

## The Comparative Effect of Antonym in-Text Glosses and Description in-Text Glosses on EFL Learners' Reading Comprehension

Hanieh Ghasemi<sup>1</sup>, Mona Khabiri<sup>2\*</sup>

1.2. English Department , Central Tehran Branch, Islamic Azad University, Tehran,  
Iran

\*Corresponding author: mona.khabiri@iauctb.ac.ir

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### Abstract

The present study was carried out to investigate the comparative effect of antonym in-text glosses and description in-text glosses on a group of Iranian EFL learners' reading comprehension. To fulfill the purpose of this study, 60 female intermediate students between 18 and 19 years old were selected among a total number of 90 through their performance on a piloted PET. These 60 participants were non-randomly divided into two equally populated experimental groups. During the process of this study, in one of the experimental groups the participants were given reading texts with antonym in-text glosses and in the other group, the participants were given reading texts with description in-text glosses. A piloted reading comprehension posttest (derived from another sample of PET) was administered at the end of the treatment to both groups and their mean scores on the test were compared through an independent samples *t-test*. The result led to the rejection of the null hypothesis, thereby, demonstrating that the learners in the description in-text glosses group benefited significantly more than those in the antonym in-text glosses group in terms of improving their reading comprehension.

**Keywords:** antonym in-text glosses, description in-text glosses, reading comprehension, gloss, EFL learners

### **Introduction**

English as an international means of communication has become a learning subject of crucial importance especially in recent decades. With the focus of attention having shifted to communication and communicative competence, all four skills of English language are equally emphasized in today language classes. However, in this information age that every individual is exposed to a galactic body of information mainly in written form, reading seems to be the most vital skill to be learned. As Grabe and Stoller (2002, as cited in Farhady & Hessamy, 2005) state, it is important to read in English as a second language because it is not only regarded as the international language but also as the language of modern world (p. 30).

Many people have to read in an L2, mainly in English, in order to achieve their personal goals such as their daily and occupational demands. Richards and Renandya (2002) believe that EFL learners need to be able to read for pleasure, for information, for study purposes and other objectives. In addition to these purposes, based on the viewpoint of Levine, Ferenz, and Reves (2000), it is necessary for every university student of English, whether as a second language (ESL) or as a foreign language (EFL), to be dominant over the skill of reading academic text" (p. 1). Reading comprehension in all its forms and purposes is a complicated process with the ultimate goal of comprehension.

Reading starts with visual identification and ends up with the understanding of the content of the text message (Andrade & Dias, 2006). As Tierney (2005) claims, the basic goal of EFL learners in reading a text is to comprehend it. According to Grabe (2004), reading is a complicated process (p. 14), which as Alderson (2000) believes, involves the interaction of background knowledge, the assessment of the text and the readers comprehension observation. Reading process cannot be completed without comprehension (Karasakaloglu, 2010, p. 222). He also states that comprehending a text is the foundation skill of a reading. So reading is regarded as an interactive process (Barnett, 1989; Carrell, Devine, & Eskey, 1998) in which, as Abraham (2000) states, readers use both top-down and bottom-up skills.

Scholars are well aware of the difficulties of reading comprehension and that is why teachers try hard to improve learners' reading skills and search for different effective strategies. As Mango (2010) states, different types of problems can cause a wrong comprehension of an English passage such as inadequate grammar and vocabulary knowledge or some psychological problems like comprehension failure and lack of ambition. As Carrell (1987) claims, reading comprehension and vocabulary are the two primary elements

for EFL learners' academic achievement. The most important problem in reading an L2 text for EFL learners is the problem of facing unknown words. This problem causes failure in comprehending and interpreting the text. In case readers do not understand many of the words inside the text, reading turns into a tedious and lengthy activity and finally, a boring task. Also, in such a case, learners have to frequently use the dictionary to find the meaning of the unknown words in order to comprehend the text. Using reading strategies are practical and tactical ways of overcoming such problems.

