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Research Article

From Learning to Retention: Cognitive and Metacognitive Scaffolding in EFL Idiom Acquisition

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ABSTRACT

This study aimed to examine the effects of cognitive and metacognitive scaffolding on idiom learning and retention among intermediate EFL learners at Avatalk Language Institute in Shiraz, Iran. A total of 54 participants formed the final sample after a homogeneity test. These participants were randomly assigned to three groups: metacognitive scaffolding, cognitive scaffolding, and a control group, each consisting of 18 students. A quantitative-based design was employed, with a pretest, an immediate posttest, and a delayed posttest to assess idiomatic knowledge. The pretest, consisting of 45 idiom items, was validated by experts and had an acceptable reliability. After the treatment, idiom tests were administered to evaluate both short- and long-term idiom learning and retention. The results of ANOVA showed that metacognitive scaffolding significantly enhanced idiom learning and retention compared to both cognitive scaffolding and the control group. This study underscores the effectiveness of metacognitive scaffolding in idiom acquisition and suggests potential improvements for future applications. The findings contribute to the understanding of scaffolding strategies in EFL contexts and provide valuable insights for refining instructional practices to better support learners.

Introduction

Developed in the Soviet Union by Lev Vygotsky and his colleagues during the transformative years between the Revolution of 1917 and the onset of Stalinist purges in the early 1930s (Wertsch, 1991), contemporary socio-cultural theory (SCT) emerged as a refinement of an interdisciplinary framework for psychology. This original framework was designed with a practical aim: to address the need for significant educational, social, and cognitive changes within the Soviet revolutionary context (Machimana, 2022).

At the heart of SCT lies the principle that learning is fundamentally rooted in social interaction (Etemadi & Abbasian, 2022). Vygotsky emphasized that social interaction precedes the development of knowledge and abilities. Essential aspects of human development—such as consciousness, identity, physical skills, and mental abilities—originate from interactions between children and their parents, peers, and others, including teachers (Alkhudiry, 2022). According to Vygotsky (1978), human learning is inherently social, enabling children to assimilate into the intellectual life of those around them. He further states that every function in a child's cultural development occurs twice: first on a social level (interpsychological) and then on an individual level (intrapsychological).

Vygotsky also highlighted that the social and mental functions, while interconnected, are not identical. The process of internalization involves transformation, reconstruction, and appropriation. Independent learning devoid of social interaction contradicts Vygotsky's pedagogical perspective (Andrade & Cunha, 2020). Since knowledge and abilities arise within social activity, learning is always co-constructed. Individual work has a role in SCT, but it is most meaningful when situated within collaborative efforts (Tang et al., 2020).

A prominent contribution of SCT to education, particularly second language instruction, is the concept of scaffolding. Scaffolding, according to Molenaar and Roda (2008), involves giving students help to complete activities or grasp ideas while progressively lowering that help as their proficiency increases. "A dialogically constituted interpsychological mechanism that promotes the novice's internalization of knowledge co-constructed in shared activity" is how Donato (1994, p. 41) defines scaffolded performance. Teachers have stressed that scaffolds are essential for helping students better control their cognitive activities and assist their metacognitive processes, which will ultimately increase their abilities (Molenaar et al., 2011).

While cognitive and metacognitive processes share some similarities, theorists identify fundamental differences between them. Flavell (1979) defined metacognition as a superordinate term encompassing knowledge and cognition about one's own cognitive processes. This includes monitoring memory, comprehension, and other cognitive activities. The distinct nature of cognitive and metacognitive processes necessitates differing scaffolding strategies, each with unique effects on foreign language (FL) learners' skills development. For example, both cognitive and metacognitive scaffolding seem to enhance idiom learning and retention, as idiomatic expressions are integral to communication. Since native speakers often use idioms and chunks, scaffolding supports high levels of interaction for FL learners.

Bachman's (1990) model suggests that the degree of naturalness in communication can be evaluated by learners' use of idiomatic expressions. Achieving native-like proficiency involves recognizing idioms, employing effective strategies for comprehension, and producing them naturally. Attaining such naturalness is a legitimate goal for non-native speakers (Bachman, 1990).

Idioms are a critical yet challenging aspect of language and culture worldwide. Their unpredictable meanings often pose difficulties for English as a Second Language (ESL) learners. Idioms are unchangeable statements whose general meanings cannot be inferred from the meanings of their constituent parts. For example, the phrase "let the cat out of the bag" (disclose a secret) consists of several terms that don't together express the meaning of the idiom. Students face challenges as a result of this discrepancy between form and meaning, as well as a lack of resources and instructional strategies (Cameron & Low, 1999). Idiomatic phrases like "fall in love," "be over the moon," and "be under the weather" are often difficult for EFL learners to understand since they have no direct connection to their literal meanings of love, happiness, or unhappiness, respectively.

Mastering idiomatic expressions is one of the most challenging aspects of learning a foreign language, as even advanced learners struggle to achieve native-like proficiency. This difficulty stems from the inherent complexity of idioms, their cultural specificity, and their limited inclusion in teaching materials, particularly in Iranian EFL contexts (Haghighi, 2017; Najarzadegan & Ketabi, 2015). Iranian learners face additional challenges due to traditional teaching methods, such as rote memorization, which fail to foster contextual understanding or production of idioms (Chen & Lai, 2013). Teachers often focus on grammar and omit idioms, resulting in insufficient exposure and difficulty in retention and practical use. Furthermore, the lack of sociocultural knowledge and meaningful engagement with idiomatic expressions impedes learners' ability to comprehend and use them effectively (Cakir, 2011; Bortfeld, 2002).

