The Effect of Teacher Scaffolding vs. Peer Scaffolding on EFL Learners' Reading Comprehension Development

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Abstract: *Scaffolding as an essential concept in sociocultural theory, has been demonstrated to have an important role in instruction. The primary purpose of this study was to investigate two types of scaffolding, mainly the possible effects of teacher- and peer scaffolding on EFL learners' reading comprehension. To conduct the study, 30 female EFL learners at pre-intermediate level from a language institute in Islamabad Gharb, Kermanshah, were selected and divided in to two groups, receiving teacher and peer scaffolding respectively. All the participants took a pre-test followed by treatment sessions, and the posttest. The results of t-test showed that scaffolding techniques played an effective role on learners' reading comprehension development. It was also found that teacher scaffolding appeared to be more successful in improving students' reading comprehension in this particular EFL context. Using different scaffolding behaviors, teacher was more successful in mediating learners' reading comprehension. The findings of the study highlight the fact that teacher and peer scaffolding both can be used as an effective technique to help students to improve their reading comprehension abilities.*

Key Words: *teacher-scaffolding, peer-scaffolding, Sociocultural Theory (SCT), mediation, reading comprehension*

Introduction

In most EFL situations, the ability to read in a foreign language, particularly in English as L2, is highly demanding. A number of reasons contribute to this fact: First, reading ability can be regarded as a means of literacy practice. Second, exposure to linguistically comprehensible written text can enhance the process of language learning. Third, reading texts can act as good models for developing writing skill. Besides, reading for acquiring information in a specific area, reading for pleasure or socializing target community might be among other influential factors.

Without comprehending, reading action cannot be called reading (Karasakaloglu, 2010). But there are lots of problems in comprehending an English text; lack of vocabulary, grammatical knowledge, motivation or interest may lead to this fact (Karimi & Jalilvand ,2014). Therefore, teachers incorporate various techniques and strategies. Changing the context of learning, teachers move toward student-centered classrooms with the focus on social factors in learning process. In this situation, learners are involved in collaborative tasks, provided with effective feedback and mediation.

It is generally believed that "language learning is not an individual process and needs to be learned in a social context with the help of some peer or expert teachers" (Ghafar Samar & Dehqan, 2013). Consequently, there came a shift from traditional perspective which considered reading as a receptive skill, an individualistic process, toward a sociocultural viewpoint, to which "reading is a social skill that requires active participation and interaction of the learners involved in" (Ghafar Samar & Dehqan, 2013). As opposed to the traditional approaches in L2 teaching which overlooked the social context of learning, Vygotsky's Sociocultural Theory of Learning (SCT), indicates that learning occurs in a sociocultural environment. SCT deals with cognitive development; however unlike cognitive theory, it prioritizes social factors and views language learners as active constructors of their own learning.

According to Ohta (2005) "the learner is, with assistance, able to outperform what she or he could do without assistance" (p.507). This is the main concept of Sociocultural Theory which implies the importance of social interaction with more knowledgeable peers or expert teachers as the necessary condition for cognitive development to occur, i.e., the cornerstone of scaffolding. Needless to say that scaffolding is central to the development of effective learning and it is one of the most powerful strategies which can help students to improve their text comprehension and reasoning. However, the extent to which EFL Learners can benefit from teacher and peer scaffolding has been a fruitful and controversial line of research, especially over the last decades, since teaching reading skill has been subject to as many changes as any other aspects of language.

Regardless of the large body of researches, reading comprehension is still a problematic area for EFL learners. Shifting the debate from traditional methods of teaching toward the sociocultral perspective, reading is considered to be a social skill which requires learners' mutual interaction and active participation. These factors may well justify the undertaking of such an important issue in L2 teaching and learning and highlights the significance of this study. This study was an attempt to investigate the effect of applying Sociocultural Theory of learning, exploring the role of teacher and peer scaffolding techniques in enhancing EFL learners' reading comprehension.

Review of Literature

Vygotsky's sociocultural theory of learning highlights the crucial role of social interaction in development of cognition and more particularly, in the process of language learning. According to this theoretical framework, language is learned on two levels: first, through interaction with others (interpsychological level) and then integrated to individuals' mental structure (intrapsychological level). It means that in language learning social factors prerequisite individual factors. Providing opportunities for social interaction in classroom context, teachers usually offer guidance or involve students in collaborative learning activities. This guidance or collaboration is called "scaffolding" (Yu, 2004, as cited in Karimi & Jalilvand, 2014).

