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Empowering EFL learners: How teacher interactional scaffolding and peer collaborative scaffolding reshape EFL learners' reading comprehension

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Authors:
Narges Sardabi[1]
Mehrdad Bakhshi[2]

Abstract

Reading comprehension is a fundamental skill for language learners, yet EFL students often encounter obstacles in developing this ability. Grounded in the sociocultural theory, the current study explored the impact of teacher interactional scaffolding and peer collaborative scaffolding on the reading comprehension of Iranian EFL learners in a blended learning context. A mixed-methods approach was employed, incorporating quantitative analysis of pre-and post-reading comprehension tests as well as qualitative examination of semi-structured interviews. The findings revealed that both teacher interactional scaffolding and peer collaborative scaffolding significantly enhanced learners' reading comprehension. However, no statistically significant difference was found between the two scaffolding approaches. Qualitative data analysis uncovered EFL learners' positive attitudes toward both forms of scaffolding, citing the dynamic support, collaborative problem-solving, and development of metacognitive skills as key benefits. The study underscores the pivotal role of scaffolding in facilitating EFL reading comprehension, with teacher interactional and peer collaborative scaffolding serving as complementary pedagogical strategies. Implications of this research include the need for EFL instructors to incorporate a judicious blend of teacher-led and peer-mediated scaffolding techniques to optimize learners' reading comprehension development. Additionally, the study highlights the adaptability of scaffolding approaches to blended learning environments, where the interactions between teachers, peers, and learners may necessitate innovative scaffolding implementations. This research contributes to the growing body of literature on the efficacy of sociocultural learning principles in enhancing EFL reading comprehension.

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1. English Department, Ershad Damavand University, Tehran, Iran (Corresponding Author). Email: narges.sardabi@gmail.com
2. English Department, Ershad Damavand University, Tehran, Iran. Email: mehrdadb868@gmail.com

1. Introduction

Reading comprehension is an essential ability for language learners, as it underpins their capacity to understand and engage with written texts. (Schmitt et al., 2011; van Zeeland & Schmitt, 2013). However, English as a Foreign Language (EFL) learners often encounter obstacles in enhancing their reading comprehension skills. These challenges may arise from factors such as limited exposure to the target language outside the classroom, unsuitable instructional methods, and the ineffective application of reading strategies (Karimi & Jalilvand, 2014; Liu et al., 2024; Muna, 2018).

Sociocultural learning theories, including Vygotsky's (1978) idea of the Zone of Proximal Development (ZPD), highlight the significance of social interaction and scaffolding in the learning process. Scaffolding refers to the assistance provided by a more knowledgeable individual, such as a teacher or peer, to help a learner in completing tasks that exceed their current level of ability (Mansouri & Mashhadi Heidar, 2020; Saye & Brush, 2002). Two primary types of scaffolding have been distinguished: interactional scaffolding, which consists of the context-specific support that a teacher or peer offers during the learning experience, and planned scaffolding, which involves pre-established supports designed to address anticipated challenges that students may face (Saye & Brush, 2002).

While numerous studies have investigated the effects of various forms of scaffolding on the learners' reading comprehension ability (Kivi et al, 2021; Liu et al., 2024; Salem, 2017; Yusuk, 2018; Zarei & Alipour, 2019), fewer studies have focused on the potential impact of teacher interactional scaffolding and peer collaborative scaffolding, especially in the context of blended EFL classes. Therefore, to address this gap, the current research aimed to explore the impact of these two types of scaffolding on EFL learners' reading comprehension ability.

2. Literature Review

2.1. Theoretical Foundations of Scaffolding

Sociocultural theory, as proposed by Vygotsky (1978), serves as the theoretical

basis for the concept of scaffolding. Vygotsky posits that learning is fundamentally a socially mediated phenomenon, wherein more knowledgeable individuals, such as educators or capable peers, assist learners in acquiring new knowledge and skills. A fundamental aspect of Vygotsky's theory is the Zone of Proximal Development (ZPD), which represents the space between what a learner can accomplish independently and what they can achieve with the guidance and support of a more knowledgeable individual (Booth, 2012; Rodgers, 2017).