It is not just the meaning of idioms that poses challenges, but also their appropriate usage. Irujo (1986) notes that even learners who understand the intended meanings often find it difficult to use idioms correctly. This makes mastering idioms a formidable goal, as their meanings cannot be derived through individual word analysis (Chuang, 2013). Addressing these challenges requires exploring innovative approaches, such as examining the relative efficacy of cognitive and metacognitive scaffolding strategies. These strategies may have significant effects on EFL learners' ability to learn and retain idioms, both in the short and long term. Despite the importance of idioms in natural discourse, research on effective methods for teaching, retaining, and producing idioms remains scarce, especially in Iran, where exposure to English is limited. Studies have shown the benefits of incorporating imagery, contextualization, and cognitive strategies for idiom learning (Vasiljevic, 2015). However, the applications of sociocultural theory and cognitive and metacognitive scaffolding for idiomatic learning in Iranian EFL contexts have been scarcely studied (Ahmadi Safa & Beheshti, 2018; Beheshti & Ahmadi Safa, 2020). Addressing these gaps, this study aims to explore how scaffolding techniques can enhance idiom learning and retention, enabling long-term progress and effective integration of idioms into learners' language use. Based on the objectives of the study, the following null hypotheses were formulated:

H01: Implementing cognitive and metacognitive scaffolding strategies has no significant effect on the intermediate EFL learners' idiom learning in the short run.

H02: Implementing cognitive and metacognitive scaffolding strategies has no significant effect on the intermediate EFL learners' idiom retention in the long run.

Literature Review

Scaffolding, an essential concept in Sociocultural Theory (SCT), refers to the support provided by a

more knowledgeable other (such as a teacher or peer) to assist learners in completing tasks they cannot accomplish independently. It is a dynamic process that facilitates cognitive and metacognitive development, enabling learners to transition from other-regulation to self-regulation (Vygotsky, 1978; Thorne & Lantolf, 2006). Dialogic, dependent, and progressive scaffolding are its defining characteristics. According to Thorne and Lantolf (2006), dialogic scaffolding entails ongoing evaluation of the learner's Zone of Proximal Development (ZPD) and customization of support to promote advancement. Contingent scaffolding guarantees that help is only given when required and taken away once the student is competent to function on their own. According to Van de Pol et al. (2010), graduated scaffolding places an emphasis on lowering support as students' competency increases. According to Vygotsky's observations, social interactions—like those between a child and a parent or a student and a teacher—are what lead to the development of consciousness, identity, motor skills, and mental ability.

In language learning, these social interactions play a crucial role, with scaffolding being a key concept introduced by SCT to facilitate learners' development. Scaffolding, in essence, refers to the support provided to learners to help them perform tasks they are unable to do independently, and this support is gradually withdrawn as learners gain competence (Etemadi & Abbasian, 2022; Alkhudiry, 2022).

Scaffolding, a central concept in SCT, has been pivotal in the field of second language acquisition. This pedagogical approach is especially effective in enhancing learners' cognitive and metacognitive skills. According to Molenaar and Roda (2008), scaffolding allows learners to engage with tasks they cannot yet fully accomplish on their own, providing the necessary assistance until they are able to perform the task independently. Donato (1994) emphasizes that scaffolded performance is a collaborative process that helps learners internalize knowledge through shared activity. This process is not just about immediate task completion but also about building long-term cognitive abilities, such as critical thinking and problem-solving skills. In second language training, scaffolding plays a particularly significant role in assisting students in controlling their cognitive activity and enhancing their metacognitive abilities (Molenaar et al., 2011). Cognitive and metacognitive scaffolding is the assistance that peers or teachers give students to accomplish activities that they are unable to do on their own.

Cognitive scaffolding is an important tool in educational settings, particularly in language teaching. It involves providing learners with structured support to help them solve problems or complete tasks that would otherwise be too difficult. Cognitive scaffolding can take various forms, such as providing verbal prompts, visual aids, and interactive tools. For instance, educators may use questioning techniques to guide students in critical thinking or employ visual aids like diagrams to help them organize their thoughts. Interactive tools, such as educational software, can also be used to foster hands-on learning experiences. These methods serve to make the learning process more manageable and accessible, allowing students to gradually develop the skills needed for independent learning (Evans, 2007; Kövecses, 2000).

Cognitive Linguistics (CL) is an approach that connects language learning with human cognitive processes and the physical world. Emerging in the 1970s, CL challenges traditional linguistic theories by focusing on the relationship between language and thought. According to Tyler (2012), CL views language as a reflection of cognitive patterns, offering a motivational framework for

understanding vocabulary acquisition. Through the CL lens, figurative language, including idioms, can be taught systematically by connecting linguistic expressions with conceptual metaphors. Research by Kömür and Cimen (2009) demonstrates that teaching idioms using conceptual metaphors can enhance learners' critical thinking and problem-solving skills, making the learning process more engaging and effective. This approach has been shown to be particularly beneficial in second language classrooms, where idiomatic expressions often present challenges to learners.

