



## Review of the Effect of Glosses on Vocabulary Learning and Reading Comprehension

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### ABSTRACT:

The present study reviews the results and findings of the previous studies on reading comprehension and vocabulary of ESL/EFL learners. The majority of the studies showed that L2 reading can help second language acquisition. Sometimes, many unfamiliar words are found in reading texts and students fail to notice all these unfamiliar words and understand the whole texts. Most of the studies have confirmed that glosses are very useful for vocabulary learning and reading comprehension. This paper reviewed the previous studies from a new view; whether textual glosses have significance in L2 reading comprehension or not. The implication of the researches, the limitation of the studies and the direction of the future research were discussed. The researcher found that there is no consistency in the results of the previous studies. Therefore, the researcher recommends more studies to explore which glosses are more effective in reading comprehension of ESL/EFL learners.

**Keywords:** *ESL/EFL learners; Review; Reading; Glosses.*

### المستخلص:

تناولت هذه الورقة نتائج الدراسات السابقة المرتبطة بالاستيعاب (القراءة) و تعلم مفردات اللغة الإنجليزية بالنسبة لطلاب اللغة الإنجليزية كلغة ثانية أو كلغة أجنبية. بينما أظهرت معظم الدراسات السابقة أن تدريس الاستيعاب باستخدام اللغة الثانية (الإنجليزية) لتوضيح معاني المفردات يساعد على اكتساب اللغة، أظهرت دراسات أخرى أن استخدام مسرد (إنجليزي/عربي) مفيد لتعلم مفردات اللغة واستيعاب نصوصها وذلك لعجز الطلاب أحياناً من ملاحظة كل المفردات الجديدة في القطعة وفهماها. تناولت هذه الورقة حدود ومضامين ونتائج الدراسات السابقة برؤية جديدة لتكون أساساً للدراسات اللاحقة حول أثر تزويد النص بمسرد (إنجليزي/عربي) علي تعلم مفردات اللغة الإنجليزية واستيعاب نصوصها بالنسبة لطلاب اللغة الأجنبية. وقد توصل الباحث لعدم وجود تطابق في نتائج البحوث السابقة، لذلك أوصى لإجراء المزيد من البحوث لمعرفة مدى تأثير المسارد في الاستيعاب (القراءة) لدارسي اللغة الإنجليزية كلغة ثانية أو أجنبية.

### INTRODUCTION:

One aspect of a second language (L2) taken into account as one of the fundamental aspects of every L2 is vocabulary or lexicon. Vocabulary learning is essential for the learning of a second language, which constitutes a great challenge and enormous task for both second language learners and teachers. The significant role of vocabulary in L2 learning should not be looked down upon. Thus, within the framework of teaching, L2 teachers should take a more comprehensive approach to develop ESL/EFL

learners' vocabulary. (Knight, 1994) stated that Learning words can be considered to be the most important aspect of second language (L2) learning. Also; Candlin (1988, : vii) said, "... the study of vocabulary is at the heart of language teaching in terms of organization of syllabuses, the evaluation of learner performance, and the provision of learning resources..." Nation (2002) claimed that 'among these cognitive activities, reading, especially extensive reading, has aroused much research attention because of



the fact that pleasure reading habits can enlarge first language (L1) learners' vocabulary, and promote their language competence and academic performances'.