Although the term "scaffolding" is virtually synonym to Vygotsky, it was introduced by Wood, Bruner, and Ross (1976) as a "process that enables a child or novice to solve a problem, carry out a task, or achieve a goal which would be beyond his unassisted efforts" (p.90). Wertsch (1979) describes scaffolding as a "dialogically produced interpsychological process through which learners internalize knowledge they co-construct with more capable peers" (cited in Lantolf & Thorne, 2006, p. 282). This is actually the major theme in Vygotskian social intractionist framework, which states that students learn a language through social interaction with a more competent individual. This framework, presents three levels of competence: (a) pre-developmental; (b) the zone of proximal development; and (c) the zone of actual development. In pre-developmental phase learner cannot solve the problems, even with assistance. Vygotsky (1986) asserts that cognitive development occurs at ZPD and he defines the term as "the discrepancy between a child's actual mental age and the level he reaches in solving problems with assistance" (p. 187). It is at this point that learner requires support and social interaction to shift from assisted student to independent performer. Through scaffolding, teachers can move the learner from zone of proximal development to the zone of actual development. Using scaffolding in classroom setting, teachers' traditional role of dominant expert will change to a facilitator of knowledge. This teaching style also helps students to have an active participation in their own learning.

Teachers use various techniques and ways to apply scaffolding within students' ZPD and providing them with appropriate mediation. Direct and indirect elicitation, expert modeling, highlighting of strategies are among teachers' intervention techniques that Maloch (2002) suggests. An (2010) proposes effective intervention within the students' ZPD, including expert advice, question prompts, students' resources, and learners' guides. Considering reading comprehension development, Poorahmadi (2009) addresses further scaffolding strategies, among which are: warm-up activities, skimming, scanning, paraphrasing, translation, asking key questions. Regarding use of teacher scaffolding, Aljaafreh and Lantolf (1994) demonstrate that three main mechanisms must be considered: (a) intervention should be graduated; (b) help should be contingent, that should be offered only when it is needed; and (c) use of dialogic negotiation that should be unfolded between more capable and less capable individuals.

In an experimental study, Poorahmadi (2009) chose 130 female EFL university students, divided into 2 groups, one experimental group, who received teacher scaffolding and one control group, provided with traditional method of teaching. The results of the study advocated the positive effect of using scaffolding in improving reading comprehension ability. Similarly, the results of a study by Rahimi and Ghanbari (2011) who observed the use of teacher scaffolding strategies in two first-grade high school classes also revealed the significant role of teacher scaffolding in EFL learners' reading comprehension development. In this study, teachers used 12 scaffolding strategies in 3 phases of pre-reading, reading and post-reading activities. These strategies composed of teaching unknown words, activating schemata, involving students in reading comprehension, doing assignments, summarizing, asking questions, etc.

In addition, for the success of scaffolding, teachers should provide effective collaborative opportunities and try to minimize the negative affective filters. Results of studies revealed the positive impact of teacher scaffolding on lowering students' anxiety. Magno (2010) studied 60 first-grade pupils and applied strategies such as adult supervision, modeling, feedback on decoding and fluency. Through measuring students' anxiety and speed of reading before and after the treatment, he came to the conclusion that scaffolding leads to enhancing beginning readers' rate of reading and lowering their effective filters.

In collaborative tasks, scaffolding can come from classroom peers, too. However, studies in this area had different and sometimes controversial findings, some of which brought up the positive effect of peer mediation while others highlighted the potential negative effect that they might have. Donato (1994) mentions that providing scaffolding is no longer considered the sole responsibility of the instructor and it is possible for students to scaffold each other in the same way that expert teachers do. Donato emphasizes the importance of peer scaffolding to 2nd language development in classroom setting. He suggests that mediation which comes from a partner can trigger the potential of language learning (Donato, 1994).

