding of the text as well as the meaning of the unknown words. In addition, teachers and material developers can benefit from the findings. They can enhance the quality of reading comprehension text-books through utilizing marginal glosses in both narrative and expository texts.

B. Limitations and Suggestions for Future Research

There are many external factors that should be further controlled in future research, such as language proficiency level and reading strategies used by students. Since the participants in the current study were not divided according to their level of language proficiency, their diverse knowledge of English lexicon might result in more insightful findings. Likewise, different strategies used for reading is one factor of students' decisions of meaning selection in MCG condition. A qualitative research such as adopting introspective techniques can be conducted to investigate individual reading strategy toward different types of glosses. Participants' comprehension of the reading material was tested at the recognition level with MC responses. A combination of MC and other forms of vocabulary tests may lead to different results at different levels of comprehension. The study only measured learners' receptive knowledge of the target words, so if future study can incorporate both the measurement of learners' receptive knowledge and their productive knowledge, there will be more significant findings. Furthermore, the present study utilized marginal glosses, by having learners read back and forth between the target words in the context and the gloss, so that the form-meaning connection become consolidated more (Rott and Williams, 2003). Therefore, a future study can explore the effects of SG and MCG at the foot of the page, or at the end of the text, to see whether location of gloss has any impact on learners' vocabulary learning. In addition, because the focus of the study was just on the gloss types no control group was adopted. Hence, further study can be conducted by adding a control group so that a better picture from the effect of gloss types on Iranian university students will be attained. The study examined the effects of different textual glosses on students' reading comprehension across narrative and expository texts. Further study can be conducted across other text genres such as journalistic texts so as to investigate the effect of textual glosses on those text types. To obtain more insightful results, similar studies with more narrative and expository texts can be conducted as well. In other words, researchers can administer two or more passages in each text type so that results become more generalizable.

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