Effective cognitive scaffolding not only supports learners in completing tasks but also fosters the development of higher-order cognitive skills. By providing structured support, educators can guide students in developing problem-solving abilities, critical thinking, and a deeper understanding of the subject matter. This support allows learners to gradually take on more complex challenges and build the confidence needed to tackle tasks independently. Cognitive scaffolding, as defined by Wood et al. (1976), involves providing assistance to learners in ways that help them achieve goals they cannot accomplish on their own. This process is crucial for promoting learner independence and enhancing the learning experience by developing students' cognitive and metacognitive skills.

Metacognition, as defined by Flavell (1979), refers to the awareness and regulation of one's cognitive processes. In the context of language learning, metacognitive scaffolding involves teaching learners how to regulate their thought processes and make strategic decisions during their learning activities. This type of scaffolding helps learners develop a deeper understanding of their own cognitive processes, making them more effective in managing their learning. For instance, students may be taught planning, tracking, and assessment techniques that help them become more independent and self-sufficient. According to Richards and Schmidt (2013), metacognitive scaffolding is crucial for improving students' self-regulation and cognitive awareness, both of which are necessary for sustained language learning success.

Cognitive and metacognitive scaffolding, while related, serve distinct purposes in the learning process. Cognitive scaffolding focuses on helping learners perform tasks by providing structured support, such as hints, feedback, and breaking tasks into manageable parts. It is primarily concerned with facilitating immediate task completion and problem-solving. On the other hand, metacognitive scaffolding aims to enhance learners' awareness of their cognitive processes, helping them regulate their thinking and strategies in a more conscious and deliberate manner. While cognitive scaffolding supports learners in the short term, metacognitive scaffolding equips them with the tools to manage their learning independently, fostering long-term skills such as self-regulation and strategic planning (Richards & Schmidt, 2013; Schraw, 1998).

Planning, observing, and assessing one's learning are examples of metacognitive techniques that are crucial for students to develop their effectiveness and independence. By controlling and guiding their cognitive processes, these techniques assist students in becoming more aware of their learning preferences and methods. Learners can improve their problem-solving skills and general academic performance by being more flexible in their approach to learning through the development of metacognitive awareness. According to Schuster et al. (2020), metacognitive techniques are essential for boosting the efficacy of cognitive learning techniques, which in turn helps learners succeed in language acquisition. Learners can improve their language competency by reflecting on their learning process and making necessary adjustments with the support of instructional scaffolding that focuses on metacognitive methods (Veenman et al., 2006).

Metacognitive knowledge refers to a learner's awareness of their own cognitive processes and includes knowledge of how to manage learning tasks effectively. In language learning, metacognitive knowledge encompasses three key areas: knowledge of the learner (person knowledge), knowledge of the task (task knowledge), and knowledge of strategies (strategy knowledge). Person knowledge involves understanding one's strengths and weaknesses, task knowledge refers to an understanding of the demands of a language learning task, and strategy knowledge involves knowing which strategies are most effective in achieving language learning goals. This awareness is critical for learners to regulate their learning effectively and improve their performance in language tasks (Sugiharto et al., 2018).

To promote the development of metacognitive skills, educators must provide scaffolding that encourages learners to reflect on their learning processes and develop strategies for self-regulation. Schraw (1998) suggests that learners should be given metacognitive prompts and checklists to help them plan, monitor, and evaluate their progress. These tools can help learners become more aware of their cognitive processes and improve their ability to regulate their learning. Research by Molenaar et al. (2014) highlights the importance of scaffolding metacognitive activities in educational contexts. By providing learners with the tools and strategies to monitor and adjust their cognitive processes, educators can foster greater independence, self-regulation, and long-term success in language learning.

A range of studies have examined the effectiveness of metacognitive and cognitive scaffolding in enhancing second language learners' skills across various domains. Vandergrift (2003) demonstrated the positive impact of metacognitive strategies like prediction and reflection on learners' listening comprehension in French as a second language, while Wang (2015) extended this by applying the metacognitive pedagogical cycle in Chinese EFL classrooms, leading to improvements in listening proficiency. Similarly, Dabarera et al. (2014) found that metacognitive strategy instruction significantly improved reading comprehension in ESL learners in Singapore. Additionally, Read and Barcena (2016) investigated the function of metacognitive scaffolding in Mobile Assisted Language Learning (MALL), showing that the incorporation of such scaffolding improved learners' listening comprehension and metacognitive abilities. Other research, such as Dimassi (2016) and Zeng and Goh (2018), demonstrated that metacognitive methods promoted self-regulated learning and had a stronger impact on the development of listening comprehension than cognitive strategies. Furthermore, Zhang et al. (2021) and Razaghi et al. (2019) showed that metacognitive scaffolding improved language learners' speaking abilities, task performance, and metacognitive awareness.

Other research further supports the efficacy of metacognitive scaffolding across various educational contexts. For instance, Dagoc and Tan (2018) demonstrated that metacognitive scaffolding significantly enhanced pupils' mathematics performance in a cooperative learning environment. Similarly, Jafari et al. (2021) found that motivational and metacognitive scaffolding positively impacted advanced EFL learners' speaking skills. In the realm of listening comprehension, Ahmadi Safa and Motaghi (2021) showed that metacognitive scaffolding surpassed cognitive scaffolding in its effectiveness, while Nourazar et al. (2022) confirmed that metacognitive strategy instruction improved writing skills in IELTS task performance. The results of these studies underscore the essential role of scaffolding in promoting learners' self-regulation,

metacognitive awareness, and overall language proficiency. Finally, Wongdaeng and Higgins (2023) demonstrated the positive impact of metacognitive scaffolding on critical thinking and learning achievement, though it did not significantly improve metacognitive abilities, providing valuable insights for refining scaffolding techniques.