 In the same vein, Clark and Graves (2004) argue "the way that scaffolding is implemented in the classroom depends on students' abilities" (pp. 571-572). Tudge (1999) states that poor language learners can benefit from interaction with competent peers in negotiation of meaning and reading comprehension at the early stages of the learning process. He further asserts that this can be possible only if the collaboration is provided by a partner who is in a higher level of cognition compared with the student himself. This is in line with Russell (1982) findings: he found that peer scaffolding can be unsuccessful if it is provided by partners of the equal level, and interaction between students of the same level leads to no progress. Similarly, Vygotsky (1978) advised use of asymmetrical group scaffolding in collaborative tasks. He believed that for learning to be more effective and faster to occur, learners must work with more competent peers; whereas Piaget (1960) believed in symmetrical scaffolding between peers. In this controversial line of research, some researchers claimed that symmetrical grouping of students in collaborative tasks can decrease students' affective factors; though the results of other studies (Mattos, 2000 as cited in Yu, 2004) shows that students' failure in cooperation with their partners can lead to frustration and disappointment in language learning process.

Although, a great deal of studies are devoted to investigating the efficacy of strategy training on learners' reading comprehension ability, very few studies focused on teaching reading comprehension through Sociocultural Theory. Thus, the present study is an attempt to shed lights on the ways that applying sociocultural teaching strategies in language classrooms can affect the text comprehension and reading ability of language learners. The current study is guided by the following research questions:

1.Do teacher scaffolding and peer scaffolding have any significant effect on EFL learners' reading comprehension development?

2.Which type of scaffolding has a more significant effect on better reading comprehension of EFL learners: Teacher scaffolding or Peer scaffolding?

Methodology

Participants

The participants of this study were 30 students studying English as a foreign language at pre-intermediate level in Zaban Sara (a language institute) in Islamabad Gharb, Kermanshah. The participants were all female and about 12 to 17 years of age. All were native speakers of Kurdish and none of them had stayed in English speaking countries before. The researchers used intact groups, actual institutes classes, which then formed two groups of participants, control and experimental.

Materials

Students worked on some reading passages from *New Interchange Book 1* and *Tourism.* Two passages from the main textbook and two texts from the side book, i.e., Tourism, were covered during the study. Passages were followed by some exercises and activities. Also two adapted series of KET tests (Key English Test, Paper1, from KET Handbook, Reading/Writing Sample tests, University of Cambridge, ESOL Examinations), were used as pre-test and posttest respectively. KET is Cambridge ESOL exam, at Level A2 of the Council of Europe's Common European Framework of Reference for Languages. Paper1 focuses on reading and writing skills. The reading section is consisted of five parts with thirty-five items, including: Part1, messages of sings, notices and short texts; Part 2,vocabulary items; Part 3,conversations and information gaps; Part4, reading passages; and Part 5,cloze texts. For the purpose of this research, Part 4 and 5 were used.

Procedures

The procedure was carried out with the help of two teacher assistants. The process of data collection of this study lasted for three weeks. At the beginning of the study, students were informed that their tests would be used for research and teaching improvement purposes. The two classes were assigned as experimental group, consisted of 17 students, provided with teacher-scaffolding approach and control group consisted of 13 students, with peer-scaffolding mode.

 In both classes the students as well as the teachers sometimes used Persian in their interactions to ask and explain points. A KET test was administered among both groups as pretest to determine their reading comprehension ability. The test consisted of 2 parts, with 15 items and lasted for 20 minutes.

For the purpose of pair working, a participant with high score and the other two with low scores were put in an asymmetrical subgroup.

Experimental group: Teacher scaffolding strategies applied in 3 main phases: (a) pre-reading activities, (b) while-reading, and (c) post-reading activities. In the first step, the teacher tried to activate students' prior knowledge and schemata by applying some warm-up activities like asking questions about the title of the text, encouraging students to mention their personal experiences regarding the related topics, and making some comments about it. In the next phase, the teacher tried to use as many mediation strategies as possible, incorporating reading techniques such as skimming, scanning, silent reading, reading aloud, getting the main idea, guessing unknown words and clarifying the text. After the second phase, students were asked to work individually on the exercises and comprehension questions at the end of the reading passages. Teacher attended to students needs individually, giving them some suggestions, demonstrating some of the questions, considering their level of knowledge in providing assistance and support; thus decreasing their anxiety. For post-reading step other assignments, such as summarizing, completing assignment was used.

