Review of Effects of Glosses on Reading Comprehension of ESL/EFL Learners

Foroogh Azari, Faiz Sathi Abdullah

Department of English,
Faculty of Modern Languages and Communication,
Universiti Putra Malaysia, 43400, Serdang, Selangor, Malaysia
Email: foroogh.azari@yahoo.com

Abstract- The present study reviews the findings of the previous studies on reading comprehension of ESL/EFL learners chronologically. The results were divided into two groups as follows: the first group of studies reported that there was difference between the effects of textual glosses on reading comprehension and the second group of studies confirmed that there was no difference between the effects of different glosses on reading comprehension. This study reviewed the previous studies from a new perspective that can be used as a fundamental review research for future studies on the effects of glossing on reading comprehension of ESL/EFL learners.

Key Words: EFL/ESL Learners; Gloss; L1 Gloss; L2 Gloss; L1 and L2 Gloss; No Gloss; Reading Comprehension; Review.

1. INTRODUCTION

It is stated by Bell and LeBlanc (2000) that glosses are the most common tools of text adaption because they help second language learners in reading comprehension through understanding words and phrases. Nation (2002, pp. 174-175) defines gloss as “a brief definition or synonym of unknown words provided in text in L1 or L2”. Textual glosses are considered valuable tools which facilitate reading in a foreign language (Azari, 2012; Watanabe, 1997; Jacobs, 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). Glosses also make learners more autonomous in their reading activity (Nation, 2002). Therefore, many studies have been carried out on the effects of L1 gloss (that is, glosses written in the learner’s native language) and L2 gloss on EFL reading comprehension.

A number of researchers examined the effects of glossing on reading comprehension. The attempts brought inconsistent results, some studies revealed that the use of gloss facilitates reading comprehension (Ko, 2005; Huang, 2003; Chen, 2002; Bell & LeBlanc, 2000; Jacobs, 1994), but in some other studies, there was no significant effect of glossing on reading comprehension (Cheng & Good, 2009; Yanguas, 2009; Yoshii, 2006; Ko, 1995; Jacobs, Dufon, & Fong, 1994).

The result of some studies (Palmer, 2003; Chen, 2002; Bell & LeBlanc, 2000; Jacobs, 1994; Jacobs, Dufon & Hong, 1994; Jacobs, Dufon, & Fong, 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 outperformed their counterparts in no-gloss group 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; Joyce, 1997; Lomicka, 1998; Pak, 1986; Baumann, 1994) 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.

Quite recently, the focus has shifted from whether glossing has positive effect on reading comprehension to which gloss types are more effective. 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. Considering the conflicting results about the effect of textual glosses on reading comprehension, the present study aims to address this issue.

2. PEDAGOGICAL IMPLICATIONS OF THE STUDY

This study revealed that textual 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 provision 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.

3. PREVIOUS STUDIES ON THE EFFECTS OF GLOSSING ON READING COMPREHENSION OF ESL/EFL LEARNERS

Based on the related literature, a number of researchers investigated the effects of glossing on reading comprehension of ESL/EFL learners but their findings were inconsistent. 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. Table1 shows the summary of studies that revealed significant differences between the effects of glosses on reading comprehension.
### Table 1. Studies on Textual Glossing and Text Comprehension (Difference between Groups)

