

Shadowing and Scaffolding Techniques Affecting L2 Reading Comprehension

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Abstract: Scaffolding and shadowing techniques have been shown to improve language learners' reading comprehension. However, little attention has been paid to the comparative effectiveness of these techniques. This study investigated the effect of three selected scaffolding techniques (peer scaffolding, distributed scaffolding, and reciprocal scaffolding) versus three types of shadowing (complete shadowing, partial shadowing, and interactive shadowing) on L2 reading comprehension. To this end, 120 intermediate level EFL learners (in 6 groups of 20 members each) were selected through convenience sampling from three language institutes in Qazvin. Each group was randomly assigned to one of the shadowing and scaffolding techniques. One way ANOVA and independent samples t-tests were used to analyze the data. The results indicated that among the three scaffolding techniques, distributed scaffolding was the most effective technique on reading comprehension. The most effective technique among shadowing groups was interactive shadowing. A significant difference was also found between the shadowing and scaffolding techniques in favor of scaffolding techniques. These findings may have theoretical and pedagogical implications for researchers, learners, teachers, and syllabus designers.

Keywords: Reading Comprehension, Scaffolding, Shadowing.

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Introduction

Reading has constantly been regarded as one of the pivotal skills in EFL contexts. According to Grabe (2009), a majority of language learners in multilingual settings consider reading as an essential skill. As the English language spreads around the world as a medium of interaction and the language of science, the importance of being able to read in English is more strongly felt. Most people need to focus on reading to fulfill their personal and occupational needs. In certain EFL contexts like Iran, where access to oral English is very limited, reading may actually become the sole source of input for learners (Zarei & Mahmudi, 2012).

Although a relatively large number of theoretical models of reading have been introduced in the last two decades, the simple view mentioned by Gough and Tunmer (1986) has been much cited and used in research. In this view, two key components have been introduced as being important for understanding written texts: the decoding ability, and understanding the linguistic content; if either is deficient, comprehension may not be achieved.

According to Shehu (2015), the major problem in reading is that students are worried about the meaning of every single word in a text while reading, so they miss the general idea. EFL learners may also find it hard to comprehend a passage. They may be good at pronouncing and recognizing words, but they somehow struggle to understand the main idea. They read a passage word by word, but they fail to connect the ideas. As a result, their understanding is fragmented.

To help learners to overcome this problem and to promote reading comprehension, different techniques have been examined. Among such techniques, scaffolding and shadowing techniques have been used in many classrooms. According to Fitzgerald and Graves (2005), "Scaffolding is a temporary and supportive structure that helps a student or a group of students accomplish a task they could not accomplish-or accomplish as well-without the scaffold" (p. 6). On the other hand, shadowing, as a class activity, also provides assistance to language learners to experience an interactive reading through repetition and summarization (Commander & Guerrero, 2013).

In order to make reading an enjoyable experience, learners need to utilize certain techniques. With the advent of Vygotskian sociocultural theory and its prominent role in

learning and comprehension, imitation as a form of shadowing has constantly been advocated by many teaching practitioners and researchers.

Due to the impact of shadowing and scaffolding techniques on reading comprehension, this study seeks to compare the effect of the afore-mentioned techniques on EFL learners' reading comprehension. If teachers learn how to apply scaffolding techniques such as giving directions, modeling for students or visually assisting them, comprehension, as an ultimate instructional goal, may be achieved across a variety of educational settings. Several studies have been carried out to separately deal with shadowing and scaffolding techniques (e.g., Nakanishi & Ueda, 2011; Pishghadam & Ghadiri, 2011 Safadi, 2012; Shiki, 2010)). However, little attention has been paid to the comparative effectiveness of these techniques. This research seeks to fill this gap. To accomplish this objective, three techniques of each method are selected to be compared.

In order to achieve the objectives of this research, the following questions are addressed:

1. Are there any significant differences among the effects of complete shadowing, partial/selective shadowing, and interactive shadowing on EFL students' reading comprehension?
2. Are there any significant differences among the effects of peer scaffolding, distributed scaffolding, and reciprocal scaffolding on EFL students' reading comprehension?
3. Is there any significant difference between the effects of shadowing and scaffolding on EFL students' reading comprehension?