In order to have an effective intervention, the teacher tried to implement Aljaafreh and Lantolf (1994) 3-step mechanism of help which advised use of graduate, contingent and dialogic scaffolding within the students' ZPD. The teacher provided students with the minimal level of help which was required to accomplish the tasks, and if it did not work, then they were provided with more assistance. In fact teacher scaffolding was given in a way to move students from their potential level to the appropriate level of development. In other words, in other-regulation phase when students required help (dependence on others) it was provided for them, but when they moved on toward self-regulation (independency level) there were no further suggestions. Therefore, in the final session, compared with first sessions, teacher scaffolding was decreased gradually. Also teacher scaffolding was in the form of dialogic interaction.

Control group: In the control group, the adopted treatment was particularly different. Participants were divided in to five groups, three groups consisted of three members and two groups consisted of two members, and scaffolding was given by peers working in asymmetrical groups. At the very beginning, students were provided with some guidelines as to how scaffold each other; among which were using oral communication, explaining a vague point to each other, direct feedback, asking questions for clarification and guides from partners instead of teacher, and peer evaluation during reading the passages and working on comprehension questions and exercises following the texts in collaboration. Students were allowed to give comments and suggestion in their mother tongue, so they could more fully participate in negotiating meaning and developing their ideas and better comprehending the texts. The students were also observed and monitored by the teacher while working and responding to their peers inside the classroom, but there was no active interaction between the teacher and students and she did not make any serious attempt to eliminate the impacts of

affective filters and negative feelings posed by some of the students due to poor collaboration in asymmetrical groups.

After the treatment phase, the post test was administered to both groups to determine their improvement after intervention and the data were analyzed.

Data Analysis & Results

The collected data were analyzed to determine whether a statistically significant effect existed on the students' reading comprehension following receiving teacher and peer scaffolding.

Table1:

Group Statistics

	group	N	Mean	Std. Deviation	Std. Error Mean
pretest	experimental group	17	5.4706	1.66274	.40327
	control group	13	5.3077	1.43670	.39847

According to Table1, in the pre-test, the mean score of the experimental group was 5.47 and for control group was 5.30. Also the table shows that Std. Deviation of experimental group was 1.66 and for the control group, it was 1.43. Consequently, the means and almost the standard deviation of the two groups are close together.

In order to answer the questions posed in this study and analyze the data, descriptive and inferential statistics were used. The following research questions were formulated:

Research question 1: Do teacher- and peer scaffolding have any significant effect on EFL learners' reading comprehension improvement?

In order to answer this question, Independent Sample Test for pre-test and posttest was used.

Table2:

Independent Samples Test

	Levene's Test for Equality of Variances	t-test for Equality of Means

		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
pretest	Equal variances assumed	.462	.502	.282	28	.780	.16290	.57839	-1.02189	1.34768
	Equal variances not assumed			.287	27.519	.776	.16290	.56693	-.99932	1.32511

As the Table 2 shows the difference between the mean score of the two groups in the pre-test was at.78 level of significance (P> 0.05) which means that the two groups were homogeneous at the beginning of the treatment and they did not have significant difference before intervention.

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Table3:
Independent Samples Test
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		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
posttest	Equal variances assumed	.015	.903	3.805	28	.001	2.86878	.75392	1.32445	4.41311
	Equal variances not assumed			3.875	27.423	.001	2.86878	.74024	1.35103	4.38652

According to Table 3, the difference between the mean score of the two groups in the posttest was statistically significant at.001 level of significance (P< 0.05). The comparison between the mean score in the pre-test and posttest clearly shows that the EFL learners' performance has changed after

receiving the treatment. As a result, teacher– and peer scaffolding had a significant effect on EFL Learners' reading comprehension development. Therefore, based on this evidence the first hypothesis is confirmed.

Research question 2: Which type of scaffolding has a more significant effect on reading comprehension development of EFL Learners: Teacher scaffolding or Peer scaffolding?

In order to answer this question, the mean score of the two groups in posttest was analyzed.