One of the effective reading strategies is contextual guessing reading strategy (Birjandi, Mosallanejad, & Bagheridoust, 2006; Zaid, 2009), which involves using familiar words and context to discover the meaning of unknown words in reading texts. Shalmani and Razmjoo (2015) state that by making semantic prediction about the ties and relationships among the words of a text, one can efficiently decode the meanings of unknown words to achieve comprehension. This strategy is called gisting or guessing strategy. However, according to their study, sometimes EFL readers have to go through discipline-specific texts, which contain technical vocabulary. They assert that in such a case, gisting may not result in a fruitful understanding, as those words are keys to the understanding of the text. Consequently, incorrect guessing may lead to a comprehension breakdown or even misunderstanding on the part of L2 learners.

It is risky for unprofessional students, those who do not have necessary skills and knowledge, to guess the meaning from context (Stein, 1993; Nation, 2001). Bell and LeBlance (2000) suggest that the most common tools in reading comprehension are glosses. Language teachers and material developers always are interested in finding ways, which facilitate reading comprehension. In order to find such a way, there should be investigations, which regard different factors that correlate with the reading comprehension. Some scholars (e.g., Azari, 2012; Azari & Abdullah, 2012; Ha, 2015) believe that knowledge of vocabulary and reading comprehension achievement are closely related to each other, and that vocabulary glosses contribute to better reading comprehension.

Glossing is used to improve students' understanding of expository texts. In general, glossing avoids incorrect guessing and helps readers to understand the new words more accurately. The possibility of accessing to the definition of the words in the L2 texts by means of glosses may increase the level of concentration. According to Stewart and Cross (1993), glosses help the readers to make a better connection between their previous knowledge and new information gotten from text. Gardener (2011) states that learners

autonomy can be increased by means of glosses because they find themselves responsible for their reading comprehension.

There are different types of glosses such as audio, pictorial, textual and so on. Ko (2005) and Nation (2000) state that looking up for the meaning of unknown vocabularies is a really time-consuming process, which can be facilitated by means of textual glosses considered as valuable tools (Azari, 2012; Jacobs, 1994; Palc, 1986; Watanable, 1997). According to Nation (1990), glosses have four main advantages facilitating reading comprehension for learners; first, learners can understand the meaning of words used rarely; second, learners will not spend time for looking up the meaning of those vocabularies from the dictionary; third, during reading process learners can comfortably concentrate on the text because they do not need to quit the process of reading to look up the meaning of unknown words in a dictionary; and fourth, teachers do not have to spend time on teaching those less-frequently used unknown vocabularies.

To sum up, glosses can help EFL learners in reading texts by providing the meaning of unfamiliar words. Vjosa Vela (2015) states that glosses provide the meaning of unknown words in the text, which results in a smooth reading process without interruption. As Marzban (2011) states, the existence of glosses in a text may decrease the hours of studying but it is not obvious whether they can make comprehension easy or not. According to Holley and King (1971), glosses make vocabulary learning and reading comprehension easy for the learners. They stated that glosses help learners learn the correct meaning of the vocabularies and avoid learning wrong meaning of words which Hulstjn (1992) called it unlearning.

Abuseileek (2008) classified glosses based on their locations into hypermedia annotation glosses (marginal glosses, bottom glosses, pop-up window glosses) and traditional glosses at the end of the text. As a result, he found that those who had access to hypermedia annotations outperformed their peers who used traditional glosses. In this study, the glosses were in front of unfamiliar words in the reading texts.

A number of researches investigated the effects of glossing on reading comprehension. Hashemian (2013) investigated how lexical glossing types can affect the reading comprehension of Persian L2 learners. He found that providing Persian glosses in the text cause to the participants better reading comprehension. Moreover, how glosses can affect reading comprehension was investigated by Ko (2005). Higher scores in reading comprehension were observed in full glossing texts rather than in limited or no glossing ones (Lumicka, 1998). Moreover, Mehrapour and Rahimi (2010) investigated that L2 learners reading and listening comprehension can be affected by their

general knowledge of vocabulary. They reported that learners vocabulary knowledge has a better effect on the learners reading comprehension performance rather than their listening comprehension performance.