<table>
<thead>
<tr>
<th>Researcher(s)</th>
<th>Research Groups</th>
<th>Finding(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Davis (1989)</td>
<td>Read-write-reread - List word expressions and phrases before reading - Same materials in glossed form during reading</td>
<td>Glossed group outperformed the other groups. - L1 gloss aids text comprehension.</td>
</tr>
<tr>
<td>Luo (1993)</td>
<td>1) Two L2 gloss groups - Control group - L1 gloss group - 2) Control group - Three L1 gloss groups with different number of gloss</td>
<td>1) No significant difference between L1 and L2 gloss groups - L1 gloss outperformed the control group. 2) Two of the L1 gloss groups with higher number of gloss outperformed the control group.</td>
</tr>
<tr>
<td>Knight (1994)</td>
<td>Experimental group (using dictionary gloss) - Control group (No dictionary)</td>
<td>Dictionary gloss group outperformed the control group.</td>
</tr>
<tr>
<td>Jacobs (1994)</td>
<td>Number of variables with L1 gloss divided into: -L1 gloss - No gloss</td>
<td>Gloss group outperformed non-glossed group. - No correlations between variables (proficiency level) and gloss use.</td>
</tr>
<tr>
<td>Roby (1999)</td>
<td>Computerized versus paper-and-pen glosses - Type of glossing support</td>
<td>Addition of glosses to dictionary entries speeded up the reading task, but no effects were found for glossing.</td>
</tr>
<tr>
<td>Miyasako (2002)</td>
<td>Multiple-choice glosses (L1 and L2) - Standard glosses (L1 and L2) - No-gloss - Control (No reading)</td>
<td>Both L1 gloss and L2 gloss groups outperformed the control group - L2 gloss group outperformed L1 gloss group. - No significant differences between multiple-choice and standard glosses in L1 and L2.</td>
</tr>
<tr>
<td>Palmer (2003)</td>
<td>Three self-instruction conditions - Two instructions</td>
<td>L1 gloss outperformed the other groups - L2 gloss and traditional instruction groups outperformed the control group and English only instruction group.</td>
</tr>
<tr>
<td>Ko (2005)</td>
<td>Control group (no-gloss) - L1 gloss (Korean) - L2 gloss (English)</td>
<td>L2 gloss group outperformed the L1 gloss.</td>
</tr>
<tr>
<td>Al-Jabri (2009)</td>
<td>L1 gloss (Arabic) - L2 gloss (English) - Control group (no-gloss)</td>
<td>L1 gloss outperformed L2 gloss - No significant difference between control group and two gloss groups.</td>
</tr>
<tr>
<td>Farvardin and Biria (2011)</td>
<td>SL1G - SL2G - Multiple-choice gloss</td>
<td>SL1G and SL2G groups outperformed the multiple-choice group.</td>
</tr>
</tbody>
</table>
As illustrated in Table 1, some researchers predicted that using gloss could have positive effects on text comprehension (Davis, 1989; Luo, 1993; Knight, 1994; Jacobs, 1994; Roby, 1999; Miyasako, 2002; Palmer, 2003; Ko, 2005; Taylor, 2006; Al-Jabri, 2009) that are summarized in this section.

Knight (2003) declared that Davis (1989) is the first scholar who had an article about L1 gloss and text comprehension considering a control group. The total number of 71 U.S. undergraduate students of French was randomly assigned to one of the three groups. Then, each group of the participants was asked to read a 936 word authentic French story under one of the three conditions: the participants in the control group were asked to read a text for 15 minutes and write what they remember from the text, read the text again for 10 minutes and edit the recall protocol for 5 minutes.

The participants in the other group were asked to read a list of 28 words, expressions and phrases with guiding questions and comments as they study. They were asked to read the text for 25 minutes and write the protocol. The researcher provided the participants in the third group with the same materials presented to the second group but in glossed form. They also were requested to read the glossed text for 25 minutes and write the recall protocol. The results showed that the third group (L1 gloss) outperformed the second group (pre-reading list) and these two groups outperformed the control group. It seems that this study supports the use of L1 gloss, but it is clouded by using questions and comment to guide the readers during the study. It is not clear that to what extent the guiding questions and comments affected the results.

Two studies were conducted by Luo (1993) for his PhD dissertation in which L1 gloss was compared with a control group. Luo used the same text that Davis (1989) had used as his PhD dissertation advisor. In the first research, Luo compared two L2 gloss groups (n=15), a control group (n=17) and an L1 gloss (n=16) group. The participants in one of the L2 gloss accessed to synonyms and the other group had contextualizing sentences. The subjects in gloss groups were asked to read the text with the same glosses as used by Davis (1989). The ANCOVA results on the recall protocol 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.

In his second study, Luo had considered three L1 gloss groups and a control group with the same participants (n=43) in the aforementioned study. They read the same text as used in the first study, but the participants in L1 gloss group had access to different numbers 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 that had access to 38 and 75 glosses 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. Even so, Luo did not consider the proficiency level in his study. 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.