Researchers have suggested some ways to promote vocabulary gains in incidental vocabulary learning: the use of dictionary, guessing from context, glosses. Many studies have confirmed that glosses are very useful for reading comprehension (Davis, 1989; Jacobs, 1994; Johnson, 1982; Ko, 2005) and incidental vocabulary learning (Chen, 2002; Duan & Yan, 2004; Gettys et al., 2001; Grace, 1998, 2000; Hulstijn, Hollander and Greidanus, 1996; Jacobs et al., 1994; Kost et al., 1999; Miyasako, 2002). Nation (2002:174-175) defines gloss as a brief definition or synonym of unknown words provided in text in L1 or L2. Bell and LeBlanc (2000) states that glosses are the most common tools of text adaptation because they help second language learners in reading comprehension through understanding words and phrases. Textual glosses are considered valuable tools which facilitate reading in a foreign language (Azari, 2012; Watanabe, 1997; Jacobs (a), 1994; Pak, 1986) as they minimize the interruptions to reading flow as when using a dictionary, which is time-consuming and interrupts the reading process (Ko, 2005; Nation, 2002). The result of some studies (Palmer, 2003; Chen, 2002; Bell & LeBlanc, 2000; Jacobs, 1994; Jacobs, Dufon & Hong, 1994; Davis, 1989; Holley & King, 1971) in which researchers asked participants to read texts under one of the conditions: with L1 gloss, with L2 gloss, and without gloss revealed that the participants in gloss groups do better than the other group with no-gloss in text comprehension, but no significant difference was seen between L1 gloss and L2 gloss groups. On the other hand, some researchers (Al-Jabri, 2009; Cheng & Good, 2009; Lomicka, 1998; Joyce, 1997; Pak, 1986;) reported that there was

no significant between gloss groups and control group in reading comprehension. In another studies such as Palmer (2003), Ko (2005), and Miyasako (2002) one gloss group had advantage over another gloss group. Considering the related literature, as the previous studies brought mixed and conflicting results, the effect of textual glosses still remains as an open question that can be investigated in future studies. The present study aims to address the issue of the conflicting results about the effect of glosses on reading comprehension.

#### **Academic Implication of the Study:**

This study revealed that glosses are helpful for facilitating L2 reading comprehension and EFL/ESL learners should be provided with textual glossed texts while involved in reading activities. In this way, the participants' attention to new word will be drawn to glosses and glossed texts enhance reading comprehension. Furthermore, the use of gloss can decrease the burden of looking up words in dictionary, prevent the interruption of reading flow, and avoid L2 learner from making false inference for unfamiliar vocabularies in a particular context. Therefore, textual glosses help learners understand the reading texts and know the exact meaning of the new vocabularies. Second language instructors should consider producing some interesting reading texts with different textual glosses in order to increase ESL/EFL learners reading comprehension. The selected texts should be related to the students in order to motivate students to read outside the classroom. Furthermore, the proficiency level of L2 learners should be taken into consideration in the selection of glosses and reading texts. Furthermore, the provision of the review of the previous studies can be used as a fundamental resource for future studies.

#### **The Experimental Previous Studies on The Effect of Using Glosses on Reading**



### **comprehension and Vocabulary of ESL/EFL Learners:**

A number of researchers investigated the effect of glossing on reading comprehension vocabulary of ESL/EFL learners, but their findings were incompatible. Glossing aroused a controversial debate whether glosses enhance L2 reading comprehension or hinder L2 reading comprehension. Although there is no consistency on glossing in recent literature, glossing is generally accepted as an aid for many foreign language text books. Glossing is the easiest way for understanding the meanings of unknown words because they are presented in the margin on the same page or another page and L2 learners do not need to look up words in a dictionary. The present study will review the studies on the gloss and reading comprehension which is divided into two groups. In the first group, the findings showed that there was a significant difference between the effects of glosses on reading comprehension. In the second group, it was reported that there was no significant difference between the effects of glosses on reading comprehension.

### **Studies on glosses and text comprehension with difference between gloss group:**

Some researchers predicted that using gloss could have positive effects on text comprehension. Their studies are summarized in this section.