Consequently, the present research intended to study the comparative effect of antonym in-text gloss and description in-text gloss on EFL learners' reading comprehension.

To fulfill the purpose of this study, the following research question was raised:

RQ: Is there any significant difference between the effect of using antonym in-text gloss and description in-text gloss on EFL learners' reading comprehension?

## Method

### Participants

In order to homogenize and choose the participants, first a sample of Preliminary English Test (PET) was piloted among 30 intermediate students to estimate the reliability of the test. Then, the piloted PET was administered to 90 intermediate students who were chosen non-randomly. Based on the performance of the students on PET, 60 female students with the age range of 17-18 years old at pre-university level were selected. The selected participants were then divided into two experimental groups. Most of the participants were Turkish native speakers. Some of them had experienced learning English for 3 years and some had experienced learning English both in language schools and public school.

### Instruments and Materials

The main instrument used in this study was a sample of Preliminary English Test (PET), which is a language proficiency test designed by Cambridge University to assess students English language competence up to intermediate level of language proficiency. The test contained four sections for measuring all the language skills including reading, writing, speaking and listening. In the speaking part, there were two examiners, one as the interlocutor and the other one as the rater. The participants received the instructions from the interlocutor and were asked to talk about the pictures. Throughout the test, they were assessed on their language skills, not their personality, intelligence or knowledge of the world. One of the examiners was supposed to rate the general performance of the examinees and the other one rated their performance according to the following criteria: grammar, vocabulary, and pronunciation. Twenty-five marks were considered for this section, making 25% of the total score for the whole examination.

The writing rating scale which is developed by Cambridge ESOL for PET is also used in this study. In this part, participants should be able to inform, describe different things and also they should be able to communicate. Moreover, they should be capable of producing variety of accurate sentences by means of the words that they know. The passing scores are pass with Merit which is 85-100 and pass which is 70-84. The passing score of 70 is the criteria of this rating scale.

To obtain the data, at the end of the treatment, a reading comprehension test was administered as the posttest which was the reading section of another sample of PET. There were 35 questions in the reading of PET including multiple choice, true/false, matching, and multiple-choice cloze. The learners were marked out of 35.

Finally, the course book that was used in this study for both experimental groups was English for pre-university students (English 1 and 2) written by Birjandi, Annani, and Samimi. There are eight units in this book, and a CD also accompanies the book. This book focuses on all four skills and sub- skills such as grammar and vocabulary. Three units of the book were taught to the learners during the research study , which consisted of reading, vocabulary, and grammar. In this study, a reading text was given to the candidates of each group every session. Totally, there were 12 reading texts for each group during the study. These texts consisted of 2-3 paragraphs. The reading texts of one group consisted of antonym in-text glosses and those of the other group consisted of description in-text glosses. All the texts were followed by different types of reading comprehension questions. There were five multiple-choice questions, 10 true/false questions and five matching questions after each reading text.

#### **Procedure**

As the first step, 30 intermediate learners aged between 15 and 18 years old took a sample of PET in a pilot study. The reliability of the test was calculated based on analyzing the items such as item facility and item discrimination. Then, 90 intermediate learners took the piloted PET and 60 participants whose scores fell one standard deviation above and below the sample mean score were selected as the main participants of the study. Then, the researcher randomly assigned these 60 participants to two experimental groups.

In the first session, the learners of both groups were informed about what was going to be done during the course. As the school syllabus required, one unit had to be taught during four sessions. So, three units of the book *English for pre-university students* (English 1 and 2) were taught to the learners in 12 sessions during the research study. Each session consisted of 90 minutes

and both groups had the same condition in terms of timing and syllabus. Therefore, 60 out of 90 minutes was allocated to teach the course book and the remaining 30 minutes was allocated to the treatment.