Literature Review

Reading is an intricate process. Even though a text is read silently, human brain processes all the sounds related to reading. The areas of the brain are active in reading exactly the same as when you are listening to someone talk. The complexity of the brain structure in the way it processes information is a known fact (Fielding, Kerr & Rosier, 2007).

Due to the importance of the reading skill, finding effective ways of improving this significant skill has been a long-standing concern of many researchers and teaching practitioners. Several factors have already been reported to positively influence the reading comprehension of EFL students, among which shadowing and scaffolding techniques are of particular interest in this study.

Many studies have been done to investigate the effect of scaffolding on reading comprehension and second language learning. Attarzadeh (2011) investigated the effects of scaffolding on the comprehension of texts. In his study, 180 EFL Iranian learners at different proficiency levels were randomly selected and divided into three homogeneous classes. There were 30 students in each group: three scaffolding groups were assigned to the experimental group, and three other groups were regarded as control groups. The result revealed that the role of scaffolding technique was robust. It was also found that narrative texts were more effective for intermediate level learners. It also turned out that the overall language proficiency of the participants was significantly influential in understanding the text.

Pishghadam and Ghadiri (2011) investigated the effects of two types of scaffolding on reading comprehension. There were 52 participants in this study. Based on their pretest scores, they were divided into two groups. The groups worked cooperatively in symmetrical and asymmetrical conditions. The symmetrical group consisted of pairs with the same language proficiency, and in the asymmetrical group, the pairs were of different language proficiency (difference of more than one SD). The symmetrical group consisted of 24 students, and the number of participants in the asymmetrical group was 28. The same reading tasks (8 short passages) were used for both groups. The tasks in all groups were completed by the students in a cooperative manner, guided by the same instructor. In this experiment, the students were actively involved to discuss and help each other to understand the text. It was found that asymmetrical scaffolding is more effective than symmetrical scaffolding. However, it was found that both types of scaffolding can improve the reading comprehension of students.

Ovando, Collier and Combs (2003) studied the role of scaffolding in reading and reported that scaffolding, especially distributed scaffolding, has the potential to provide learners with contextual support and simplified language, and facilitate understanding through modeling and providing visuals. Rodford, Bosanquet, Webster and Blatchford (2015) also reported the positive effects of scaffolding with children in need. They reported that scaffolding can help such children to move toward more independent learning.

Chi (2007) investigated the role of scaffolding techniques in an EFL context. These techniques were employed by two EFL teachers in an attempt to explore the most efficient scaffolding techniques used by teachers during instruction. The results showed that the effective application of scaffolding technique improved the students' reading comprehension. In other words, scaffolding techniques were more facilitative than traditional method in the teaching of the reading skill.

Shadowing has also been the subject of several studies. Brown (2014) confirms that imitation as a meaningful and useful contextual activity serves a practical purpose. It is the main element of shadowing which makes the process of language learning go beyond the echoing of input. As one of the main features of Vygotskian sociocultural theory (SCT), imitation is a fundamental process in language learning. According to Brown (2007), in language acquisition, imitation has been associated with principles of behavioristic psychology in which the stimulus-response learning and habit formation are fostered by the use of drilling and repetitions in the classroom. This view was overshadowed by the advent of the nativist theories towards language acquisition and the communicative language teaching (CLT). As a result, it was discouraged and eventually abandoned in teaching methodology (Bialystok & Hakuta, 1994). However, the sociocultural theory employs imitation in a different and beneficial way. The mechanical and somewhat aimless copying of other people's speech is evolved into a form of imitation that is intentional and goal oriented. This transformation has led to new developments in language learning (Vygotsky, 1998). As a matter of fact, sociocultural theory restored the value of imitation. Although this new perspective towards imitation has been recognized by many researchers in second language context (Lantolf, 2003; Lantolf & Thorne, 2006; Lantolf & Yáñez, 2003; McCafferty, 2008), little empirical research has been conducted to investigate the role and the nature of imitation in L2 learning within the realm of the sociocultural theory.