It seems that 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 recall protocol. The additional analysis also revealed that translation helped the low verbal proficiency level learners significantly but not the high verbal proficiency level learners which supported Parent and Belasco’s (1970) findings. 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. Therefore, the question of which gloss type has a better effect on text comprehension still needs to be investigated.

The findings of Knight’s (1994) study confirmed the results of Jacob’s (1994) study. Jacobs (1994) investigated the interactive effects of some variables such as time on task, proficiency level, psychological type, tolerance of ambiguity, and reading strategy with L1 gloss. The subjects who were 116 third semester U.S. undergraduate students of Spanish were asked to read a 483 word authentic article under two conditions: with 53 glosses and without gloss. They were allowed to write the recall protocol whenever they felt that they were ready. The results revealed that the participants who had access to the gloss outperformed the control group in recalling the idea units. It was reported that other variables such as proficiency level had no significant correlation with gloss. The findings of this study are not consistent with those of Parent and Belasco (1970), Knight (1994), and Jacobs et al. (1994).

Following the 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 entries speeded up the reading task, but no effects were found for glossing. Moreover, the results revealed that the participants in computerizes group had a strong performance.

The finding that the participants who work on computer look up more vocabularies is in line with the findings of Aust, Kelley, and Roby’s (1993) study. From these results, Roby 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” (Roby, 1999, p. 98). Accordingly, the present study used different types of gloss for second language text comprehension which is supported by Roby’s study.

In another study conducted by Miyasako (2000) the participants who were 187 Japanese high school were asked to read a text of 504 words with 20 target words 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. Even so, no significant difference was reported between the multiple-choice and single gloss types in their effects on vocabulary learning. Miyasako hypothesized that second language learners might better use L2 glosses to enhance their second language competence.

In another study, Palmer (2003) compared second language text comprehension of Korean university students under five conditions. The three self-instruction conditions comprising: 1) students read the L1 glossed texts with translation of vocabularies, 2) students read the L2 glossed texts with explanation of vocabularies in second language, and 3) students read texts without gloss. Another two instructions included 4) traditional instruction with oral translation and 5) English-only instruction. The 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 groups. Furthermore, the findings of the analysis showed that L1 gloss group did not have a better performance than the traditional instruction group. The participants with mid and high proficiency level in L2 gloss group and low and mid proficiency level in traditional instruction had a significantly better performance than their control groups.
The finding also showed that the participants opted to study by their own with L1 gloss or L2 gloss rather than studying in the traditional instruction from an instructor. The 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 confronted with non-glossed university textbooks.

Palmer’s (2003) rationale for doing this research was based on his own personal experience that reading the glossed texts is more effective than reading texts without gloss. Palmer was surprised by numerous studies that showed L1 gloss had no effect on reading process. He also wanted to show that university students preferred to study the L1 glossed texts by themselves than to study texts without gloss.

The other study, Ko (2005) investigated the effects of glossing on second language text comprehension. The participants were 106 undergraduate university students in Korea from among them 12 subjects were asked to think aloud. The main participants were divided into three groups: no-gloss, L1 gloss, and L2 gloss. After reading a text, they were requested to take a multiple-choice reading and respond to a questionnaire.

The result of this study revealed that only L2 gloss group performed significantly better than the other two groups in text comprehension. Even so, the results of think aloud protocols indicated that both L1 gloss group and L2 gloss group outperformed the control group in text comprehension. Although, no significant difference was shown between L1 gloss and no-gloss groups, L1 gloss has the potential to improve reading comprehension. The results of the analysis of questionnaires revealed the participants’ preference for L2 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. Taylor emphasizes that the language of the test plays a significant role too.

In other words, if the second language (L2) is used for the reading passage, the glosses, and the test, it can be expected that L2 gloss group performs better, particularly if the participants are in English higher intermediate level who feel more convenient to read and test in second language. Furthermore, Taylor referred to Joyce’s (1997) study who emphasized that learner’s level should fit with text difficulty level. That means if the text is roughly simple to understand for intermediate to advanced learners, there is no need to consult L1 glosses. Taylor noted that further research may shed light on this vague issue.