Engaging with individuals who possess greater competence is crucial for personal development, as articulated by Vygotsky (1978), who established his framework based on scaffolding. Vygotsky, emphasized the role of the individual within a collaborative context, highlighted that learning initially occurs through social interactions among children and those in their environment before being internalized at a personal level. Furthermore, social learning often involves mentorship from more experienced individuals, be they peers or adults, who guide or collaborate with less proficient learners during the educational process (Lin, 2015). The term scaffolding, describes the assistance provided by teachers or peers to help learners maneuver through their ZPD and complete tasks that exceed their current competencies (Ankrum et al., 2014; Chen, 2024; Reynolds & Daniel, 2018; Walqui, 2006). Saye and Brush (2002) differentiate between two forms of scaffolding: soft (interactional) scaffolding and hard (planned) scaffolding. Interactional scaffolding is characterized by the context-sensitive and dynamic support that teachers or peers offer during the learning process, whereas planned scaffolding consists of predetermined supports established to address expected challenges that students may encounter.

2.2. Scaffolding and Reading Comprehension

Reading comprehension is a multifaceted process that involves the interaction between the reader, the text, and the intended purpose of reading (Beland, 2014; Lee, 2021; Shin et al., 2020; Snow, 2002). Scaffolding has been identified as a valuable approach for enhancing EFL learners' reading comprehension by assisting them in accessing and utilizing their prior knowledge, employing effective reading strategies, and engaging with texts in meaningful ways (Riazi & Rezaii, 2011; van Zeeland & Schmitt,

2013; Yusuk, 2018; Zarei & Alipour, 2019).

Previous research has investigated the effects of different scaffolding methods on reading comprehension. For instance, Buli et al. (2017) demonstrated that the implementation of cognitive and metacognitive scaffolding strategies—such as predicting, clarifying, and summarizing—can enhance EFL learners' reading skill. Similarly, Salem (2017) indicated that scaffolding techniques like modeling, questioning, and providing feedback can help EFL learners develop their reading skill and overcome challenges. Furthermore, Zarei and Alipour (2019) explored the impact of peer scaffolding, distributed scaffolding, and reciprocal scaffolding on L2 reading comprehension, concluding that these strategies, when combined with multimodal materials, can significantly support the development of reading comprehension among EFL learners.

2.3. Interactional Scaffolding and Peer Collaborative Scaffolding

While the existing literature has highlighted the advantages of scaffolding for reading comprehension (Abdulaal et al., 2024; Dabarera et al., 2014; Dehqan & Ghafar Samar, 2014; McGrath et al., 2016; Zhang & Zhang, 2018), fewer studies have highlighted the potential impact of teacher interactional scaffolding and peer collaborative scaffolding. Interactional scaffolding, provided by the teacher during the learning process, can offer dynamic, situation-specific support tailored to the individual needs of the learners (Saye & Brush, 2002). This type of scaffolding can involve questioning, modeling, feedback, and other interactive strategies that help learners navigate their ZPD and overcome specific challenges they face during the reading task.

Peer collaborative scaffolding, on the other hand, refers to the support that learners provide to one another during collaborative learning activities (Gánem-Gutiérrez & Gilmore, 2018; Hamidi & Bagherzadeh, 2018; Nassaji & Cumming, 2000; Saye & Brush, 2002). This form of scaffolding can foster a sense of shared responsibility and collective problem-solving, as learners work together to understand the text, clarify concepts, and develop effective reading strategies. Peer collaborative scaffolding can also promote the development of metacognitive skills, as learners engage in discussions, explain their thought processes, and provide feedback to one another.

The effects of teacher interactional scaffolding and peer collaborative scaffolding

may be particularly beneficial for EFL learners' reading comprehension (Kivi et al, 2021). By receiving dynamic support from the teacher and engaging in collaborative problem-solving with their peers, learners can develop a deeper understanding of the text, as well as more effective reading strategies that they can apply in future learning tasks (Amirian & Ramazanian, 2017).

2.4. Scaffolding in Online and Blended EFL Classes

The shift toward online and blended learning environments has brought about new challenges and opportunities for the implementation of scaffolding strategies. In these contexts, the interactions between teachers and learners, as well as among learners themselves, may undergo significant transformations (Osman et al., 2020). Teachers may need to adapt their interactional scaffolding strategies to the online or blended format, while learners may need to develop new skills for engaging in collaborative scaffolding through digital tools and platforms.