According to Murphy (1995), shadowing techniques can be divided into three types: *lecture shadowing*, *reading shadowing*, and *conventional shadowing*. In *lecture shadowing*, listeners shadow silently what a speaker says, but in all other types of shadowing, readers repeat what they hear aloud or silently. In *reading shadowing*, someone reads a passage and the others shadow, and in *conversational shadowing*, the repetition is partially (selectively) or completely based on what a person says during a conversation.

Murphy (1995) carried out a study to investigate the effects of a variety of shadowing techniques in second language context. In his experiment, two Japanese learners of English and two native speakers of English shadowed each other. After analyzing the recorded transcription of their conversation, he came to realize that complete shadowing does not lead to comprehension. However, partial shadowing, when combined with comments and questions, proved to be more effective. It was believed that interactive participation among students could lead to more involvement and deeper levels of comprehension. It was also noted that non-native speakers could slow down the pace of native speakers to help them with

their problems. Later on, it was found that shadowing can be beneficial for native speakers to check comprehension, provide inter-language forms and enough authentic input to the listener. Additionally, Murphy realized that complete shadowing at early stages of language learning activates learners' schemata and raises attention. However, most advanced learners reported that shadowing the words verbatim made them lose the overall concept.

In another study, Deacon and Murphy (2001) investigated the effects of shadowing, retelling, and storytelling on language learning. The results of their study showed that these types of activities increased learners' comprehension. These activities also fostered a sense of community and helped them work together to resolve communication problems. In this study, beginners used complete shadowing, while intermediate and advanced learners had a tendency to shadow selectively.

Ten years later, Nakanishi and Ueda (2011) examined the effect of shadowing on extensive reading (ER) and the effect of ER on students' reading comprehension. The participants of this study were 89 Japanese university students, majoring in human sciences. Four intact classes (two experimental and two control groups) were compared. Actually, the extensive reading and extensive reading shadowing were compared in the four groups. The results suggested that the ER-shadowing class gained better scores on the posttest, which implied that shadowing might enhance the effectiveness of extensive reading. However, the differences between the two groups were not statistically significant.

In another study, Ota (2007) investigated the effect of shadowing on Japanese students at different language proficiency levels. In this study, the shadowing performance of students was measured once in the absence of and once with encouragement to remember the content. The results showed the positive effect of encouragement on learners' shadowing performance at two levels of proficiency.

Commander and Guerrero (2013) identified second language college students' reading processes within dyadic peer interactions during shadow-reading. This study investigated the role of shadowing as a collaborative procedure based on repetition and summarizing. It was found that shadowing as a meaningful imitation is effective in internalization of second language.

The above review, though brief, suggests that different aspects of the variables of interest have been investigated. However, there appears to be a paucity of research on the effectiveness of subcategories of both scaffolding and shadowing techniques as well as on the

comparative effectiveness of the mentioned techniques on L2 reading comprehension. This study was intended to fill part of the existing gap in the literature.

Method

Participants

In the present study, an initial number of 145 EFL learners (both male and female) were selected through convenience sampling based on availability from among Intermediate EFL learners of three language institutes in Qazvin. After the administration of the Michigan Test of English Language Proficiency (MTELP), the participants were divided into six groups. Three groups were randomly assigned to shadowing techniques, and three other groups received instruction through scaffolding techniques. The age range of the participants was between 14 and 25, and their native language was Persian. At the end of the treatment period, those who had missed more than two sessions were also excluded from the subsequent statistical analysis. Therefore, the final number of the participants was reduced to 120 learners, 20 in each group.

Instruments

The following materials and data collection instruments were used to achieve the purpose of the present study:

Michigan Test of English Language Proficiency

The reading section of the Michigan Test of English Language Proficiency (MTELP) was administered to all the participants as a pretest to determine their reading comprehension ability. This multiple-choice sample test contained six short passages followed by 20 reading comprehension questions. The participants were asked to choose the answer out of the four alternatives. They were given one hour to answer the reading questions. MTELP is a reputable test and has been used in a large number of previous studies. Nevertheless, to check the reliability of the test in the context of this study, the KR-21 formula was used, which yielded a reliability index of .78.