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. Taylor emphasized that it is a more effective measure of the effect of the degree of treatment on subjects because some statistical tests are highly dependent on sample size and do not provide a standardized indication of treatment impact. The meta-analysis revealed that L1 glosses had more positive effect on second language text comprehension than what reported before. The results also indicated that L1 gloss group significantly outperformed no-gloss group. Considering the treatment type, Taylor concluded that CALL L1 glosses had a larger effect size on L2 text comprehension than the traditional gloss.
In one the recent related studies, Al-Jabri (2009) 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 assigned to one of the three conditions; L1 (Arabic) gloss, L2 (English) gloss, and no-gloss. The subjects were asked to read an English text of 470 words with 19 glosses.

The results of this research revealed that L1 gloss group significantly outperformed the L2 gloss group in text comprehension, but no significant difference was seen between no-gloss and L1 gloss and L2 gloss groups. Furthermore, the results of recall protocol indicated that subjects in L1 gloss group and no-gloss group recalled more and had more ideas than those in L2 gloss group. 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.

In a recent study, Farvardin and Biria’s (2011) findings indicated that the effect of different gloss types on text comprehension is still debatable. The participants were 108 under graduate students who studied English literature and translation at Kashan university of Iran. They were requested to 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. Then, 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. Furthermore, the results indicated that participants preferred marginal L2 gloss.

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

As mentioned earlier, a number of studies yielded different results (Parent & Belasco, 1970; Holley & King, 1971; Jarvis & Jensen, 1982; Johnson, 1982; Bensoussan, Sim & Weiss, 1984; Pak, 1986; Jacobs, Dufon & Hong, 1994; Jacobs, 1994; Baumann, 1994; Joyce, 1997; Lomicka, 1998; Bell & LeBlanc, 2000; Chen, 2002; Palmer, 2003; Cheng & Good, 2009) that are summarized and presented in Table 2.

Table 2: Studies on textual glossing and text comprehension: no difference between gloss groups

<table>
<thead>
<tr>
<th>Researcher (s)</th>
<th>Research Groups</th>
<th>Finding (s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent and Belasco (1970)</td>
<td>Control group (text without translation)</td>
<td>Both parallel translation groups outperformed the control group but no significant difference between parallel translation groups.</td>
</tr>
<tr>
<td></td>
<td>-Listening to the tape (with parallel translation)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Only read the text (with parallel translated text)</td>
<td></td>
</tr>
<tr>
<td>Holley and King (1971)</td>
<td>Gloss on the side of the page</td>
<td>No significant differences between gloss groups in text comprehension and vocabulary learning.</td>
</tr>
<tr>
<td></td>
<td>-Bottom of the page</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-On the attached sheet</td>
<td></td>
</tr>
<tr>
<td>Jarvis and Jensen (1982)</td>
<td>Occasional side gloss</td>
<td>All the parallel translation versions were more effective than occasional side glosses for difficult texts (Not clear in which language)</td>
</tr>
<tr>
<td></td>
<td>- Standard translation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-Literal translation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-Combination of standard and Literal translation</td>
<td></td>
</tr>
<tr>
<td>Johnson (1982)</td>
<td>Control group (no access to L2 gloss and a list of definitions of word)</td>
<td>No significant difference between groups in the first part of the unfamiliar texts but</td>
</tr>
<tr>
<td>Study (Year)</td>
<td>Conditions</td>
<td>Findings</td>
</tr>
<tr>
<td>-------------</td>
<td>------------</td>
<td>----------</td>
</tr>
<tr>
<td>Bensoussan, Sim and Weiss (1984)</td>
<td>1) Monolingual dictionary, and control group 2) Monolingual and bilingual dictionary, and no dictionary 3) Monolingual dictionary, bilingual dictionary, and no dictionary</td>
<td>No significant difference 1) No significant difference 2) No correlation between number of word searched for the score 3) No significant differences between groups</td>
</tr>
<tr>
<td>Pak (1986)</td>
<td>Control group (no-gloss) - L2 marginal gloss - L2 appositional gloss</td>
<td>No significant difference between L2 gloss and control group-Control group had the highest mean- appositional gloss group was better than marginal gloss</td>
</tr>
<tr>
<td>Jacobs, Dufon and Hong (1994)</td>
<td>L1 gloss group - L2 gloss group - Control group</td>
<td>Two gloss groups outperformed the control group but there was no significant difference between the two gloss groups.</td>
</tr>
<tr>
<td>Jacobs, Dufon and Fong (1994)</td>
<td>L1 gloss group - L2 gloss group - Control group</td>
<td>Two gloss groups outperformed the control group but there was no significant difference between the two gloss groups.</td>
</tr>
<tr>
<td>Jacobs (1994)</td>
<td>Marginal L1 gloss - L2 gloss - No-gloss</td>
<td>Both gloss groups outperformed the control group but no significant difference between L1 and L2 gloss group-No significant correlation between proficiency level and gloss-Subjects preferred L2 gloss</td>
</tr>
<tr>
<td>Baumann (1994)</td>
<td>Control group (without gloss) - L1 gloss - A printed preview in English</td>
<td>No significant difference between groups</td>
</tr>
<tr>
<td>Joyce (1997)</td>
<td>Three L1 gloss groups - three corresponding control groups</td>
<td>No significant differences between L1 gloss groups and their corresponding control groups</td>
</tr>
<tr>
<td>Lomicka (1998)</td>
<td>No-gloss - Traditional gloss (L1 and L2 gloss) - Extended gloss</td>
<td>No significant difference between 3 groups</td>
</tr>
<tr>
<td>Chen (2002)</td>
<td>L1 gloss - L2 gloss - No-gloss</td>
<td>No significant differences between L1 and L2 glosses</td>
</tr>
<tr>
<td>Palmer (2003)</td>
<td>Replicated Bensoussan, Sim and Weiss’s (1984) study</td>
<td>No significant difference between glosses in text comprehension</td>
</tr>
<tr>
<td>Cheng and Good (2009)</td>
<td>L1 gloss (Chinese)+ L2 (English) example sentences - L1 in text gloss - L1 marginal gloss - No-gloss</td>
<td>No significant difference between groups in text comprehension</td>
</tr>
</tbody>
</table>
As illustrated in Table 2, the results of a number of previous studies revealed contrast predictions that are summarized in this section.