Several studies have explored the use of scaffolding in online and blended EFL classes. For example, Osman et al. (2020) found that the use of technology-mediated scaffolding, such as prompts, feedback, and online discussions, can support EFL learners' reading comprehension in a blended learning environment. Mezek et al. (2022) studied the potential effects of scaffolding on L2 learners' academic reading, highlighting task-based and feedback-based scaffolding, and showed that L2 learners' self-regulating behaviors were linked with these scaffolding strategies.

However, the differences and the possible advantages of teachers' interactional scaffolds and peer collaboration as a form of scaffold have received fewer attention. Furthermore, very few studies have considered the impact of the two forms of scaffolding within online and blended contexts where teachers' facilities and affordances are different and they may influence EFL learners' reading comprehension in a positive or negative direction. Therefore, this study was an attempt to explore the impact of teachers' interactional scaffolds versus learners' collaborative scaffolding on EFL learners' reading comprehension in blended contexts. Additionally, EFL learners' attitudes toward the two forms of scaffolding were examined. Hence, the following research questions were formulated to address the objectives of the study:

RQ 1. Does teacher's interactional scaffolding have any effect on Iranian EFL learners' reading comprehension skill in blended classes?

RQ 2. Does peers' collaborative scaffolding have any effect on Iranian EFL learners' reading comprehension skill in blended classes?

RQ 3. Is there a significant difference between the effects of teacher's interactional scaffolding and peers' collaborative scaffolding on Iranian EFL learners' reading comprehension skill in blended classes?

RQ 4. What are EFL learners' attitudes toward teacher's interactional scaffolding and peers' collaborative scaffolding in their reading comprehension blended classes?

3. Methodology

3.1. Research Design

This study employed a mixed-methods research design, combining quantitative and qualitative data to explore the effects of teacher interactional scaffolding and peer collaborative scaffolding on EFL learners' reading comprehension. To evaluate the efficacy of teachers' interactional scaffolding and peers' collaborative scaffolding on reading comprehension, quantitative data collection methods – reading comprehension pretests and posttests – were adopted. On the other hand, students' perceptions and attitudes about the treatment were explored through semi-structured interviews.

3.2. Context and Participants

This study was conducted in a private language center in Tehran where English is being instructed from beginning levels to advanced levels. To investigate the purpose of this study, the learners of intermediate level were selected to participate in this study. The classes were all held in a blended mode with 5 online and 15 face-to-face sessions.

The participants were 81 intermediate EFL level learners, both males and females. They were aged between 17 and 32 years. There were six classes of 15, 14, 12, 15, 13, 12 students: three experimental groups which received teacher scaffolding and three

experimental groups which received peer scaffolding. The textbook they studied was the American English File 2nd edition. The participants were selected through convenience sampling. Before conducting the research, the Oxford Quick Placement Test was administered to the participants to check their homogeneity in terms of English language proficiency.

3.3. Instruments

A) The Oxford Quick Placement Test

The Oxford Quick Placement Test was utilized as a standardized instrument to assess the English language proficiency of the participants. This test was designed to evaluate various language skills, including grammar, vocabulary, and reading comprehension, through a series of multiple-choice questions. This test, widely recognized for its reliability and validity, consisted of two sections: a grammar and vocabulary section with 40 multiple-choice questions and a reading comprehension section with 20 multiple-choice questions. It provided a practical and efficient means of determining the appropriate language learning level of participants, ranging from beginner to advanced. In this study, Oxford Quick Placement Test was administered at the outset to ensure the homogeneity of the participants in terms of their English proficiency.

B) Reading Comprehension Test

To determine learners' reading comprehension skill before and after the instruction, the reading section of American English File was employed as the pre-test and post-test. In fact, two versions of a similar test were used for pre-test and post-test.

C) Semi-structured Interviews

In order to explore learners' perceptions about the scaffolding strategies implemented in the two experimental groups, eight learners from teacher interactional scaffolding group and eight learners from peer collaborative scaffolding group were selected to participate in a semi-structured interview at the end of the course. The interview items were selected from the relevant literature and some items were designed by the researchers. Each interview session lasted approximately 30 minutes, allowing for in-depth discussions and reflections on their experiences. The interviews were conducted

in Persian to ensure that participants could express their thoughts comfortably and accurately. All sessions were audio-recorded with the participants' consent, which was obtained prior to the interviews. This process adhered to ethical guidelines, ensuring that participants were fully informed about the purpose of the study and their right to withdraw at any time without consequence. Before the interviews began, participants were assured that their responses would remain confidential and would be used solely for research purposes. The audio recordings were subsequently transcribed and translated into English for interpretation and analysis.