Davis (1989) is considered as the first one who had an article about L1 gloss and text comprehension considering a control group. He examined whether marginal glosses would promote comprehension of a text. Seventy-one U.S. students in a French class were divided into three groups and read a short passage under three text conditions. The first group was required to read the passage for fifteen minutes, then wrote what they could remember for ten minutes, and then reread the passage for five minutes. The second group was offered a

vocabulary guide before reading; they studied the questions and notes for ten minutes, read for fifteen minutes, and then wrote what could remember. The third group was given the same questions and meanings of the same vocabulary in glossed form. They read the text for twenty-five minutes, and then wrote. The result showed that those who read a text with glossing performed significantly better than those who read a text without glossing. The study showed that marginal glosses could promote comprehension of a text. Luo (1993) follow the same procedure for his PhD dissertation. He conducted two studies; in which L1 gloss was compared with a control group. The subjects in gloss groups were asked to read the text with the same glosses as used by Davis (1989). The results on the written text revealed that only the L1 gloss group had better performance than control group. Nevertheless, no significant difference was reported between groups subjected to L1 gloss and L2 gloss. This may due to the small number of the participants. In his second study, Luo had change the procedure; but with the same participant (n=43) and read same text in the aforementioned study. The participants in L1 gloss group had access to different number of L1 gloss: the first group with 12 glosses, the second group with 38 glosses, and the third group with 75 glosses. The results showed that the second and the third L1 gloss groups significantly had better performance than the control group. The results also revealed that there was a positive relation between the number of glosses and scores. The findings were in consistency with those of Davis (1989) and confirmed the effectiveness of L1 gloss to help text comprehension. Moreover, in none of the studies conducted by Jacobs, Dufon and Hong (1994) and Luo (1993) the L1 gloss group had better performance than the L2 gloss group and this still remains an open question. Jacobs' (1994) study also showed a



positive effect of glosses on foreign language reading comprehension. The number and specialization of the participant are different from the above studies; 166 U.S. learning Spanish. Knight's (1994) and Luo's (1993) findings on L1 gloss and text comprehension were in contrast with Baumann (1994). Nevertheless, Knight's (1994) research was a research on both glossing and dictionary use in which the participants accessed to gloss-like translations of the unknown vocabularies through a computer dictionary. The researcher provided the experimental group with two Spanish magazine articles which had about 250 words and 24 glosses available via dictionary while the control group did not access to dictionary. The results showed that the dictionary group had better performance than the control group in the written text. Also it revealed that translation helped the low verbal proficiency level learners significantly but not the high verbal proficiency level learners. Even so these findings are inconsistent with Jacobs, et al. (1994) study in which it was reported that the high proficiency level learners benefited more from L1 gloss. After the above studies, Roby (1999) conducted a research to investigate the effects of gloss presentation mode (computerized versus paper-and-pen glosses) and type of glossing support (dictionary versus dictionary plus vocabulary glosses) on reading comprehension. The participants were by U.S. College students of Spanish. The researcher reported that the addition of glosses to dictionary speeded up the reading task, but no effects were found for glossing. Moreover, the results revealed that the participants had a strong performance. He came to this conclusion that glosses and computerized glosses in particular, 'would appear to lessen the disruption of the reading process caused by conventional dictionary look-ups'. Miyasako (2002) applied different procedure with school students,

whereas the above mentioned studies were conducted with university students. He conducted his study with the participants; who were 187 Japanese high school were asked to read a text under one of six conditions: L2 (English) multiple-choice gloss, L1 (Japanese) multiple-choice gloss, L2 (English) single gloss, L1 (Japanese) single gloss, no-gloss, and control (no reading). Then, they were given two vocabulary tests: one immediately after the reading and the other 18 days later. The results of this study revealed that both L1 gloss and L2 gloss groups significantly outperformed the control group, and L2 gloss groups (multiple-choice or single) significantly outperformed the L1 gloss groups (multiple-choice or single) for the immediate test. Palmer (2003), and Ko (2005) conducted their studies with undergraduate university students in Korea. Palmer compared second language text comprehension under five conditions, whereas Ko compared with three ones. In both studies; the first group read the L1 glossed texts with translation of vocabularies; group2 read the L2 glossed, and group3 read texts without gloss. Another two instructions included; traditional instruction with oral translation and English-only instruction; were added in Palmer's study. They distributed a questionnaire to show the participants' preference of L2 gloss. Their results revealed that the L1 gloss group had better performance than other groups and the L2 gloss group and traditional instruction groups had better performance than control group and English-only instruction group. The researcher conducted interviews with glossed groups indicated the numbers of referred glosses, the different effects of L1 gloss and L2 gloss, the problems and reasons of misconceptions caused by L2 texts for the participants. Finally, the researcher mentioned the problems the participants faced by non-glossed university textbooks. Palmer's (2003) justification for doing this research was