An extra reading text was given to the candidates each session. In one group, these reading texts included antonym in-text glosses and in the other group, the same reading texts consisted of description in-text glosses for the same words. Before the researcher gave the reading texts to the learners, she asked them a warm up question about the topic of the reading text to gain the learners' attention in about three minutes. Then, the researcher gave all of the learners the reading texts and introduced the text to them in about two minutes. Then, she asked them to read the text once, which often took them about 4 to 5 minutes. The researcher pointed out that there were in-text glosses for new words and encouraged them to try to guess the meaning of the unknown words with the help of the glosses. The students did not use the dictionary and therefore, could guess the meaning in context and through the help of the glosses.

After the learners read the text, the researcher asked them to answer the gist question that the researcher wrote on the board. The students had few minutes to discuss the answer with their peers. Then, they could discuss their answers with the class and the researcher would also take part in their discussion. The researcher went through this step to make sure that the students had comprehended the text.

Next, the researcher asked them to read the text again and answer the comprehension questions following the text. During this phase, the researcher would monitor and check their answers and finally provide the answers on the board. Finally, the researcher would go through the text line by line (except for the glosses) and explain it for them to make sure that they had no remaining problems in comprehending the text.

When the treatment was over, both groups took the reading posttest, which was the reading section of another sample of PET, and the data was processed and analyzed to test the null hypothesis of the study.

### **Design**

Since the random selection of the participants was not possible, the design of this research study was quasi-experimental, with posttest-only and comparison group. The method of glossing the text, which included antonym in-text gloss and description in-text gloss, was the independent variable with two modalities, and reading comprehension was the dependent variable. Moreover, age, gender, and language proficiency of the learners were the control variables.

## Results

As mentioned earlier, the selected participants were homogenized using PET. Nevertheless, after assigning the participants into the two experimental groups, the researcher compared their mean scores on the reading section of the PET. Table 1 presents the descriptive statistics of the PET reading comprehension scores obtained by the participants of both groups.

Table 1  
*Descriptive Statistics of the Experimental Groups' Pre-Treatment Reading Comprehension Scores (PET)*

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
RC (Antonym)	30	11.00	20.00	31.00	24.20	3.16	9.96	.657	.427
RC (Description)	30								
Valid N (Listwise)		11.00	19.00	30.00	24.53	2.96	8.74	.028	.427
	30								

Table 1 shows that the mean for antonym in-text glosses group turned out to be 24.20 and that of the description in-text glosses group was 24.53. The standard deviations were 3.16 and 2.96, respectively. Moreover, the skewness ratios (1.54 and .067, respectively) also showed that the distributions of reading comprehension scores were normal in both groups. Figures 1 and 2 depict the distribution of reading comprehension scores of the two experimental groups.