3.4. Data Collection Procedure

Data of the present study were collected during 10 weeks with six classes. At the beginning of the course, informal consent forms were distributed and it was explained that participation in the project was voluntarily. Then, Oxford Placement Test was administered to select homogenized participants. Then, 81 intermediate learners were selected were assigned into six experimental groups. The blended learning classes consisted of 5 online sessions and 15 face-to-face sessions. The online component was conducted using the Adobe Connect platform, facilitating real-time interaction among participants and the teacher. The face-to-face sessions took place at the private language center, where learners engaged in collaborative activities and discussions.

In the experimental groups, peer and teacher scaffolding modes were utilized. In this kind of scaffolding, following the Vygotskian model of ZPD, scaffolders were supposed to empower the reading comprehension ability of their classmates. Both groups were instructed by the same educator, who is also one of the researchers involved in this study. The students in peer scaffolding groups were trained to apply scaffolding strategies. They were given guidelines such as applying oral communication, eliminating and describing unclear issues to each other, receiving feedback as well as peer evaluation while doing their exercises. More precisely, the peer collaborative scaffolding intervention focused on promoting interaction among learners to enhance their comprehension abilities through collective efforts. It included activities such as providing peer feedback, where learners offered constructive critiques on each other's work to identify strengths and weaknesses collaboratively. Learners were also encouraged to ask

questions directly to their peers rather than relying on the teacher, fostering a more interactive and independent learning environment. Additionally, during reading exercises, learners worked in pairs or small groups to exchange ideas and suggestions, enabling the sharing of diverse perspectives and strategies to tackle challenging texts. This approach was carefully monitored to ensure active participation and a supportive, focused atmosphere conducive to learning.

The teacher interactional scaffolding intervention, on the other hand, emphasized the teacher's role in facilitating learners' reading development through structured interactions. The teacher provided detailed, individualized feedback to address areas needing improvement while highlighting successful strategies. Strategic questioning by the teacher stimulated critical thinking and deeper engagement with the texts, helping learners explore meaning and structure more effectively. Furthermore, the teacher offered targeted suggestions during reading exercises, modeling practical strategies such as skimming, scanning, and using contextual clues to enhance understanding. This approach ensured that learners received professional guidance tailored to their specific needs, fostering confidence and refining their reading comprehension skills.

Both interventions were implemented over a set period, providing learners with opportunities to engage with and benefit from these distinct approaches. The textbook which was employed for both groups was American English File. Following the intervention, a post-test was conducted to evaluate the participants' reading comprehension progress in both groups. Finally, representative students from each group were selected to participate in semi-structured interview sessions.

3.5. Data Analysis Procedure

Data of the quantitative phase were analyzed using Statistical Package for Social Science 21 (SPSS) software. Descriptive statistics, such as frequencies and measures of central tendency, were applied to the data. Furthermore, the results on the pre-tests and post-tests were compared using paired samples *t*-tests for the first two research questions and two independent samples *t*-tests for the third research question to examine the relative efficiency of the two alternative teaching approaches for developing students' reading comprehension. To analyze the qualitative data from semi-structured interviews,

thematic analysis was adopted.

4. Results

4.1. First Research Question

In order to answer the research questions of the study both descriptive and inferential statistics were used. Descriptive statistics were calculated to understand the overall patterns of reading comprehension changes. Table 1 shows the means and standard deviations of the test evaluating participants' reading comprehension in the teacher scaffolding group.

The data presented in Table 1 indicated that reading comprehension of the first experimental group, that is the teacher scaffolding group, was enhanced after receiving the treatment. While the participants' reading comprehension mean in this group was 14.23 before receiving the intervention, it increased to 17.11 after they received the teacher interactional scaffolding intervention. The rather large standard deviations of the first experimental group show that the results were not so clustered around the mean.

Table 1.