Investigating whether there is a relationship between L1 gloss and text comprehension, Parent and Belasco (1970) provided the participants with a complete printed translation, namely, extreme glossing for the first time. The subjects were 127 U.S. university students who took intermediate French. They were randomly divided into three groups. The first group (control group) only had access to the passage without translation, while the second group listened to the tape and the third group only read the text without listening to the tape. The second and the third groups were provided with parallel translated texts.

The research was conducted over a period of ten sessions in which the participants were asked to reply to ten multiple-choice questions in French. The researcher reported that there was no significant difference between the parallel translation groups but these two experimental groups outperformed the control group. Furthermore, more analysis showed that there was no significant difference between the scores of the high proficiency level students but the low proficiency level students in parallel translation group outperformed their counterparts in control group. This study was not directly concerned with glossing and its participants were more concentrated on the translated text rather than the target words.

To explore the effect of gloss position on reading comprehension, the first quantitative study was conducted by Holley and King (1971) in which 110 third semester U.S. students of German 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.

The next study conducted by Jarvis and Jensen (1982) in which 39 freshman and 18 sophomore Russian students were asked to read eight 100 word texts from a Russian film script including four easy texts and four difficult texts. The researcher provided four versions for each text including a glossed version and three parallel translation versions: standard translation, literal translation and standard and a combination of standard and literal translation. The results revealed that sophomores had better performance than freshmen.

Furthermore, in the sophomore group, L1 gloss group outperformed the literal translation for easy texts. In the freshmen group, all the parallel translation versions aided students rather than side glosses for difficult texts. This study suffers from low number of participants (4 to 10) in each group that makes it difficult to be generalized. Moreover, the researcher did not consider any control group to indicate the effect of translation and glosses on text comprehension compared to no-gloss group.

In the first related study, Johnson (1982) who intended 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 about Halloween. The first part was a text of 172 words and the second part was a text of 191 words in length. 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 forth group received both the list of definitions of word prior to the reading activity and L2 gloss with the reading texts. Then, the participants 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. Even, the two groups that had access to L2
gloss got the lower means. 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. Johnson (1982) hypothesized that the reason for low performance of the forth group might lie in the emphasis on words resulted in the word by word reading process that decreases the rate of text comprehension.