Top Notch Educational Series Levels 2B and 3A

Top Notch books 2B and 3A, third edition by Saslow and Ascher (2015) were used as the main course books. Shadowing and scaffolding techniques were employed for the reading section of the units.

The selection of the reading texts in this study was based on the CEFR (Common European Framework of Reference) to make sure the validity of the experiment. According to the CEFR, the two books are specifically tailored to those language learners who study English in intermediate level. Due to the lengthy passages and the limited time available for applying the techniques in a class session, each passage was divided into three or four parts to make it more manageable for ten sessions of treatment required in this study. The average length of each text was about one hundred words. The reading texts were about interesting everyday subjects such as personality, talent, the Internet, and so on. Each reading text was followed by two exercises: one exercise checked the learners' understanding of the new words and the other required them to relate the topic to their personal experience.

The Multimedia Materials

The audio files of the selected reading passages were used in the class during instruction. The students were asked to listen to and follow the lines of the passage. The instructor also provided some pictures and slides to help students understand the meaning of the keywords in the reading text. The use of synonyms and antonyms was also beneficial in the process of teaching. It was aimed at assisting learners to get the meaning of the new words in context.

Reading Comprehension Test (Posttest)

A posttest was administered to the class at the end of the experiment to measure the effect of each type of scaffolding and shadowing technique after ten sessions of instruction. It contained four short passages of the same length. Except the second reading text, which included three paragraphs, the other short passages in the posttest included four paragraphs. Each passage was followed by five multiple-choice questions to be answered. Therefore, the students had to answer twenty questions. They were given one hour to answer the questions related to the reading texts. The reliability of the reading comprehension test was established by using the KR-21 formula. It turned out to be 0.71.

Procedure

Initially, the participants with the characteristics described earlier were selected through convenience sampling based on availability. As an initial step, the reading section of the Michigan Test of English language proficiency was administered to all the participants to make sure they were homogeneous in terms of their reading ability. The mean and standard deviation of the participants' scores on the test were calculated, and those participants whose scores fell more than one standard deviation above or below the mean were excluded from all subsequent analyses. Then, the participants were divided into six experimental groups. Three scaffolding and three shadowing techniques were used during the reading sessions. Each session lasted about 90 minutes.

The treatments included three scaffolding techniques, namely, peer scaffolding, distributed scaffolding, and reciprocal scaffolding, each of which was used with one of the scaffolding groups. Each of the three other groups was taught through one of the shadowing techniques including complete shadowing, partial shadowing, and interactive shadowing. The description of each treatment in each group is as follows:

Group one received instruction through complete shadowing. The reading text was divided in two roughly equal parts of three paragraphs. The participants had to listen to each sentence in the reading text and repeat the same sentence that they had listened to. All the reading section was done chorally in the class, and all the participants shadowed the sentences in harmony. They were asked to repeat exactly what they heard. In this group, there was no interaction among the students.

Group two was instructed through partial shadowing. In this group, the participants were asked to listen to the audio file of the reading passage. Certain words or phrases that were of importance were highlighted by the instructor prior to each session. These selected parts of the text inside the passage were chorally shadowed by all the students in the class. Some students had difficulty shadowing the exact words, and the instructor provided them with the opportunity to repeat the words and phrases again. For instance, some students in the class found it hard to shadow the word *spectacular*. The instructor mentioned that this word has four syllables, and the students can focus on single syllables first and then shadow the whole word. During shadowing, if the students asked for the meaning of unknown words or phrases, the instructor provided them with a synonym.

Group three experienced interactive shadowing. In this group, the participants were divided into ten pairs. Then, they read the passage and shadowed each other. After listening to the text through the CD player, one student read the designated part of the text, and the

other repeated the most important words in the sentence. In this technique, they were asked to shadow the aforementioned parts and further add comments to expand, confirm, or clarify ideas. Therefore, the reader could see whether the shadower had understood her during reading. Finally, the shadower was asked to produce oral summaries of each paragraph. The meaning of the unknown words was written on the board to help students grasp the meaning completely.