While research in SL/FL contexts is more limited compared to general education, some studies have explored the comparative effects of cognitive and metacognitive scaffolding strategies on various aspects of SL/FL learning. These studies have examined areas such as the development of metacognitive skills and problem-solving (An & Cao, 2014; Pifarre & Cobos, 2010), academic achievement and success (James, 2010), and reading comprehension (Yang, 2013). The findings consistently highlight the differential impacts of cognitive and metacognitive scaffolding strategies on these areas within SL/FL learning environments. When it comes to the learning and retention of idioms by SL/FL language learners, the documented paucity of research on the effects of cognitive and/or metacognitive scaffolding on the development of L2 learners' language skills is even more apparent. In contrast to other language skills and sub-skills, the application of sociocultural theory principles to the learning and retention of idioms by Iranian EFL learners has received relatively little research, despite the fact that it merits greater attention (Ahmadi Safa & Beheshti, 2018; Ahmadi Safa & Rozati, 2017; Beheshti & Ahmadi Safa, 2020). Studies (e.g., Cross, 2010; James, 2010; Vandergrift, 2003; Wang, 2015) have addressed a closely related issue and attested to the need for a deeper understanding in this area. They have also called for investigations to identify specific ways that cognitive and metacognitive scaffolding procedures enable learners to make long-term progress in this crucial sub-skill and aid in idiom learning and retention. To this end, this study aimed to niche gap in order to compensate for the lack of studies in cognitive and metacognitive scaffolding in an EFL field like Iran and to answer the research questions aimed to investigate the effectiveness of cognitive and metacognitive scaffolding strategies on the intermediate EFL learners' idiom learning in the short run and idiom retention in long run.

Method

Participants

Seventy female intermediate EFL students, ages 16 to 22, from Avatalk Language Institute in Shiraz, Iran, participated in the study. Every participant was at the intermediate level and came from similar backgrounds in language acquisition. The researcher used a homogeneity test to make sure that the individuals' general English skill was uniform. The institute was chosen for the study because it was a good fit for gathering data, especially because of its communicative, meaning-based teaching approach, which emphasizes communication and engagement over more conventional approaches. This method encourages regular communication between professors and students, which makes it the perfect environment for the study. The Oxford Placement Test was given, and the means and z-scores were computed in order to choose a representative sample. 16 of the original 70 students were eliminated because participants who scored one standard deviation above or below the mean were not allowed to continue. A control group, a metacognitive scaffolding group, and a cognitive scaffolding group, each consisting of 18 students, were then randomly selected from the final sample of 54 learners. The groups varied in their choice of materials, methods of instruction, and approaches, even though the instructor was the same for each group.

Instruments

To ensure the homogeneity of the participants, the Oxford Placement Test was administered to the EFL learners. This test is a reliable and valid tool frequently used to assess and place learners at appropriate language proficiency levels. It was employed in this study to group the participants based on their general English knowledge and eliminate those who were not homogeneous. Participants whose scores fell within one standard deviation above and below the mean were selected for the final sample. These participants were then divided into three groups: cognitive scaffolding treatment group, metacognitive scaffolding treatment group, and a no-scaffolding control group.

Subsequently, the students completed a pretest on idioms to assess their baseline knowledge. The pretest consisted of 45 items, with a total score of 30, and included both recognition and production questions appropriate for their proficiency level. This researcher-made test was validated for content and relevance by three experts (English teachers with experience in teaching idioms) and the researcher. To further enhance the test's validity, criterion-related validity was incorporated by comparing the test results with an established external benchmark, ensuring that the test effectively measured the students' idiom knowledge within a meaningful context. This additional validation step confirmed that the test accurately reflected the students' proficiency in idioms.

The students in all groups were given 45 minutes to complete the pretest. The pretest was administered one week before the treatment, and its reliability was piloted with 15 EFL learners, yielding a reliability coefficient of .81. The test's validity was further confirmed by three professors from Shiraz Azad University. The same test was used immediately after the treatment as an immediate posttest, and again one month later as a delayed posttest, with 45 minutes allotted for each administration.

Procedure

Since this study attempted to collect quantitative data from the test findings (pretest in idiom, immediate posttest in idiom, and delayed posttest in idiom), its design is quantitative. The first phases were followed by the treatment phase. The cognitive scaffolding group's pupils worked in small groups of three to four, with the goal of acquiring five idioms per session by investigating their meanings and sources. Each idiom's root and origin were briefly explained in the learning unit, and then a sample sentence from a dictionary or corpus was used to set the scene. For example, the phrase "On the back burner" was first used and explained as follows:

"A stove top typically has four burners—two in front and two in the back. The food being actively prepared is usually placed on a front burner for easy access, while food that requires less immediate attention is placed on the back burner, receiving lower priority."

To elucidate the concept, an example sentence was given, such as "With other important homework due next Monday, I had to put my statistics project on the back burner for a while." Although the scaffolding techniques were different, the other two groups received the same idioms and explanations. The teacher provided contingent, graduated, and dialogic support to the students in the cognitive scaffolding group when they ran across issues that they were unable to overcome through peer interaction, utilizing context-specific cognitive methods. Dialogic support included continuous evaluation of the learners' Zone of Proximal Development (ZPD) to support their transition from other-regulation to self-regulation, graduated assistance made sure that no more help was given than was necessary, and contingent

support was only offered when necessary (Lantolf & Thorne, 2006).