Palmer (2003) speculated that the poor performance of the forth groups who had access to the list of definitions prior to the study and L2 gloss while reading compare to the second group might be due to the presence of more higher proficiency students in the second group than the forth group. No reading pretest was used to check the proficiency level of the participants in this study. Palmer added that this is the only study that reported the outperformance of the non-glossed group over the glossed group, but it seems that the participants in the second group had access to gloss in the form of a definition list prior to the study.

In two studies related to the use of dictionary in Israel, the first one with 900 and the second one with 670 participants, Bensoussan, Sim, and Weiss (1984) found no significant difference between monolingual and control group. In the third study, the results showed no correlation between the number of vocabularies looked up and the marks. In another research, a significant difference was reported for the use of dictionary for one of the eight reading texts but the researcher did not mention to the dictionary type. This study provided the participants with a large number of definitions which is similar to extensive glossing.

In spite of this, none of the aforementioned studies supported the use of L2 gloss. The author states that dictionaries provide a number of meanings for words which learners should select the most appropriate one from among them but gloss provides the most precise meaning for the context. On the other hand, it was reported that the participants did not look for many words. It seems that the provision of gloss with precise definitions which is readily available needs to be examined by researchers. These studies are explained in detailed.

To determine the effect of L1 gloss on text comprehension, Bensoussan, Sim, and Weiss (1984) conducted a study in Israel with four study sections considering a control group. As this study compared the monolingual and bilingual dictionaries and dictionaries provided glosses but in a less accessible forms, the result was debateful. 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 subjects were required to identify the number of words they searched for and the number of words they would tend to search for if they had time. 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 600 to 800 words with 20 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.
It seems that participants did not search for many words since it was difficult to find the exact meaning matched to the context. Regarding this issue, glosses are different from dictionaries with provision of the most precise meanings matched to the contexts. This study revealed the importance of gloss compared to dictionary use in which the readers should look up the unknown words. This dictionary look up is very time-consuming and interrupts the flow of reading that can result in demotivating the readers. The present study intended to motivate low proficiency EFL learners through the provision of gloss.

In another study conducted by Pak (1986), the participants who were 65 ESL learners were randomly divided to three groups and were asked to answer to the text comprehension cloze test. Then, the participants were given various versions of the text of 477 words which its difficulty level ranged from 8th to 10th grade level. The participants in control group were asked to read the text without gloss. The participants in the first experimental group were provided with a text with 19 L2 marginal glosses while the second experimental group had access to the same L2 glosses in the form of appositional glosses, just after the target words. Pak speculated that with the provision of appositional gloss, there is no need to unnatural back and forth movement of eyes to the margin that can decrease the rate of text comprehension.

The results revealed that the control group got the highest mean and the second group with appositional gloss outperforms marginal gloss group but no results was statistically different. Palmer (2003) noted that this text was prepared for intermediate level learners, so the participant might not benefit from the glosses. Furthermore, the rate of the glosses was very low (25 to 1) that seems to be insufficient to be beneficial for the readers.

In contrast with the studies by Johnson (1982), Bensoussan, et al. (1984), and Pak (1986), Jacobs, Dufon and Hong (1994) conducted a study 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 protocol 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. Furthermore, the post hoc analysis showed that high proficiency level students gained more in recall protocol in both gloss groups. This result was in contrast with Parent and Belasco (1970) and Knight (1994) who reported that the low proficiency level learners benefited more from translation than high proficiency level learners did.

In a similar study, Jacobs, Dufon, and Fong (1994) compared the effects of L1 gloss, L2 gloss and no-gloss on text comprehension and vocabulary learning. The participants who were 85 English speaking students who were learning Spanish were asked to read a Spanish text with 613 words under one of the three conditions: with L1 gloss (English), with L2 gloss (Spanish), and without gloss. Then, they were given one immediate test after the reading and a delayed post-test four weeks later. Results revealed that participants in both L1 and L2 gloss groups outperformed their counterparts in no-gloss group in text comprehension, but no significant difference was seen between groups subjected to L1 gloss and L2 gloss.

