

**Research Article**

## **THE EFFECT OF PICTORIAL SCAFFOLDING ON IRANIAN EFL LEARNERS' VOCABULARY LEARNING**

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### **ABSTRACT**

The development of a variety of learning theories had profoundly great impacts on language teaching, which consequently motivated EFL or ESL teachers to welcome some changes in language classes. One of the influential theories in learning, Sociocultural Theory, has outstandingly wielded influence on language teaching. This study, based on the theory of scaffolding within the Zone of Proximal Development, attempted to examine the effect of pictorial scaffolding on vocabulary learning. Sixty male and female Iranian EFL students, aged 16-17, were selected from a total number of 185. The researchers used Preliminary English Test (PET) to determine the participants' language proficiency and pre-test and post-test to determine their vocabulary knowledge and vocabulary learning, respectively. They were randomly assigned to experimental and control groups, with 30 students in each group. The experimental group received pictorial scaffolding as a method of vocabulary instruction, while the control group received the traditional teaching of vocabulary. The results of the statistical analysis, ANCOVA, showed that pictorial scaffolding had an outstanding effect on vocabulary learning. Based on these findings, the researchers suggest that teachers should use pictorial scaffolding to enhance EFL learners' vocabulary learning.

**Keywords:** *Sociocultural Theory, Zone of Proximal Development, Pictorial Scaffolding, Vocabulary Learning*

### **INTRODUCTION**

In respect to sociocultural theory, learning and development is seen to be interactive. In other words, sociocultural theory contends that learning and development is the socio-genesis product of meaningful social interactions among the community members in the respective learning context (Vygotsky, as cited in Sidek, 2011). Sociocultural development occurs in the so-called 'Zone of Proximal Development' (ZPD) of working with the more knowledgeable peer or adult or just working in a culturally advanced activity (Vygotsky, as cited in Matthew & Poehner, 2008).

Newman and Holtzman (1993) suggested that zone of proximal development generally comes up during an interactive activity where a novice and an expert person cooperate with each other to put an end to the intended task. Moreover, Dorn, French, and Jones (1998) contended that scaffolding is a transitory support that teachers provide to help develop current skills and knowledge to a higher level of competence.

Scaffolding a learner does not mean making the task or concept easier during the learning experience or event, but, rather, the task or concept stays constant, and the teacher provides different types of assistance according to how well the learner is rounding off the task or coming up with the new learning (Dorn & Soffus, 2001). Practitioners have to utilize their knowledge of the learner and the task to assist the learner in ways that will let her/him generate some degree of understanding so as to develop autonomy in the learner. Practitioners are asked to supervise their students, know the strength of their individuals, and use these strengths to scaffold the new learning within the learner's ZPD and make adjustments as necessary (Clay, 1998; Dorn & Soffus, 2001; Lyons, 2003).

The chief aim of scaffolding is to develop an independent learner (Lyons, 2003). This is fulfilled by removing the support gradually, or deferring the control and support provided by the more knowledgeable person whereas the learner starts to get more autonomy and knowledge. To accomplish this, the more knowledgeable person requires to let the learner face questions and problems and monitor the joint

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activity, intervene only when the learner is not able to regulate his problem solving activity properly (Berk & Winsler, 1995; Clay, 1998; Dorn *et al.*, 1998; Lyons, 2003).

Vocabulary is the bedrock in learning a language. Having only conscious knowledge of structure without plenty of vocabulary would make oral production meaningless (Ur, 2000). Vocabulary teaching is one of the most crucial constituent of any language class. The chief reason is the fact that it plays as a medium, which conveys meaning. In addition, learning to understand and convey the meaning is what is dealt with in learning languages. There has been growing attention to teaching vocabulary nowadays, in part as a result of “the development of new approaches to language teaching, which are much more word-centered” (Thornbury, 2004). Therefore, the significance of lexicon over syntax has heightened in communicative approach to second language acquisition (McCarthy, 1990).

There are many reasons for using pictures in teaching vocabulary. As Wright (1990) pointed out, they are motivating and draw learners’ attention. Furthermore, Wright (1990) refers to the fact that they provide a sense of the context of the language and give a specific reference point or stimulus. Harmer (2001) stated that “one of the most useful and helpful uses for pictures is for the demonstrating and conveying of meaning. An effective way to elaborate the meaning of the word ‘aeroplane’, for example, is to have a picture of one” (p. 135).