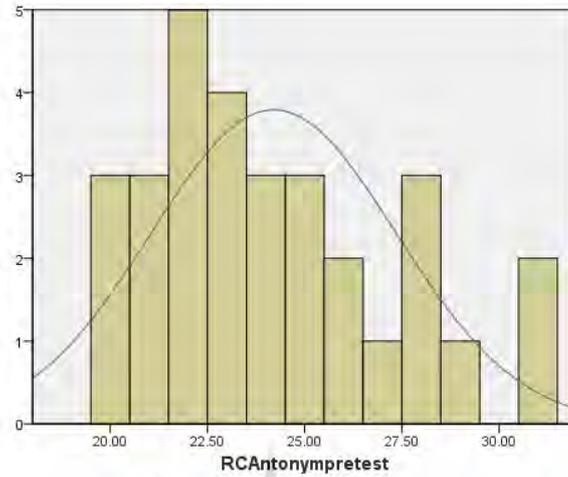


Figure 1. Distribution of Antonym In-Text Glosses Group Reading Scores

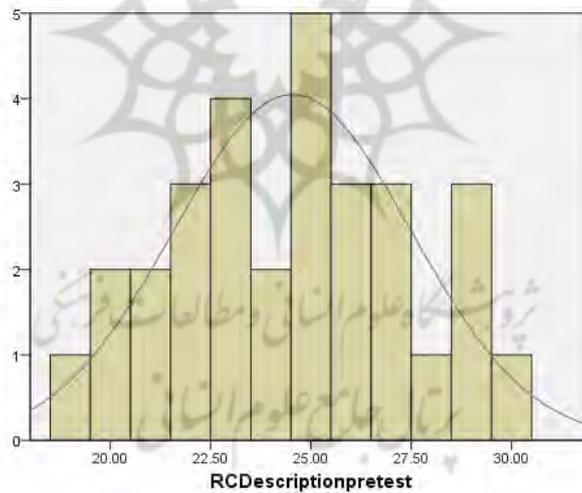


Figure 2. Distribution of Description In-Text Glosses Group Reading Scores

An independent samples *t*-test was run to check the significance of the difference between the reading comprehension mean scores and to ensure the homogeneity of the two groups in terms of the dependent variable. Table 2 presents the descriptive statistics and the result of the *t*-test analysis.

Table 2  
*Independent Samples t-test on Pre-Treatment PET Reading Scores*

	Levene's Test for Equality of Variances		t-test for Equality of Mean				95% Confidence Interval of the Difference		
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Equal variances assumed	.106	.746	-.422	58	.674	-.333	.789	-1.91	1.247
Equal variances not assumed			-.422	57.76	.674	-.333	.789	-1.91	1.247

As illustrated in Table 2, the assumption of equal variance was met,  $F = .106$ ,  $p = .746 > .05$ . Therefore, the results of the  $t$ -test with equal variances are reported. The results indicated no significance difference between the two experimental groups in terms of their reading comprehension prior to the treatment,  $t = -.422$ ,  $df = 58$ ,  $p = .674 > .05$ . At the end of the treatment, a reading comprehension posttest was administered. Table 3 presents the descriptive statistics of the two groups' reading posttest scores.

Table 3  
*Descriptive Statistics of Reading Comprehension Posttest*

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness	Std. Error
	Stat.	Stat.	Stat.	Stat.	Stat.	Stat.	Stat.	Stat.	Stat.
RC Posttest (Antonym)	30	8.00	19	27	23.13	2.22	4.95	-.059	.427
RC Posttest (Description)	30	14.00	19	33	25.97	3.60	12.99	.029	.427

As can be seen from Table 3, the mean of the description in-text glosses group (25.97) turned out to be higher than that of the antonym in-text glosses group (23.13). Moreover, both sets of scores were normally distributed as the skewness ratios (.138 and .068, respectively) fell within the acceptable range

of  $\pm 1.96$ . Figures 4.5 and 4.6 present the distribution of scores for the two experimental groups.

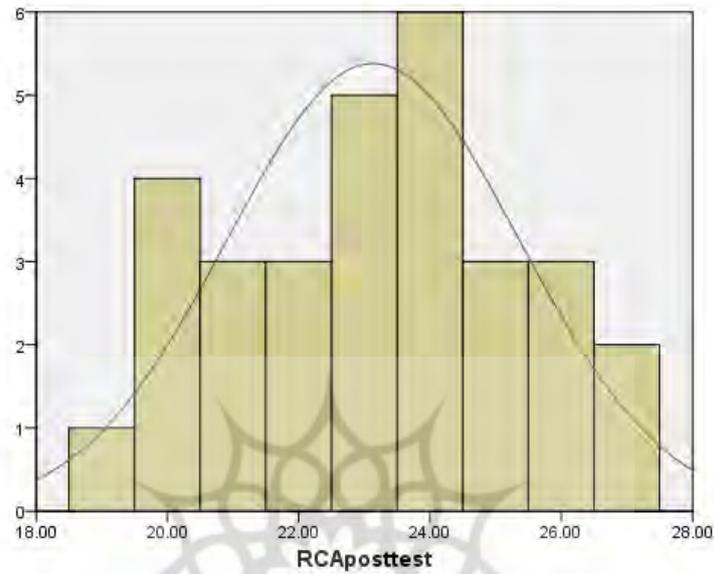


Figure 3. Distribution of Antonym In-Text Glosses Group (Reading Posttest)