Table4:
Group Statistics

	group	N	Mean	Std. Deviation	Std. Error Mean
posttest	experimental group	17	11.1765	2.15741	.52325
	control group	13	8.3077	1.88788	.52360

As the table shows, the mean score of the experimental group in the posttest was 11.17 while for the control group it was 8.30; this analysis reveals that after receiving the treatment, the experimental group had a better performance than the control group. In other words, students who received teacher scaffolding outperformed those who received peer scaffolding mode.

Discussion

Regarding the first hypothesis, the results of data analysis showed that scaffolding plays an important role in the improvement of EFL learners' reading comprehension and teacher /peer scaffolding both had a significant effect in this regard. The results revealed that use of sociocultural teaching techniques provide learners with a better language learning environment for comprehension development. These findings which are in line with previous studies (Foster & Ohta, 2005; Maloch, 2002; Poorahmadi, 2009; Rahimi & Ghanbari, 2011; Yu, 2004) also confirm the superiority of using social interaction and collaborative teaching strategies in order to achieve higher strategic reading comprehension development.

With regard to the second research hypothesis, learners of experimental group had a better performance than the learners of the control group. The justifiable reason may be that teacher scaffolding group had more exposure to aural input in the form of expert modeling, feedback, mediation, etc. Also the teacher offered more activities and opportunities for providing learners with assistance and support for accomplishing tasks.

In addition, it was observed that teacher scaffolding and mediation had a positive effect since the suggestions and explanations offered during the teacher reviews provided them with more ideas and longer explanations. This is in line with Tudge (1999) findings. He stated that for more effective peer

mediation, students who mediate their peers must be more knowledgeable and possess thinking skills at a higher advanced level, but the fact is that peers usually have partial knowledge and they are able to support their partners as much as their knowledge and intellectual capacity permits. Moreover, some students actually lack the ability to give peer scaffolding, owing to inadequate knowledge. In this case, students hardly learn from others.

Another important finding in the similar vein is that those students who received teacher mediation were assisted to achieve higher level of functioning, whereas in peer-mediated class there was not such an attempt to move the learners to the level beyond their current level. In peer scaffolding class, due to the peers' partial knowledge, students' main focus was on comprehending the text, answering to the questions and providing feedback. While in teacher scaffolding class, teacher, as the source of knowledge, used more mediation behaviors and reading techniques, also she tried to help the students by activating their schemata and providing more challenging opportunities specially in reading discussion phase. This supports Ohta's (2000) statement holding that peer scaffolding occurs moment-by-moment, meaning that it is not usually possible for the learner to use the acquired knowledge in other contexts. Consequently, peers did not show a significant facilitating role in contrast with teacher. The reason might be that peers were engaged with the current level of the students and tried to solve the immediate problems.

Conclusion

From a sociocultural perspective, the findings of the study indicated that both the teacher and peer scaffolding proved to be influential in applying variety of scaffolding behaviors in order to help student to reach higher states of independency. It was also found that these types of scaffolding and mainly teacher scaffolding have a significant effect and help students to improve their understanding, inferences and negotiation of meaning. The study revealed that although scaffolding is among the major influences, the form of scaffolding and the way it is given to the learners can be differentially effective. Teacher scaffolding and mediation seems to be more beneficial for EFL learners of the pre-intermediate level of language proficiency. Students adopted teacher assistance more than peer support, thus had a greater improvement. It was found that the teacher generally proved to be more effective in terms of the type and frequency of scaffolding behaviors she used. Peer scaffolding, though has not been much effective in comparison to teacher scaffolding, does lead to improvement, so it can be considered as a positive adjunct to teacher support.

The main limitations of this study were the low number of students and sessions. In addition, since this study was performed in a private language institute, it was not possible to have both male and female participants and random sampling procedure due to the policy of the institute; thus the factors of gender and generalizability were not taken in to account in a small-scale study such as the present one – factors that might have impacts on the research findings. These issues, the effects of gender and some individual differences such as motivation and style need to be examined in further researches.

Suggestions and Recommendations

Within the realm of current study, following suggestions are made for further researches:

-considering teacher and peer feedback, researches can be done comparing language learners performance in different levels of proficiency, mainly beginners and advanced levels;

-scaffolding can also be applied to different language skills, especially in case of learners performance in writing skill;

-focusing on peer scaffolding, further researches can be carried out considering language learners performance in symmetric and asymmetric groups.

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