based on his own personal experience that reading the glossed texts is more effective than reading texts without gloss. He also wanted to show that university students preferred to study the L1 glossed texts by themselves than to study texts without gloss. In one of the related studies, Taylor (2006) commented on Ko's (2005) study. Taylor mentioned the importance of Ko's study results in which L2 gloss group outperformed L1 gloss group and control group. In Taylor's view, the result is notable since it suggests that the researchers should not utilize L1 glosses for second language advanced learners and the teacher should keep on using L2. Moreover, the use of L2 glosses may result in deeper processing of target words (e.g., Grace, 1998, as cited in Taylor, 2006). Taylor noted that this result was predictable since Ko's measurement tool was in second language and the difficulty level of the reading passage was not high enough to guarantee a need for using L1 glosses. In her study, Ko pointed out that test type could affect the results. In another study, Taylor (2006) conducted a meta-analysis of the effects of CALL L1 glosses and traditional L1 glosses using effect size for his meta-analysis. The study revealed that L1 glosses had more positive effect than what reported before. Considering the treatment type, Taylor concluded that CALL L1 glosses had a larger effect size on L2 text comprehension than the traditional gloss.

One of the recent related studies is Al-Jabri (2009) who compared the effects of various gloss types on text comprehension and ideas recall. The participants were 90 second-year male English department undergraduate Saudi students were randomly divided to; L1 (Arabic) gloss, L2 (English) gloss, and no-gloss. They were asked to read an English text of 470 words with 19 glosses. The results revealed that L1 gloss group significantly outperformed the L2 gloss group in text comprehension. The additional analysis revealed that more than

(94%) of subjects preferred to use glosses and (50%) were interested in using L2 glosses for their reading materials. Farvardin and Beria's (2011) conducted study with other different gloss types; which were not used in the above mentioned studies. His findings indicated that the effect of different gloss types on text comprehension is still debatable. The participants read narrative and expository texts under one of the three conditions: first language (SL1G), single gloss in subjects' second language (SL2G), and multiple-choice gloss (MCG) in subjects' second language. The participants were given a multiple-choice text comprehension test. The results of ANOVA revealed that SL1G and SL2G were the most effective gloss types for understanding the narrative and expository texts respectively. The results indicated that participants preferred marginal L2 gloss.

Although; all the above studies showed the differences between various glosses, other studies revealed different results that will be explained in the next part.

#### **Studies on glosses and text comprehension with no difference between gloss group:**

As mentioned earlier, a number of studies yielded different results. The results of all these studies are summarized in this section. Holley and King (1971) conducted the first quantitative study on comprehension. The U.S. students of German were 110; they were assigned to six groups. The researcher provided three different glosses in the margin, at the page bottom, and on an attached list. The first three groups were asked to read the 750 word target text with 25 glosses while the second three groups were asked to read the same text with 50 glosses. Although, the results revealed no significant differences between groups, this finding showed that the provision of L1 gloss had positive effect on text comprehension. Johnson (1982) conducted this study to show the effect of background knowledge; the total number of 72