Descriptive Statistics for Teacher Scaffolding

Participants	N	Pretest	Posttest	Std. Deviation 1	Std. Deviation 2
Ex-Reading (Teacher)	42	14.23	17.11	7.23	7.23

Furthermore, in order to answer the first research question and check if teacher interactional scaffolding had any statistically significant effect on EFL learners' reading comprehension, participants' scores from the pre-test and post-tests were compared conducting a paired samples t-test. As indicated in Table 2, participants' reading comprehension improved after receiving the teacher scaffolding treatment. In other words, the increase in the reading comprehension scores of the EFL learners who received the teacher scaffolding instruction was statistically significant ($p < 0.05$; Sig. (2 tailed) = 0.029). Therefore, we can claim that the first null hypothesis which was "teacher's interactional scaffolding does not have any effect on Iranian EFL learners' reading

comprehension skill" was rejected.

Table 2.

Paired samples T-test for the Effect of Teacher Scaffolding

		Mean	Std. Deviation	Std. Error Mean	Df	Sig. (2-tailed)
Teacher-Exp	Reading Comprehension	.37956	.32685	.04674	28	.029

4.2. Second Research Question

Additionally, descriptive statistics were calculated to measure the overall patterns of reading comprehension in the peer collaborative scaffolding group. Information about the means and standard deviations of the participants' reading comprehension scores are provided in Table 3. The data presented in Table 3 show that reading comprehension scores of the second experimental group; that is, the peer scaffolding group, increased after receiving the intervention. While the participants' reading comprehension scores in this group was 15.37 before receiving the treatment, it was enhanced to 17.22 after they received the peer interactional scaffolding intervention.

Table 3.

Descriptive Statistics for Peer Scaffolding

Participants	N	Pretest	Posttest	Std. Deviation 1	Std. Deviation 2
Ex-Reading (Peer)	39	15.37	17.22	6.45	6.45

Moreover, in order to answer the second research question and check if peers collaborative scaffolding had any statistically significant effect on EFL learners' reading comprehension, participants' scores from the pre-test and post-tests were compared conducting a paired samples t-test. As indicated in Table 4, participants' reading comprehension increased after receiving the peer scaffolding treatment. In other words, the increase in the reading comprehension of the EFL learners who received the peer scaffolding instruction was statistically significant ($p < 0.05$; Sig. (2 tailed) = 0.021).

Therefore, we can argue that the second null hypothesis which was “peers interactional scaffolding does not have any effect on Iranian EFL learners’ reading comprehension skill” was rejected.

Table 4.

Paired samples T-test for the Effect of Peer Scaffolding

		Mean	Std. Deviation	Std. Error Mean	Df	Sig. (2-tailed)
Peer-Exp	Reading Comprehension	.27502	.43760	.07561	28	.021

4.3. Third Research Question

The results of the first two research questions showed that both peers and teacher scaffolding significantly enhanced the EFL learners’ reading comprehension skill. The third research question, however, focused on the significance of the difference between the two approaches in improving learners’ reading comprehension. To this end, independent t-test procedures were used to compare the reading comprehension scores between the two groups, before and after the treatment. Descriptive statistics for the reading comprehension related to pretest comparison of the two groups’ test scores are presented in Table 5. As shown in Table 5, the two experimental groups had different levels of reading comprehension score before receiving the treatment. While reading comprehension mean score of the teacher scaffolding group in pretest was 14.23, the reading comprehension mean score of the peer scaffolding group was 15.37. Although the mean score of the two groups during the pretests was different, it should be investigated whether this difference was significant. To check the significance of reading comprehension difference between the two groups, the means were compared (Table 6) using independent samples t-test. The results showed that the reading comprehension difference between the two groups in the pretest was not statistically significant ($p > 0.05$; Sig. = 0.11).

Table 5.

Descriptive Statistics for Pre-test Reading Comprehension Difference of the Two Groups

Group Statistics					
	Grouping	N	Mean	Std. Deviation	Std. Error Mean
Pretest Difference	Teacher Scaffolding	42	14.23	.78531	.15075
	Peer Scaffolding	39	15.37	.69749	.13346

As it is indicated in Table 6, the result of Levene's test is higher than 0.05, which shows that the two groups are homogeneous. Since the result of Levene's test is not equal to 0 (zero), it needs to have equal variance assumed (the first row) for the Sig. (2-tailed), which was 0.121. The t-test result indicates the two groups were not significantly different before the intervention.

Table 6.