Group four was taught through peer scaffolding. In this group, the participants were divided into 10 pairs, and each pair was asked to read the selected paragraphs and try their best to help each other understand the selected reading. The pair who could successfully paraphrase the reading text was the winner. This type of shadowing technique was conducted in such a way that promoted peer interaction to decipher the concept of the text. In this technique, the students took responsibility for their own learning, although the instructor was ready to support the groups who were desperately looking for the meaning of unfamiliar words that they could not guess within the context.

In group five, distributed scaffolding was applied to help the students grasp the meaning of the reading passage. In this technique, the teacher provided the students with images, multimedia, and other realia. The students listened carefully to the audio file and followed the reading passage. As they were actively involved in a guessing game of the definitions of new words they saw inside the text, they asked their peers to check the accuracy of their guesses. If they came to cast doubt on the meaning of the words they had guessed, and there was no one among them to help, the teacher made use of videos, images or even provided the students with synonyms and antonyms to help them get the meaning of the words.

In group six, reciprocal scaffolding was practiced, in which the students were asked to follow the reading passage as they listened to the audio file. They were asked to communicate with their peers to understand the meaning of the text. In a reciprocal teaching environment, it was expected that at least one participant have an intent to participate as an expert in order to convey information to novices. A more proficient student provided help and support to another one. They were all doing their best to ask questions about the reading passage and cooperatively construct meaning.

After ten sessions of instruction, the reading posttest was administered to see how effective the treatments had been. After the data collection procedure was finalized, a one-way Analysis of Variance (ANOVA) was used to investigate the effects of complete,

partial/selective, and interactive shadowing on EFL students' reading comprehension. The same procedure was used to investigate the effects of peer, distributed, and reciprocal scaffolding on reading comprehension. Finally, an Independent samples t-test was used to compare the effects of shadowing and scaffolding techniques on reading comprehension.

Results and Discussion

The First Research Question

The first research question sought to investigate the effect of three different shadowing techniques (complete shadowing, partial shadowing, and interactive shadowing) on EFL students' reading comprehension. To this end, the students' scores on the reading posttest were compared. The results of descriptive statistics are summarized in Table 1.

Table 1. Descriptive Statistics for the ANOVA on Shadowing

GROUP	N	Mean	Std. Deviation	95% Confidence Interval for Mean	
				Lower Bound	Upper Bound
Interactive Shadowing	20	15.70	1.490	15.00	16.40
Partial Shadowing	20	12.35	2.978	10.96	13.74
Complete Shadowing	20	12.05	3.980	10.19	13.91

As it can be seen in Table 1, among the three shadowing techniques, interactive shadowing has the highest mean ($\bar{X} = 15.70$, $SD = 1.49$) followed by the partial shadowing ($\bar{X} = 12.35$, $SD = 2.97$), and the complete shadowing has the lowest mean ($\bar{X} = 12.05$, $SD = 3.98$). A one-way ANOVA procedure was used to see whether or not the observed differences are statistically significant. The results can be seen in Table 2.

Table 2. ANOVA Result for Shadowing Techniques

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	164.233	2	82.117	9.147	.000
Within Groups	511.700	57	8.977		
Total	675.933	59		$\omega^2 = 0.21$	

According to Table 2, the F-value and the significance level ($F_{(2,57)} = 9.147$, $p < 0.01$) show that there are statistically significant differences among the means of the three

shadowing groups. It can be claimed that different techniques of shadowing have differential effects on the learners' reading comprehension. At the same time, the index of the strength of association ($\omega^2 = 0.21$) shows that 21% of the total variance in the dependent variable (reading comprehension ability) is accounted for by the independent variable (shadowing techniques). To locate the differences among the means of the three shadowing groups, a post hoc Tukey HSD test was used. The result of the multiple comparisons are shown in Table 3.