Cognitive strategies for this group, adapted from Vandergrift (1997), included practicing new idioms formally, quickly grasping ideas, taking notes, and highlighting key points. These strategies were introduced as scaffolds, were provided, when necessary, to the extent necessary, and in a dialogic form.

The second group, known as the metacognitive scaffolding group, received the same idioms and explanations as the first group. According to the typology of metacognitive tasks, which includes orientation, planning, monitoring, evaluation, and reflection, the scaffolding procedures for this group were created and arranged (Meijer et al., 2006). In an effort to help the students focus on the activity's objective and determine its purpose, the instructor asked some broad background questions at the beginning of each task. After that, the students planned the assignment and made collective decisions about how to do it. They then divided into groups of three or four and worked on the idioms.

The instructor urged them to keep track of their understanding development by examining their mistakes and understanding. The instructor also assessed their comprehension by looking at the task's conclusion and determining whether they needed to make any revisions to their plans or methods. They were then asked to consider their own performance and learning, the method they employed, and the instances in which they struggled to complete the assignment. In each of these stages, the instructor provided assistance to the students by employing the most pertinent problem-specific metacognitive techniques available, to the extent required, and in dialogic form, if they ran into an issue that they were unable to resolve through peer-to-peer contact.

Traditional teacher-fronted training without scaffolding was given to the control group participants, along with feedback. They did not get any kind of cognitive or metacognitive scaffolds that were provided to the experimental groups, but they worked on the same idioms as the other groups. Moreover, this group did not engage in any group projects or interactions. In the event that the students encountered any difficulties or problems with comprehension, the instructor gave them a clear and straightforward remedy. Traditional, non-scaffolding, teacher-fronted education was given to the control group. They did not receive cognitive or metacognitive scaffolding, although they practiced the identical idioms as the experimental groups. This group did not engage in peer interaction or group projects.

If any problems or difficulties arose, the teacher provided direct and explicit answers to the learners' questions. In the traditional idiom instruction method used for the control group, the teacher listed new idioms and asked students to guess their meanings. If the learners were unable to guess the meaning, they were instructed to look up the idioms in their dictionaries. The teacher then provided example sentences, and students completed related exercises, receiving feedback from the instructor. After completing the treatment sessions, the immediate posttest on idioms was administered. Additionally, one month after the treatment, a delayed posttest on idioms was given to the students in all groups. To analyze the data, SPSS version 28 was used. The means of the three groups in the idiom tests from the short run to the long run were analyzed via ANOVA in order to test the first and the second null hypotheses.

Results

The first research question (RQ1: Do cognitive and metacognitive scaffolding strategies have any significant effect on the intermediate EFL learners'

idiom learning in the short run?) dealt with the effectiveness of cognitive and metacognitive scaffolding strategies on EFL learners' idiom learning. A pretest and a posttest in idiom were presented to the learners in three groups to investigate EFL learners' progress among the groups. Table 1 shows the descriptive statistics of the idiom pretest in the groups.

Table 1

Descriptive Statistics of the Pretest of Idiom in Groups

	N	Mean	Std. Deviation	Std. Error
Cognitive	18	15.9500	3.70150	.71296
Metacognitive	18	14.5000	4.66754	.60648
Control	18	14.6000	4.37088	.63014

Table 1 reveals that the mean score of the students in the cognitive group is 15.95 with the SD of 3.7, and in the metacognitive group is 14.5 with the SD of 4.66. In addition, the mean score of the control group is 14.6 with the SD of 4.37. The findings showed that the means of the groups were slightly different; however, the significance of the differences among groups needed to be tested statistically; thus, the assumption of the parametric test needed to be tested. One of the assumptions is that the data should be normally distributed. Based on the results of data analysis, the data did not violate the normality assumption. So, another ANOVA can be run to investigate the significance of the difference among the three groups in the pretest of the idiom. However, before running ANOVA, a test of homogeneity of variances as an assumption needed to be used. The result is illustrated in Table 2.

Table 2

Test of Homogeneity of Variances at Pretest in Idiom

Levene Statistic	df1	df2	Sig.
.239	2	51	.664

As Table 2 shows, since the p-value (.664) is higher than the significance level (.05), the assumption of the homogeneity of variances is also met. Thus, ANOVA can be conducted on the pretest of idiom. The results of ANOVA and post-hoc are represented in the inferential data analysis section to summarize the results. The above procedure was repeated for the immediate idiom posttest of the learners in the short run. Table 3 shows the descriptive statistics of the immediate idiom posttest in the groups.

Table 3

Descriptive Statistics of the Immediate Post-test of Idiom in Groups

	N	Mean	Std. Deviation	Std. Error
Cognitive	18	21.3700	5.4321	.69431
Metacognitive	18	26.4800	6.0437	.74399
Control	18	19.7600	6.1054	.60451

Table 3 reveals that the mean score of the students in the cognitive group is 21.37 with the SD of 5.4, and in the metacognitive group is 26.48 with the SD of 6.04. In addition, the mean score of the control group is 19.7 with the SD of 6.1. The findings showed that the means of the groups were slightly different; however, the significance of the differences among groups needed to be tested statistically, such as running a normality test of the immediate posttest in idiom. The findings showed the p-values are higher than 0.05; it can be concluded that the data is normally distributed. Furthermore, the results of the test of homogeneity of variances revealed that since the p-value (.599) is

higher than the significance level (.05), the assumption of the homogeneity of variances is also met. Thus, ANOVA can be conducted on the pretest of idiom. Table 4 shows the results of ANOVA on the immediate posttest of idiom.