In one of the studies by Jacobs (1994), the participants were native English speakers who studied Spanish as a L2. They were asked to read an authentic text which 11% of it was glossed in the margin in three forms: L1 gloss, L2 gloss, and no-gloss. Then, the subjects were requested to write recall protocols. The results of this research indicated that both gloss groups performed significantly better than the control group, but no significant difference was reported between two 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.

Another PhD dissertation conducted by Baumann (1994) in which the participants were beginning and intermediate U.S. college students of German who were provided with two authentic texts: one 192 words and the other 163 words. They were asked to read the texts under three conditions: without gloss, L1 gloss (11 glosses for the first text, and 9 glosses for the second text) and a printed preview in English that outlined the rhetorical structure of the texts and guided the subjects on what they should focus. The researcher intended to test the theory that the formal activation of schemata increases the rate of text comprehension by the subjects. The ANOVA results revealed no significant differences between groups. This is maybe due to the limited number of participants in each group (total of 12 students) that makes the judgment difficult. Anyway, the question remains still open that to what extent learners who accessed to different gloss types performed better than those who did not.

It seems that Knight (1994) and Lou’s (1994) findings on L1 gloss and text comprehension were in contrast with Baumann’s (1994). Nevertheless, Knight (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.

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 protocol 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 (30:1) might result in showing no difference between groups in this research.

In another study, 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 analysis of the think aloud protocols revealed that there was no significant difference between three groups. Considering the highest number of 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 limited number of casual inferences produced by the traditional group might be due to the ambiguities of the poem and limited number of gloss. Furthermore, 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 registered in third semester Spanish were assigned to two groups: L1 gloss and L2 gloss. 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 L1 gloss group and L2 gloss group. The results also indicated that the subjects preferred L1 gloss to L2 gloss.
In another study, Chen (2002) conducted a study in which 85 Taiwanese students who studied English as a L2 were signed randomly to one of the three groups: L1 gloss (Chinese), L2 gloss (English), and no-gloss. The subjects were asked to read an English text of 193 words with 20 glosses. The results of this research 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. Even so, 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. Furthermore, the participants’ retention decreased between the immediate post test and the first delayed recall tests. Even so, the retention increased slightly in all groups between the first and second delayed recall tests. But no significant difference was observed in text comprehension.

Furthermore, the researcher asked about the participants’ opinion on using gloss via questionnaire. The analysis of questionnaires indicated that the most of the subjects had a 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. Furthermore, 42% of the participants believed that L1 glosses plus L2 sentences was the best way for learning new vocabularies. Considering the limited number of respondents, a larger sample size can make the findings more robust.

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.

4. CONCLUSION

Textual glosses were observed to result in better performance in text comprehension. Reading comprehension is an incremental process and the provision of gloss can facilitate this process. In this study, the review of related studies revealed that textual glosses are effective tools in second language reading comprehension, but which kind of textual glosses are more useful is still an open question.

Although the previous researchers investigated the effects of glossing on reading comprehension, future studies can explore whether textual glosses help lower level ESL/EFL learners more than higher level learners in text comprehension. They also can investigate which textual glosses in what conditions benefit which learners more. 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.

Although there are a number of studies that investigated the effects of textual glosses on reading comprehension, there was not much study of this kind, particularly the review study on the effects of
textual glosses on reading comprehension which is needed to be explored further. Furthermore, there is no consistency in the results of the previous studies. Thus it is necessary to explore which textual 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.

5. REFERENCES


BIODATA

Foroogh Azari is an Iranian PhD candidate at Universiti Putra Malaysia (UPM), Faculty of Modern Languages and Communication. She is interested in psycholinguistic aspects of L2 acquisition and is focusing on the incidental learning of vocabulary through extensive reading and second language learners’ motivation. She has taught English language at High school, Pre-university, and Teacher Training University for more than 12 years.

Faiz Sathi Abdullah (PhD) is Associate Professor of Applied Linguistics at the Faculty of Modern Languages and Communication, Putra University of Malaysia. His research interests are mainly English for Academic Purposes (EAP), particularly the use of genre-based frameworks for learning/training applications in academic/technical English, as well as Critical Discourse Studies (CDS) with a focus on identities in a globalizing world and language learner empowerment.