Table 3. *Post Hoc HSD Tukey Test Results for Shadowing*

(I) Group	(J) Group	Mean difference	Std. Error	Sig.	99% Confidence Interval	
					Upper bound	Lower bound
Interactive Shadowing	Partial Shadowing	3.350*	.947	.002	1.07	5.63
Interactive Shadowing	Complete Shadowing	3.650*	.947	.001	1.37	5.93
Partial Shadowing	Complete Shadowing	.300	.947	.946	-1.98	2.58

From Table 3, it is clear that there is a significant difference between the interactive shadowing and complete shadowing in favor of interactive shadowing. Also, there is a significant difference between interactive shadowing and partial shadowing. However, there is no significant difference between partial shadowing and complete shadowing.

The Second Research Question

The second research question sought to investigate the effect of three different scaffolding techniques (peer scaffolding, distributed scaffolding and reciprocal scaffolding) on EFL students' reading comprehension. Descriptive statistics are summarized in Table 4.

Table 4. *Descriptive Statistics for the ANOVA on Scaffolding Techniques*

Group	N	Mean	Std. Deviation	95% Confidence Interval for Mean	
				Lower Bound	Upper Bound
Peer Scaffolding	20	14.05	3.790	12.28	15.82
Distributed Scaffolding	20	17.30	1.689	16.51	18.09
Reciprocal Scaffolding	20	14.95	3.379	13.37	16.53

According to the information in Table 4, distributed scaffolding technique has the highest mean score ($\bar{X} = 17.30$, $SD = 1.68$), followed by the reciprocal scaffolding technique ($\bar{X} = 14.95$, $SD = 3.37$), and the peer scaffolding technique has the lowest mean score ($\bar{X} = 14.05$, $SD = 3.79$). To see whether the observed differences are statistically significant, a one-way ANOVA procedure was used, the results of which can be seen in Table 5.

Table 5. ANOVA Results on Scaffolding Techniques

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	112.633	2	56.317	5.900	.005
Within Groups	544.100	57	9.546		
Total	656.733	59			$\omega^2 = 0.14$

According to Table 5, the F-value and the significance level ($F_{(2,57)} = 5.900$, $p < 0.01$) are indicative of statistically significant differences among the means of the three groups. This implies that different scaffolding techniques have differential effects on the learners' reading comprehension. At the same time, the index of the strength of association ($\omega^2 = 0.14$) shows that 14% of the total variance in the dependent variable (reading comprehension ability) is accounted for by the independent variable (scaffolding techniques). This means that the remaining 86% of the variance is left unaccounted for. To locate the differences among the means of the three scaffolding groups, a post hoc Tukey HSD test was used. The results of the comparisons are shown in Table 6.

Table 6. Post Hoc HSD Tukey Test Results for Scaffolding

(I) Group	(J) Group	Mean Difference (I-J)	Sig.	99% Confidence Interval Lower Bound	Upper Bound
Peer Scaffolding	Distributed Scaffolding	-3.250*	.004	-5.60	-.90
Peer Scaffolding	Reciprocal Scaffolding	-.900	.629	-3.25	1.45
Distributed Scaffolding	Reciprocal Scaffolding	2.350*	.050	.00	4.70

*. The mean difference is significant at the 0.05 level.

Table 6 suggests a significant difference between the peer scaffolding and distributed scaffolding, and a significant difference between distributed scaffolding and reciprocal scaffolding. However, there are no significant differences between peer scaffolding and reciprocal scaffolding groups.

The Third Research Question

The third research question sought to investigate whether there is any significant difference between the effects of shadowing and scaffolding on EFL students' reading comprehension. In order to answer this question, an independent samples t-test was used.

Table 7. *Descriptive Statistics for the t-test on Reading Comprehension*

Group	N	Mean	Std. Deviation
Scaffolding	60	15.43	3.336
Shadowing	60	13.37	3.385

Table 7 shows that the mean score of the scaffolding group ($\bar{X} = 15.43$, $SD = 3.33$) is higher than that of the shadowing group ($\bar{X} = 13.37$, $SD = 3.38$). To see whether or not the difference was statistically significant, the t-test procedure was used. The result is presented in Table 8.