Table 4

Results of ANOVA on Immediate Posttest of Idiom

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	128.452	2	63.817	7.421	.001
Within Groups	392.127	51	8.332		
Total	128.794	53			

Since the p-value (.001) is lower than the significance level (.05), it can be concluded that the groups are different in terms of idiom in short term, F (2, 51) =7.421, p=.001. Hence, a statistically significant difference was found among the groups in the immediate posttest; there was a requirement for computing a post hoc test (Tukey or Schefe post hoc test). Based on the mean differences, metacognitive scaffolding outperformed cognitive scaffolding in idiom learning. Generally, based on the results of the data analysis, the first null hypothesis claiming that implementing cognitive and metacognitive scaffolding strategies has no significant effect on the intermediate EFL learners' idiom learning in short run was rejected at a p-value less than 0.05.

One month after the treatment, a delayed posttest on idiom was conducted among the three groups under study. Table 5 presents the results of descriptive statistics of the delayed posttest in idiom in long run.

Table 5

Descriptive Statistics of the Delayed Posttest in Idiom

	N	Mean	Std. Deviation	Std. Error
Cognitive	18	20.4200	6.7562	.64589
Metacognitive	18	27.1200	7.1279	.70326
Control	18	18.3700	6.3888	.63952

Table 5 reveals that the mean score of the students in the cognitive group is 20.42 with the SD of 6.7, and in the metacognitive group is 27.12 with the SD of 7.12. In addition, the mean score of the control group is 18.3 with the SD of 6.3. The results of test of normality and the test of homogeneity of variances confirmed running ANOVA for the delayed posttest because, as the results indicated, the data did not violate the normality assumption. (Table 6).

Table 6

Results of ANOVA on Delayed Posttest of Idiom

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3245.6	2	61.222	6.54	.005
Within Groups	452.5	51	7.431		
Total	3321.8	53			

Since the p-value (.005) is lower than the significance level (.05), it can be concluded that the groups are different in terms of idiom in the long term, F (2, 51) =6.54, p=.005. Overall, the analysis reveals that Metacognitive Scaffolding may offer additional benefits. Comparing mean differences and significant levels, it can be concluded that metacognition scaffolding outperformed the other two groups in idiom retention of EFL learners. Hence, the second null hypothesis, which claimed "Implementing cognitive and metacognitive scaffolding strategies has no significant effect on the intermediate EFL learners' idiom retention in long run", was rejected at a p-value less than 0.05.

Discussion

As already mentioned, the focus of the current study was on idiom learning and retention of EFL learners via different strategies such as cognitive and metacognitive scaffolding. The first research question tried to answer the effectiveness of cognitive and metacognitive scaffolding on idiom learning of learners. Based on the results of data analysis, there was a significant difference between pretest and immediate posttest of learners. As the results of ANOVA showed, metacognitive scaffolding outperformed both cognitive scaffolding and control groups; hence, the first null hypothesis was approved since the results showed that metacognitive scaffolding plays a role in idiom learning of EFL learners in the short run. Metacognitive scaffolding's higher effectiveness could be attributed to its emphasis on self-regulation and reflective practices, which may have better supported learners in grasping idioms. In fact, the data suggest that integrating metacognitive strategies into EFL instruction could lead to improved idiom learning outcomes.

From the results, it can be deduced that scaffolding was initially advantageous and highly valued by the participants. The results of the study highlight how crucial it is to use more collaborative and social methods when teaching and learning languages. This method encourages collaborative learning, which calls for scaffolding that allows students to self-correct while also learning the strategic procedures necessary to master challenging abilities. This makes it possible for EFL students to actively design their own classrooms.

Furthermore, the dialogic interaction within the socio-cultural framework aids learners in transitioning from other-regulation to self-regulation, moving from reliance on others to becoming independent (Aljaafreh & Lantolf, 1994). This indicates that this method is more supportive and beneficial for EFL learners in achieving proficiency and independence in idiom learning. The collaborative experience also allowed them to build rapport with one another. Overall, teacher scaffolding, especially in the form of metacognitive support, helped students achieve better outcomes than they could individually and advance through their Zone of Proximal Development (ZPD).

Regarding scaffolding, the study's results align with findings from Barnard (2002), Barnard and Campbell (2005), McDonough (2004), and Storch (2002, 2005, 2007, as cited in Nguyen, 2013), who demonstrated that learners benefit from scaffolding throughout task-based language development. Recent research has highlighted the positive impact of scaffolding in second language classrooms.

The results of the current study align well with key second language acquisition (SLA) theories such as the interactionist theory, constructivist learning approach, and Krashen's affective filter hypothesis, as they all support the effectiveness of metacognitive scaffolding in promoting idiom learning and retention among EFL learners. In line with interactionist theory (Vygotsky, 1978; Long,

1985), which emphasizes the importance of communication, feedback, and meaningful interaction for language development, the use of scaffolding in the present study provided learners with opportunities to engage actively with idioms and reflect on their understanding, especially through metacognitive strategies. Similarly, the constructivist learning approach supports the study's findings by asserting that learners construct knowledge based on prior experiences and social interaction; metacognitive scaffolding enabled learners to activate background knowledge, engage in reflective questioning, and approach idioms more meaningfully. Furthermore, Krashen's affective filter hypothesis (1982) explains why metacognitive scaffolding may have outperformed cognitive scaffolding: by fostering learner autonomy and reducing anxiety through guided reflection and self-regulation, learners were more emotionally and cognitively ready to process and retain idiomatic expressions. Thus, the theoretical underpinnings of SLA not only validate the current study's methodology but also provide a strong explanatory basis for why metacognitive scaffolding significantly enhanced both the short-term learning and long-term retention of idioms more effectively than cognitive scaffolding or no scaffolding.