participants was divided into four groups randomly and was asked to read a text containing two parts. The first group (control group) had no access to L2 gloss and list of definitions of words before the reading activity. The second group was provided with a list of words and their definitions prior to the reading activity. The third group received the L2 gloss with the reading text. The fourth group received both the list of definitions of word prior to the reading activity and L2 gloss with the reading texts. They were asked to write recall protocols in English. The results showed no difference in recall scores between four groups regarding the second part of the reading texts that was not familiar for the participants. Nevertheless, the results revealed a significant difference between groups in the second part of the reading texts which was familiar for the participants. The second group that was provided with a list of definitions prior to the reading activity but had no access to L2 gloss during the reading outperformed the fourth group. Surprisingly, the mean of the control group was higher than the gloss group. Another study conducted by Bensoussan, Sim, and Weiss (1984) in Israel with four study sections This study revealed the importance of gloss compared to dictionary use in which the readers should look up the unknown words. Dictionary look up is very time-consuming and interrupts the flow of reading that can result in demotivating the readers. This study compared the monolingual and bilingual dictionaries and dictionaries provided glosses but in less accessible forms. In the first study, with 900 advanced EFL learners, monolingual dictionary was compared with a control group and no significant difference was reported. The second study, 91 participants were divided into three groups to read three reading texts using monolingual dictionary, bilingual dictionary and without dictionary. The results showed no correlation between the number of

words searched for and the scores. The third study, the participants who were 670 advanced EFL learners were asked to read one of the eight reading texts of with multiple choice questions. The three groups of subjects read the texts by using monolingual dictionary, bilingual dictionary and without dictionary. The results showed no significant difference between three groups. In the last study, the researcher replicated the third study with 740 advanced learners. A significant difference was reported in using dictionary for only one of the eight texts, but it was not indicated that in which aforementioned groups this happened. In spite of having access to the meanings of words, the results revealed that the effect of glossing on reading comprehension is not considerable. Nevertheless, the researcher stated that words had different meanings in dictionary, and the subjects should select the most appropriate definition to the context. Regarding this issue, glosses are different from dictionaries with providing of the most precise meanings matched to the contexts. The present study intended to motivate low proficiency EFL learners through the provision of gloss.

Jacobs, Dufon and Hong (1994) conducted a contrastive study with the studies by Johnson (1982) and Bensoussan, et al. (1984), in which the participants who were 85 fourth semester university students of Spanish were randomly assigned to three groups: L1 gloss group, L2 gloss group, and a control group. The researcher provided the subjects with 613 word authentic Spanish magazine article that had 32 glosses. The participants were asked to read the text and to write a recall report in English (L1). The results revealed that the two gloss groups outperformed the control group but there was no significant difference between the two gloss groups. In addition to that, the post- test analysis showed that high proficiency level students gained more in recall written text in both gloss



groups. The analysis of questionnaires revealed that the participants preferred to use L2 gloss over L1 gloss, whereas they confirmed that glossing is more helpful than non-glossing. This result was in contrast with Knight (1994) who reported that the low proficiency level learners benefited more from translation than high proficiency level learners did. To determine the effect of L1 gloss on text comprehension, Joyce (1997) conducted a research in which the first, second and third semester U.S. undergraduate students of French were assigned to six groups: three L1 gloss and three corresponding control groups. The participants in the gloss groups were required to read an article of 470 words with 15 L1 glosses but the corresponding control group did not have access to gloss. No significant difference was reported between gloss groups and the corresponding control groups in recall test scores. Even the control group mean of the third semester learners was higher than the gloss group. Nevertheless, the gloss group in the second semester had a slightly better performance than the corresponding control group. The limited number of gloss might result in showing no difference between groups in this research. Lomicka (1998) conducted a research with 12 second semester U.S. students of French who were assigned to three groups: no-gloss, traditional gloss with both explanation in French (L2 gloss) and translation in English (L1 gloss), and extended gloss including French definitions, images, references, questions, pronunciations, and translation in English. The participants were asked to read a poem of 226 words through computer. The researcher did not indicate the number of glosses. The participants of gloss groups had access the gloss by clicking on the icons. The results revealed that there was no significant difference between three groups. There was a high inferences generated by the extended group (84) compared to (35) inferences generated by the other groups, Lomicka tended