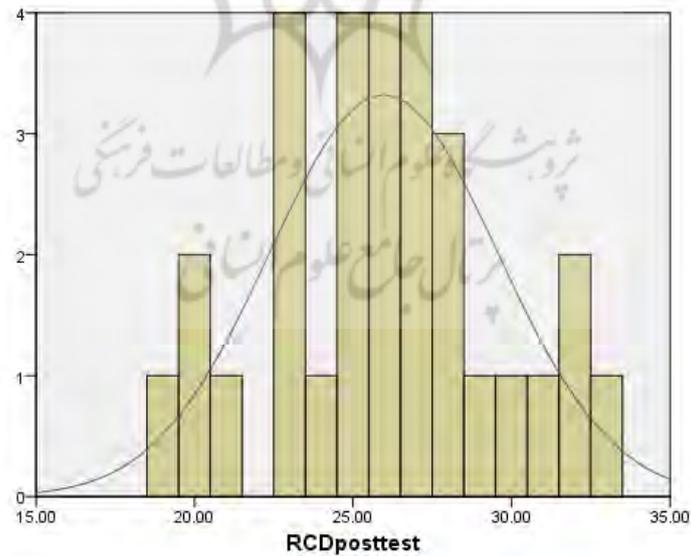


Figure 4. Distribution of Description In-Text Glosses (Group Reading Posttest)

In order to test the null hypothesis of the study, an independent samples *t*-test had to be run on the reading comprehension posttest scores of the two experimental groups. Since the distributions of both groups were normal, running *t*-test was legitimate. Table 4 details the results.

Table 4  
*Independent Samples t-test on the Reading Comprehension Posttest Scores*

	Levene's Test for Equality of Variances		t-test for Equality of Mean				95% Confidence Interval of the Difference		
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Equal variances assumed	4.199	.045	-3.67	58	.001	-2.83	.773	-4.381	-1.285
Equal variances not assumed			-3.67	48.28	.001	-2.83	.773	-4.388	-1.278

As shown in Table 4, the assumption of equal variance was not met,  $F=4.199$ ,  $p=.045<.05$ . Therefore, the results of the *t*-test with unequal variances are reported. The results indicated a significance difference between the two experimental groups in terms of their reading comprehension posttest scores,  $t=3.67$ ,  $df=48.28$ ,  $p=.001<.05$ . Therefore, the null hypothesis of the study was rejected. Since the mean of the description in-text glosses group (25.97) was higher than that of the antonym in-text glosses group (23.13), it could be concluded that description in-text glosses had a significantly higher effect than antonym in-text glosses on EFL learners' reading comprehension.

Moreover, the effect size was calculated and Cohen's  $d$  and  $r^2$  turned out to be 1.06 and .47 respectively. This means that the difference in the treatments could account for 47% of the variation in the reading comprehension posttest scores of the two groups and that 53% of the variation was due to the factors out of the control of this study. Cohen's  $d$  of 1.06 is a large effect size; therefore, the effect of the independent variable (description in-text glosses) was considered a large effect.

## Discussion

The focal purpose of this study was to answer the question of whether there was a significant difference between the effect of antonym in-text glosses and description in-text glosses on EFL learners' reading comprehension. To this aim, a quasi-experimental design was employed in this research, allowing the participants to be randomly assigned to two experimental groups, each receiving different treatment. Through the analysis of the results of the post-test, it became evident that the group being instructed through description in-text glosses significantly outperformed the group receiving antonym in-text glosses with a large effect size.