The results of this study are consistent with Takallu (2011), who proposed that teaching metacognitive strategies had no discernible effect on the metacognitive awareness (MAI) of EFL learners. After receiving instruction in metacognitive strategies, EFL learners' awareness significantly increased, according to data analysis assessments. Thus, after treatment, students' levels of metacognitive awareness seem to have been successfully raised by teaching metacognitive strategies.

The overall findings of this study regarding the efficacy of metacognitive strategy instruction align with those from other research conducted in ESL contexts (e.g., Goh & Hu, 2013; Goh & Taib, 2006; Mareschal, 2007; Zeng, 2012) and EFL contexts (e.g., Baleghizadeh & Rahimi, 2011; Rahimi & Katal, 2012), indicating that metacognitive strategy instruction using a process-based approach does enhance learners' metacognitive awareness. However, this finding concerning the impact of metacognitive strategy instruction on metacognitive awareness does not empirically corroborate the results of two other studies by Bozorgian (2012, 2014), which employed a metacognitive awareness-raising strategy and the process-based approach to examine the effects of metacognitive strategy instruction on the listening comprehension and metacognitive awareness of male high-intermediate listeners in Iran. Additionally, the current study revealed no significant changes in learners' metacognitive awareness following the intervention. Bozorgian (2014) suggests that this lack of relevance could be explained by the learners' limited engagement with the consequences of metacognitive methods, their lack of familiarity with these tactics, and their inability to appreciate the role of these aspects in metacognition. The effects of metacognitive instruction on English competence have been the subject of conflicting research in strategic education. Consistent with research in general education settings, a smaller number of studies in ESL and EFL environments have investigated the impact of metacognitive strategies as opposed to cognitive strategies on a range of second language learning outcomes, including academic success and achievement (James, 2010), reading proficiency (Yang, 2013), and listening comprehension (Goh, 2008; Kassaian & Ghadiri, 2011; O'Bryan & Hegelheimer, 2009).

Research shows that teaching metacognitive awareness has a beneficial effect (Milliner & Dimoski, 2021). Notably, listening comprehension has received more attention in studies on metacognitive techniques and their function in

English language proficiency than reading comprehension. The results of this study, for example, are consistent with those of Tabeei et al., (2013), who looked into how teaching metacognitive strategies affected Iranian EFL learners' listening comprehension. The researchers thought that language achievement might be significantly impacted by metacognitive awareness.

In terms of metacognition awareness raising, the findings are in congruence with previous studies that indicated the important role of metacognition in improving receptive skills such as listening comprehension (e.g., Akbari, 2003; Cross, 2009; Jinhong, 2011; Lin, 2011; Pishghadam, 2009; Yang, 2009). For example, in the context of Iran as an EFL context, Salarifar and Pakdaman (2010) investigated the role of metacognitive state components on academic performance. Like the present study, their participants were intermediate-level students who completed O'Neill and Abedi's (1996) Metacognitive State Questionnaire. The findings represented a positive correlation between metacognitive state and academic performance.

The results are in line with studies by Teng and Yue (2023) and Kupriyanov et al. (2021), which emphasize the influence of metacognitive awareness techniques on students' critical thinking. This is in line with other research, including those conducted by Fitrisia et al. (2015) and Azizoğlu and Okur (2020), which showed that prompt reactions and feedback are facilitated by developing students' metacognitive awareness and incorporating it into courses. As highlighted in the work of Zhao and Liao (2021) and Zhang and Zhang (2022), these findings support the significance of promoting metacognitive awareness and skill development.

However, a number of studies show that such instruction has little immediate impact on improving listening comprehension (Goh, 2008; Kassaian & Ghadiri, 2011; O'Bryan & Hegelheimer, 2009). There is evidence that teaching metacognitive awareness has a good impact (Milliner & Dimoski, 2021).

Although the participants' individual differences were not inspected, it might be assumed that the measure of success in the three groups that underwent the treatment was not so much the type of instruction they received but their individual characteristics, their positive attitude, and eagerness to learn. An attempt to establish how many of the participants actually benefited from the treatment and whether the gain was maintained over time would have helped to interpret the collected data more fully. Researchers recognize that individual differences that comprise such factors as intelligence, cognitive and learning styles and strategies play an important role in experimentation aiming at establishing effective ways of teaching different skills and sub-skills (Erlam 2003).