Table 8. *Independent Samples t-test Result on Reading Comprehension*

		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
								Lower	Upper
scaffolding and shadowing	Equal variances assumed	.547	.461	3.37	118	.001	2.06	.85	3.28
	Equal variances not assumed			3.37	117.98	.001	2.06	.85	3.28

From Table 8, it can be concluded that there is a significant difference between the shadowing techniques and scaffolding techniques in favor of scaffolding techniques.

Discussion

One of the findings of this study showed that interactive shadowing was more effective on reading comprehension than both complete and partial shadowing. In line with this finding, Murphey (1993) reported that interactive shadowing allowed students to have control over the process and content of conversations and to build better rapport through reflective listening. Likewise, Appel and Lantolf (1994) found that verbalized interaction between learners is one of the main components of success because it involves “speaking as mediation” in the comprehension of written texts (p. 437). This finding is also consistent with the claim of Murphey (1995) that in complete shadowing, language is grasped at the auditory level but does not show evidence of semantic comprehension and involvement. However, in interactive shadowing, the participants can comment and ask questions, and this requires more involvement and communication.

Another finding of this study was that there is no significant difference between complete shadowing and partial shadowing. This finding is consistent with that of Nakanishi and Ueda (2011), who compared the impact of the two types of shadowing on students' reading comprehension. Based on the results of their study, there was no statistically significant difference between the groups. Likewise, Shiki (2010), who investigated the effect of shadowing on improving the reading speed and reading comprehension, concluded that the difference between shadowing techniques was not significant.

Several factors may be regarded as possible reasons that may account for the poor performance of the complete shadowing group. One possible reason can be ascribed to the novelty of the technique and the fact that students needed more time to adjust themselves to this new technique. Another factor can be attributed to the fact that the use of this technique led to a relatively noisy class, and there were times when the students found it boring to shadow the whole text in harmony. Finally, the instructor had to pause a lot to help the learners shadow easily. It might be that this type of shadowing made the language learners mechanically repeat the same utterances they heard. However, in interactive shadowing technique, higher levels of interaction with the reading text were encouraged.

In this study, a significant difference was found between interactive shadowing and partial shadowing. This finding is in line with that of Commander and Guerrero (2013), who argued that the interaction in shadowing technique encourages the activation of learners' respective ZPDs. The reason why a significant difference was found between interactive shadowing and partial shadowing could be that in interactive shadowing, both reader and shadower correct and mutually help each other build comprehension as they share inferences, elaborations, and conclusion. In selective shadowing, the shadower repeats what he or she considers important to remember. Commander and Guerrero (2013) also found that in selective shadowing, if a reader goes beyond mere repetition of selected words and restate ideas in another way, he can achieve higher levels of understanding of the text. In selective shadowing, paraphrasing the ideas in a different way is given top priority over the mere repetition of selected words. Therefore, higher levels of text comprehension can be achieved.

On the other hand, the finding of this study is different from those listed by Grabe and Stoller (2011): echo reading, cooperative repeated reading, buddy reading, and oral paired

rereading (p. 210), all focusing on fluency practice. These techniques lack the combination of repetition and the joint construction of meaning required in interactive shadowing.

In this study, the distributed scaffolding technique was also found to have a positive effect on reading comprehension. This finding of the study is consistent with several studies, such as Chi (2007), who investigated and compared two scaffolding techniques and showed that implementing distributed scaffolding techniques upgrades students' reading comprehension. These findings are also in accordance with previous studies such as Ovando, Collier and Combs (2003), Chi (2007) and Safadi (2012), who reported similar effects for scaffolding in fostering the reading comprehension skills of EFL learners.

While the scaffolding techniques were meant to support students by increasing their performance, they were not intended to replace teacher's support entirely. This may be the reason why peer and reciprocal scaffolding were not as effective as distributed scaffolding. In fact, as Brush and Saye (2000) argue, hard scaffolding techniques are meant to ease the teacher's demands in order to perform a greater amount of soft scaffolding with learners.