The aforementioned findings have revealed that EFL learners' reading comprehension improves more when the text is taught by using description in-text glosses in comparison with the use of antonym in-text glosses. Reading in English as a foreign language is perhaps the most important of the four language skills needed by students of any major and by future professionals. Johnson (2008) stated that reading has been regarded as the most needed skill for the students. In this regard, Huang, Cheng, and Chem (2006) stated that students should learn how to decode the text in order to understand it. Language students need large amount of comprehensible input and different reading materials to measure their reading comprehension (Haji Maibodi, 2008). The findings indicated that using description in-text glosses was significantly more effective than using antonym in-text glosses on intermediate learners' reading comprehension. Thus, the researcher was able to reject the null hypothesis of the study with large effect size.

There are different results obtained in different research studies in terms of the effect of glosses, some of which are in line with the findings of this study and some of which are in contradiction with those of the current study. According to Dufon and Fong (1994), using glosses did not significantly impact vocabulary recall among intermediate level students, while according to Davis (1989) using glosses significantly improved the reading comprehension and vocabulary recall. Jacobes (1994) also proved a positive effect of using glosses on the foreign language learners' reading comprehension. Davis (1989) found that those students who received help for the meaning of unknown vocabularies, whether before or during reading process, could do significantly better than those who did not receive any help. Glossing is used to modify the incomprehensible text into a comprehensible one which can cause a better language acquisition (Hulstijn, 1996; Pulido, 2004).

Generally, previous studies have shown that glosses positively affect reading comprehension and vocabulary learning (Cheng & Good, 2009; Chun

& Plass, 1996; Davis, 1989; Hulstijn, Hollandar, & Greidanus 1996; Lomicka, 1998; Rott, Williams, & Cameron, 2002; Wang, 2005; Watanabe, 1997; Yoshii, 2006; Yoshii & Flaitz, 2002). Therefore, it seems that glosses in general are contributory to the process of reading. However, the results of this study indicated that the description in-text gloss is more effective than the antonym in-text gloss. This could be due to the fact that description in-text gloss provides more input for the learners and results in more comprehension due to the fact that it gives description rather than a single word.

Another reason for the higher impact of description in-text glosses could be the interaction the readers mind makes with them. In fact, such descriptions become a text with which the reader needs to interact and create meaning and as a result they add to the context of the main reading text and as a result of a richer context, the reader reaches better understanding and comprehension of the text.

Finally, processing antonym in-text glosses might be more demanding for the readers because they need to go through the opposite process of deciphering the meaning, which does not fit into the text, and then, get to the meaning that fits into the text. This might result in a longer mental process or even a more complicated one compared to the description in-text glosses.

The findings of this study have pedagogical implications. Description in-text glosses provide a type of in-text scaffolding for the learners, which in contrast to teacher scaffolding, assists students to independently and autonomously proceed with their reading and meaning-guessing. Therefore, it is useful and time saving both for students and teachers. However, since antonym in-text glosses might have been more complicated and might have required a reverse and longer cognitive process, researchers can investigate its effect on learners critical thinking or critical reading.

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#### **Biodata**

**Mona Khabiri** is an Associate professor of Applied Linguistic at Islamic Azad University, Central Tehran Branch and the Director of Journal of English Language Studies (JELS). She mainly teaches language testing, research methodology, seminar in TEFL issues, and teaching language methodology at graduate and doctoral level. Her main areas of interest include teacher education, cooperative learning, language testing and research. She has published papers in international and national academic journals and presented in several national and international seminars.

**Hanieh Ghasemi** received her Masters degree in Teaching English as a Foreign Language (TEFL) in 2017 from Islamic Azad University, Tehran Central Branch. Her area of expertise is teaching at high schools. Her areas of interest are teaching methodology and techniques and psychology for teaching.