Pre-test Comparison of the Two Groups' Reading Comprehension Difference

		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Pretest Difference	Equal Variances Assumed	.594	.11	-1.565	56	.121	-.25258	.17213
	Equal Variances Assumed			-1.565	54.237	.123	-.25258	.17213

Moreover, the descriptive statistics for the posttest reading comprehension difference of both groups are presented in Table 7. The results indicated that the two groups performed differently in the posttests.

Table 7.

Descriptive Statistics for Post-test Reading Comprehension Difference of the Two Groups

Group Statistics					
	Grouping	N	Mean	Std. Deviation	Std. Error Mean
Posttest Difference	Teacher Scaffolding	42	17.11	.74301	.12710
	Peer Scaffolding	39	17.22	.75410	.15802

Independent samples t-test was run to check if this difference was statistically significant or not. The findings of post-test indicated that although the teacher scaffolding and peer scaffolding significantly and differently influenced the learners' reading comprehension scores, the difference between these two approaches was not statistically significant as shown in Table 8.

Table 8.

Post-test Comparison of the Two Groups' Reading Comprehension Difference

		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Posttest Difference	Equal Variances Assumed	.001	.864	2.572	56	.723	.47691	.18651

4.4. Fourth Research Question

To explore students' perceptions about teacher and peer scaffolding the results of semi-structured interviews were analyzed and the most recurrent themes and categories of the responses were counted. Table 9 illustrates the most recurrent themes of the responses regarding teacher and peer scaffolding.

Table 9.

Themes Extracted about Students Perception

	Themes
Teacher Scaffolding	Instructive Innovative Pleasant Challenging

	Clear focus Enhanced time management Good for finding problem solutions Greater focus Help develop reading comprehension skill Good for avoiding confusion Led to a directed attention Raise awareness
Peer Scaffolding	Instructive Innovative Pleasant Encouraging Help real progress Sharing ideas Effective for finding problems Better comprehension Raised my interest Easier task performance

The themes extracted about students' general perceptions of scaffolding strategies used in the class were "instructive", "innovative", "challenging", and "pleasant". The majority of the students who were interviewed believed that the scaffolding activities facilitated their learning. They also mentioned that the activities were creative in a way that they created a refreshing learning environment. A number of students highlighted the challenging aspect of both teacher and peer scaffolding strategies. They stated that such activities set the ground for a stimulating learning context for reading comprehension. Furthermore, they emphasized the positive emotional aspect of their learning as these activities generated a pleasant and enjoyable learning environment.

A theme which was concurrent with regard to peer scaffolding activities was the "encouraging" nature of working with their classmates. Students argued that helping and receiving help from their peers raised their confidence and encouraged them to make more effort. In the same vein, they stated that working with their peers would reduce their stress particularly when the reading comprehension activity was difficult. The student interviews also showed that transfer of responsibility occurred during the peer scaffolding activities.

The interactions between teachers and students in online learning environments allowed teachers to assess students' current understanding and provide adaptive support. These dialogues were essential for facilitating the "handing over knowledge and

skills" (Muhonen et al., 2016, p. 144). Interviews indicated that the two scaffolding strategies employed were effective in supporting students' learning activities in online and blended reading comprehension settings. Consequently, integrating teacher and peer scaffolding within a blended learning framework could significantly enhance students' reading comprehension abilities.

Most students acknowledged that the adaptive support and timely instructions from teachers helped their understanding of tasks and improved their reading skills, enabling them to progress and manage their problem-solving processes. Several students noted that peer scaffolding positively influenced their emotions, motivating them to engage in independent thinking and exploration, even in the face of challenges. Findings from the student interviews revealed that peer scaffolding significantly impacted their learning and perception of reading. The teacher's adaptive support and interventions helped students connect new information to their existing knowledge, facilitating comprehension, practice, and problem-solving.

5. Discussion

The aim of this study was to examine the influence of teacher and peer scaffolding on the reading comprehension of Iranian EFL learners. Despite the fact that the treatment was only used for a few weeks due to practical concerns, the results of the analyses were consistent with those of earlier research (e.g., Akiyama & Fleshler, 2013; Marzban & Arabahmadi, 2013). Based on the results, it was revealed that both teacher and peer scaffolding had statistically significant effects on the reading comprehension of EFL learners. This leads to the conclusion that students appreciated the scaffolding offered by the teachers and peers in the course.