The final finding of this study was that scaffolding techniques turned out to be generally more effective than shadowing techniques. To the best of the present researchers' knowledge, there are no studies in the relevant literature comparing the effectiveness of shadowing and scaffolding techniques on reading comprehension. Nevertheless, the relative superiority of scaffolding techniques compared with shadowing techniques could be partially accounted for by the fact that scaffolding techniques are more cooperative in nature than shadowing techniques. It could be argued that the cooperative nature of such techniques may have influenced their effectiveness. This is corroborated by the findings of Zarei (2012), who reported that cooperative teaching techniques are more effective than non-cooperative ones on both reading comprehension and vocabulary development. Another potential factor that might explain the greater effectiveness of scaffolding in comparison with shadowing techniques may be that, as explained earlier, scaffolding techniques provide support for learners, but do not entirely remove teacher support (Brush & Saye, 2000). Therefore, students actually enjoy both types of support. The additional support that learners receive may then improve their learning. In addition, as Safadi (2012) points out, scaffolding generally includes teacher modelling and think aloud strategies. Teachers' modelling of the productive reading strategies may have raised the learners' awareness of such strategies. As a result, they may have made more frequent use of these strategies, hence improving their reading comprehension. Furthermore, there is evidence

suggesting that through scaffolding, students move from the fear of failure to become more confident and motivated learners who are more willing to take learning risks (Rodford, et al., 2015; Salem, 2017). There is no denial of the fact that such positive psychological attributes are the backbone of any successful and effective learning.

Conclusion

Based on the obtained results of the present study and the findings of other studies, it may be concluded that scaffolding techniques can be influential in facilitating reading comprehension in EFL contexts. Several studies have confirmed that scaffolding techniques play a crucial role in reading comprehension. It can be argued that one of the main factors that may affect the way teachers use these techniques is that they lack knowledge and experience and, therefore, resist the urge to change their traditional teaching methods in favor of new ones. Lack of teacher training courses that deal with practical and applicable uses of accepted techniques and the time required to study and successfully implement these novel techniques inside classrooms may be among the main reasons why teachers avoid using these techniques.

The other techniques used in this study were complete shadowing, partial shadowing and interactive shadowing. Based on the findings of this study, interactive shadowing technique may have significant effects on students' reading comprehension. This implies that teachers should be aware of the real benefits of scaffolding techniques tailored to the needs of the learners. In fact, teachers need to be convinced that scaffolding techniques help them to teach more effectively, and language learners experience more interesting, motivating, and engaging lessons.

According to Zarei and Sahami Gilani (2014), collaborative techniques increase learners' motivation, interest, and engagement. They also contend that collaborative methods help learners to interact in a class which, in return, helps them interact with other people in real life. During interactive shadowing, for instance, students not only shadow each other but they can also add comments and opinions about the text, and even share their understanding of the text. In this case, the teacher's job will be relatively easy. Unlike the traditional method of teaching reading which requires the teacher to read the whole text word by word, in interactive shadowing students have an opportunity to interact with the text and even comment or ask questions about it. Therefore, it can be concluded that where the integration of distributed scaffolding was not possible for any justifiable reason, interactive shadowing can be considered as an alternative technique to be used inside classrooms.

The present study may have implications for learners, teachers, researchers, and syllabus designers. Learners can learn a language in an engaging and interactive way. This lowers the affective filter which, in turn, encourages students to contribute more to the class.

The findings of this study may also assist teachers to gain a more in-depth understanding of a variety of scaffolding techniques available to be applied in educational settings. Aspects such as metacognitive, cognitive, procedural, and social activities should be taken into consideration to help students maximize their understanding of the reading texts. This objective can be attained through strategies such as questioning, modeling, explaining and visualizing. Moreover, by taking into consideration the students' individual differences and learning preferences, teachers can use a technique that takes all these differences into account.

Furthermore, the findings of this study may also inspire researchers with new ideas and arouse their interest to carry out further research in order to shed light on some of the less explored aspects of the variables investigated here.

The findings may also provide syllabus designers with an opportunity to design syllabi that can promote the use of scaffolding techniques in classrooms. According to Al-seghayer (2005), learners come to the class with a variety of traits. By discovering learners' preference, instructors can provide students with the most effective support.

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