The second research question focused on the idiom retention, and as the results showed, the learners of metacognitive scaffolding outperformed the cognitive scaffolding and control group in idiom retention. The findings were in line with previous studies that indicated the important role of metacognition in improving listening comprehension (e.g., Goh, 2008; Javadi et al., 2010; Kassaian & Ghadiri, 2011; Kramarski, 2004). For example, in the context of Iran as an EFL context, Salarifar and Pakdaman (2010) investigated the role of metacognitive state components on academic performance. The findings represented a positive correlation between metacognitive state and academic performance. Both Wang's (2020) study and the current research confirm the effectiveness of instructional strategies in enhancing EFL learners' idiom learning and retention, though they adopt different theoretical frameworks and methodologies. Wang, drawing on Cognitive Linguistics, demonstrated that etymological elaboration—explaining the literal origins of idioms—significantly improved learners'

comprehension and memory of idioms, especially when the figurative-literal connection was transparent. In contrast, the present study employed cognitive and metacognitive scaffolding and found that metacognitive scaffolding, which involves promoting learner reflection, planning, and strategy use, led to significantly better outcomes in both immediate learning and long-term retention of idioms compared to cognitive scaffolding and control groups. While Wang emphasized learner-related factors such as L1 transfer, proficiency, and incorrect meaning inference affecting idiom retention, the current study focused on the instructional method itself as a primary factor. Nonetheless, both studies highlight the importance of structured, meaningful engagement with idioms—whether through understanding their conceptual metaphors or through metacognitive strategies—as key to effective idiom acquisition and integration into learners' mental lexicon.

Furthermore, both the study by Chew et al. (2018) and the current research focus on enhancing English idiom learning through scaffolding strategies; however, they differ in instructional context, technological support, and findings emphasis. Chew et al. integrated scaffolding with situated learning in an augmented reality (AR) environment, allowing learners to encounter idioms in immersive, context-rich settings, which was shown to significantly improve both idiom comprehension and retention. In contrast, the current study investigated cognitive and metacognitive scaffolding without AR and found that metacognitive scaffolding was most effective, as learners who engaged in reflective strategies and self-regulation outperformed those in cognitive scaffolding and control groups in both immediate learning and long-term retention. While both studies highlight the benefits of structured support in idiom acquisition, Chew et al. emphasize the role of contextualization and technology-enhanced environments, whereas the current study underscores the importance of internal learning regulation and strategy use. Together, these findings suggest that combining technological tools like AR with metacognitive scaffolding could potentially yield even more robust outcomes in idiom learning.

A few studies available in the area of strategy instruction have revealed mixed findings about the impact of metacognitive instruction on L2 performance. A string of research supports a positive effect of metacognitive awareness instruction (Mareschal, 2007; O'Bryan & Hegelheimer, 2009); however, there are studies that found no immediate effect on the enhancement of listening comprehension as a result of such instruction (Chen et al., 2021). This non-significant difference can be attributed to the students' proficiency in listening comprehension prior to the study, the length of instruction, and the role of the EFL/ESL context. Hence, due to the discrepancies in the results, there is more room to study the role of metacognitive scaffolding on second language learning.

Conclusion

The study's findings demonstrated how important metacognitive scaffolding is for improving EFL learners' idiom acquisition and retention. Metacognitive scaffolding was the most successful approach, resulting in significant gains in both immediate idiom acquisition and retention when compared to cognitive scaffolding and control groups. Quantitative analyses supported this, showing that metacognitive scaffolding had a greater effect on students' acquisition and memory of idiomatic idioms. Qualitative results corroborated this, as students reported that the metacognitive scaffolding's structured reflection process improved their ability to internalize the idioms. This implies that by participating in

reflective exercises like planning, observing, and reviewing, students can gain a better understanding of their own cognitive processes and gain greater control over their learning objectives.

The study's conclusions have important ramifications for language teaching, especially when it comes to idiom learning in EFL classes. Since metacognitive scaffolding techniques have been demonstrated to improve both the cognitive and affective components of learning, there is evidence to support their incorporation into language instruction. The findings imply that EFL teachers can enhance idiom retention and encourage a more active and self-regulated learning style in their students by implementing structured reflecting processes into their lessons. The study's conclusions provide a workable answer to this prevalent problem in language instruction and may be immediately implemented in Iranian and other classrooms where students frequently encounter difficulties with idiomatic expressions.

For material designers, the insights from this study can inform the development of instructional materials that focus on metacognitive scaffolding. The creation of resources tailored to idiom learning, which incorporate reflective tasks, self-assessment, and collaborative group work, could significantly enhance learners' language acquisition. Furthermore, the study's findings suggest that EFL instructors should provide learners with opportunities to engage in group activities and peer scaffolding, as these aspects were found to contribute positively to the learning process. By fostering an environment where learners feel supported emotionally and intellectually, teachers can help students build the confidence and skills needed to master complex linguistic features such as idioms.

This study had several limitations, including a small sample size, which may affect the generalizability of the findings, and a focus on intermediate-level learners, making it unclear if the results apply to other proficiency levels. This study just used quantitative data. Future research should use larger, more diverse samples, incorporate both qualitative and quantitative data, and explore other language skills beyond idiom learning to gain a fuller understanding of metacognitive scaffolding. Future research could explore several avenues to expand upon the findings of this study. First, a larger and more diverse sample of learners, including those from different proficiency levels and cultural backgrounds, would provide a broader understanding of the effectiveness of metacognitive scaffolding in idiom learning. Additionally, qualitative studies involving interviews and observations could offer deeper insights into how learners experience and perceive the scaffolding process. Comparative studies between different types of scaffolding strategies, such as peer feedback and think-aloud protocols, could help identify which methods are most effective for different learner profiles. Longitudinal research could also examine the long-term impact of metacognitive scaffolding on learners' language proficiency, particularly in areas such as writing and reading comprehension. Lastly, exploring the integration of technology to support metacognitive scaffolding, such as through online platforms and intelligent tutoring systems, could provide a more personalized learning experience for students.

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