Theoretically, this positive response serves as a measure of scaffolding effectiveness, as students must recognize the available scaffolding to leverage it for optimal learning (Belland, 2014; Enyew & Yigzaw, 2015). While initial informal discussions indicated students were aware of the scaffolding, the results revealed disparities between their levels of awareness and their current interpretations of what the instructor scaffolded.

During the interviews, social factors were emphasized in relation to collaborative online scaffolding, suggesting the emergence of a concept termed “social scaffolding.” Based on post-test results, evidence indicated that students recognized and appreciated the human aspect of online learning environments. Consequently, the instructor fostered a welcoming, motivating, and social atmosphere, enabling students to engage more readily in learning activities and build community. This highlights the instructor's role in addressing both the social and cognitive dimensions of learning, which can particularly be relevant in online and blended settings. Existing research supports the notion that social interaction is pivotal in technology-enhanced classrooms, as “the social process of building shared understanding through contact is the ‘natural’ way for people to learn” (Kreijns et al., 2003).

Additionally, our findings corroborate the work of Channa et al. (2018), who noted that the implementation of planning, monitoring, and evaluating strategies enhanced learners' comprehension and language proficiency. Other studies have confirmed that metacognitive scaffolding strategies contribute to improved outcomes in collaborative tasks (Pifarre & Cobos, 2010) and facilitate social metacognitive activities (Azevedo et al., 2008).

The majority of interviewees from both groups generally found the strategies to be informative. This aligns with Yelland and Masters' (2007) assertion that effective teachers use scaffolding strategies as instructional tools for skill acquisition. Furthermore, many students regarded the strategies as enjoyable, which may be partly explained by earlier studies suggesting that high-quality scaffolding fosters nurturing, positive environments that enhance students' academic growth (Hong & Nguyen, 2019; Raphael et al., 2008) and shape lifelong attitudes (Oxford, 2016). Thus, even if the cognitive advantages of scaffolding methods were not immediately evident, the positive attitudinal benefits associated with these procedures likely contribute to learners' developmental potential.

This increased potential resulting from scaffolding has been supported in recent research. Studies by Ahmadi Safa and Rozati (2017), and Swain and Lapkin (2000) have also indicated that scaffolding techniques significantly assist EFL learners in enhancing their listening comprehension skills, emphasizing the capacity of scaffolding to aid

learners in improving their abilities, internalizing critical thinking strategies, and becoming more proficient and literate thinkers.

5. Conclusion

According to the findings of the study, employing both teacher and peer scaffolding positively influenced EFL learners' reading comprehension and underscored their positive attitudes toward both methods. Furthermore, the quantitative and qualitative analyzes confirmed the efficacy of both peer and teacher scaffolding strategies. In essence, these strategies enabled EFL learners to enhance their awareness of their cognitive processes and approach reading tasks more systematically and deliberately (de Oliveira et al., 2021). Additionally, while both the peer and teacher scaffolding groups expressed satisfaction with the scaffolding strategies employed, describing them as instructive, enjoyable, innovative, and motivating, it is important that instructors take into account various factors when evaluating the effectiveness of the scaffolding provided (Abdulaal et al., 2024). These factors should include metacognitive abilities, cognitive development, learning outcomes, student engagement, and motivation, among others.

Regarding the limitations of the study, it is essential to acknowledge that any attempts to generalize the findings to other L2 contexts should be approached with caution due to several constraints. Firstly, the researchers faced challenges in achieving a truly random selection of participants, which could impact the generalizability of the results. Secondly, the study focused on specific age groups and English proficiency levels, necessitating careful consideration before applying the findings to different age cohorts or proficiency ranges.

In conclusion, this study highlights the significant role that both teacher interactional scaffolding and peer collaborative scaffolding play in fostering EFL learners' reading comprehension skill and promoting positive attitudes toward learning. By integrating these strategies, educators can create a balanced, dynamic, and engaging learning environment that addresses diverse learner needs. The findings emphasize the importance of scaffolding not only as a means of academic support, but also as a tool for enhancing L2 learners' metacognitive awareness and fostering a deeper, more

systematic approach to reading. Future research should continue to explore how these scaffolding methods can be adapted and optimized for various educational contexts, including different cultural settings, learning styles, and technological integrations. Through such efforts, a broader understanding of the potential impact of scaffolding strategies on L2 learning can be achieved, paving the way for more inclusive and effective teaching practices.

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