to conclude that the extended gloss had a significant effect on text comprehension. But this study did not support the use of traditional glosses to develop text comprehension. The researcher provided both L1 gloss and L2 gloss, but they were not compared with each other. So, the effect of L1 gloss and L2 gloss and the combination of L1 gloss and L2 gloss on text comprehension still remains as an open question. In one of the related studies, Bell and LeBlanc (2000) compared two types of glossing mostly used for computer-based reading. The participants who were 40 U.S. undergraduate students were in third semester Spanish were divided to two groups; L1 gloss and L2 gloss; which was different from the other studies. After reading a text, a multiple-choice text comprehension test was administered by the researcher. The results of this study revealed that there was no significant difference between the groups. The results also indicated that the subjects preferred L1 gloss to L2 gloss as most of the studies came with. In another study, Chen (2002) conducted a study in which 85 Taiwanese students who studied English as a L2 were signed randomly to three groups: L1 gloss (Chinese), L2 gloss (English), and no-gloss. They were asked to read an English text of 193 words with 20 glosses. The results indicated that there was no significant difference between L1 gloss group and L2 gloss group, but L2 gloss group significantly performed better than no-gloss group. Chen reported the similar results between L1 glosses and L2 glosses as Jacobs' (1994) study. Chen noted that the L2 gloss group spent more time to read the modified text than L1 gloss group did. It was not clear that spending the longer time on reading would lead to better understanding of the text. According to previous studies, slower reading could result in the lack of automatic vocabulary recognition and lower text comprehension. In one of the recent studies, Cheng and Good (2009) compared the effects of



three gloss types including (L1) Chinese glosses plus (L2) English example sentences, L1 in-text glosses, L1 marginal glosses, and no-gloss on text comprehension and vocabulary learning. The participants were 135 Taiwanese undergraduate students at four English proficiency levels who studied business and engineering at technical university were provided with a vocabulary pretest, a reading session, a posttest, and two delayed vocabulary recall tests. The results of this study indicated that L1 glosses assisted learners to learn new vocabularies and to review them. The participants' retention decreased between the immediate posttest and the first delayed recall tests. The retention increased slightly in all groups between the first and second delayed recall tests. But no significant difference was observed in text comprehension. The researcher asked about the participants' opinion on using gloss via questionnaire. The result showed that most of the subjects had positive attitude towards glossing: 75% of them thought that the glosses could increase reading comprehension and vocabulary learning during study, but the subjects' opinion about the usefulness of gloss for vocabulary learning was more accurate than for text comprehension. 42% of the participants believed that L1 glosses plus L2 sentences was the best way for learning new vocabularies. Moreover, as far as the related literature shows, there is no consistency in the findings of different research about the effects of glossing on text comprehension. Furthermore, no researcher reviewed the studies on the effect of various gloss types on text comprehension of ESL/EFL learners. The researcher intends to address this significant issue in the present study.

#### **Conclusion:**

Reading comprehension is an incremental process and the, gloss can facilitate this process. Glosses were observed to result in better

performance in text comprehension. In this study, the review of related studies revealed that glosses are effective tools in L2 reading comprehension, but which kind of textual glosses are more useful is still an open question. The researchers investigated the effects of glossing on reading comprehension. Future studies can explore whether glosses help lower level ESL/EFL learners more than higher level learners in text comprehension. The researchers can review studies on the effects of textual glosses on vocabulary learning. They can also review the studies on the effects of other gloss types on text comprehension.

Additionally, future studies can examine the effectiveness of multimedia software, namely multimedia glosses on L2 vocabulary learning in mobile -assisted language learning context. Applying think-aloud text can clarify other aspects of multimedia glosses. Further L2 research is needed to examine different strategies deployed by L2 learners in different multimedia glosses conditions. Another area which needs further research is individual differences. Future L2 studies might investigate the effect of cognitive styles on taking advantage of multimedia glosses.

Furthermore, there is no consistency in the results of the previous studies. Thus it is necessary to explore which glosses are more effective in reading comprehension of ESL/EFL learners. As the results of previous studies are not conclusive, it is needed to carry out further research to examine which textual gloss types are more effective in reading comprehension.

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