One of the more common outcomes in memory research is that pictures are better remembered than words. Some scholars (Paivio & Csapo, 1973; Paivio *et al.*, 1968; as cited in Rowe *et al.*, 2013) stated that when a list of easily named pictures versus their corresponding verbal labels are shown, learners often have an easier time recalling the names of the pictures compared with the verbal ones. This phenomenon is defined as the picture superiority effect. The theoretical basis of the picture superiority effect was based on Paivio’s (1971, 1976, as cited in Carpenter and Olson, 2011) dual-coding theory. This view contends that pictures are remembered better than words because they are more likely to be represented by both verbal and image codes. In the current research, pictures, visual representation of concepts, served as mediation to enhance the effectiveness of ZPD. According to some scholars (Berk, 2001; as cited in Thornbury, 2004; McDevitt and Ormrod, 2002), ZPD is closely associated with scaffolding since scaffolding acts within the ZPD; to put it simply, scaffolding of knowledge can assist learners to obtain the ZPD, whereas rote copying of language knowledge is not so much effective (Appel, 2006). It was suggested that ZPD and ‘scaffolding’ (Wood *et al.*, 1976) could provide a helpful framework equipping teachers with the vital techniques and skills to gain language knowledge in appropriate ways at different ages and stages of learning. Correspondingly, the purpose of this study is to investigate the impact of pictorial scaffolding on EFL learners’ vocabulary learning in the Iranian EFL context. To this end, the following research question was asked:

Does pictorial scaffolding (VS) affects Iranian EFL learners’ vocabulary learning?

## **MATERIALS AND METHODS**

### **Method**

#### *Participants*

Sixty Iranian male and female students aged 15-20 from a total number of 185, making up one experimental group and one control group, at a private language institute participated in this study. Having taken the Preliminary English Test (PET) exam, with the criterion of  $\pm 1SD$ , intermediate students were determined. All participants participated in conversation classes for two years prior to the study. Two intact classes were randomly assigned as experimental and control groups. The number of students in each group was 30.

#### *Instruments and Material*

A number of instruments such as PET Test, Pre-test, Post-test, and Oxford Word Skills (Intermediate Level) were put to use in this study. Preliminary English Test (PET) is an intermediate level test which demonstrates the ability to communicate using English for everyday purposes. It shows one’s ability to use English language skills for work, study and travel. It examines all four major skills of reading, writing, listening and speaking.

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The researcher-made pre- and post-tests were the same. They evaluated the knowledge of vocabulary. It had 40 items including matching items, substitution, multiple choice items and crosswords. The pre- and post-tests were administered to a pilot group of students for validation purposes.

The course book in this study was Oxford Word Skills (Gairn and Redman, 2008, a series of three books (Basic, Intermediate, and Advanced) which was used to learn, practice, and revise new vocabularies. New vocabularies were presented in manageable quantities for learners, immediately followed by practice. The units of the book are grouped together thematically including a wide range of common topics (e.g., money, health issues, and relationships). In this study, five units of the above mentioned book were studied. The topics of the units included appearance, character, feelings, relationships, and weddings.

### *Procedures*

The course for both groups, experimental and control, took 20 sessions (two sessions a week); therefore, 8 sessions were allocated to the research project. The first session was allocated to introduction. The pre-test and post-test were allotted two out of eight sessions. The other five sessions were set apart for the application of the methodology. Only one unit was taught in each session and ten words were taught and studied. Thus, both groups were instructed by the same researcher. Having taken the Cambridge PET exam to select intermediate learners, students took a vocabulary pre-test in the first session. In addition, the last session was devoted to post-test. In experimental group, Pictorial Scaffolding (PS) was applied. The control group received no scaffolding (NS). In PS group, the typical classroom treatment was as follows:

The teacher asked the students to open the book -Oxford Word Skills. The first unit was about the appearance. The words included in this unit are as follows: (dark-skinned, fattish, clean-shaven, bald, scar, broad shoulder, wrinkles, go grey or white, skinny, stubble) The teacher drew the students' attention to the boldface words and their definitions in the glossary. The teacher wanted the students in a group of two or three to work on the words and read the sentences or the short texts in which the new words had been used. The meanings of those words which the students didn't know or couldn't understand their meanings were found in the dictionary and in some cases the teacher wanted them to consult the other students. The teacher would rarely tell the students the meaning of those words which were ambiguous to understand. When the teacher was sure that all the students had studied the words, the students were asked to close the book. This stage which was pre-activity stage took 15 minutes. The time allotted to this stage differed based on the units. After that the relevant picture was given to the students. The students were required to delineate the picture with the words studied. First the teacher asked one of the students to mark out one of the persons in the picture. Then the teacher asked the students one by one to talk about the picture and fully describe it by looking at the picture and using the words. He encouraged the students by admiring them whenever they were right. Students were given some time before they start to speak. Having spoken about the picture, the students were asked to work on the exercises following the words in the unit by themselves.

### *Design*

This quasi experimental study used intact-group, pre-test, post-test, and control group. There were two variables in this study. The independent variable was pictorial scaffolding and the scores of vocabulary learning was dependent variable. There were two groups, one experimental and one control.

## **RESULTS AND DISCUSSION**

### **Results**

In order to test the research hypothesis in the present study, different statistical tests and procedures were used. The data collected from the pretest and posttest was analyzed with SPSS (Version 20). To investigate the effect of pictorial scaffolding on vocabulary learning, ANCOVA was found lucrative, with Pictorial scaffolding as an independent variable and vocabulary learning scores as a dependent variable.

To check the normal distribution of scores in the two study groups, Kolmogorov-Smirnov test, as a pre-requisite test for ANCOVA, was used. Since significant level in the pretest and posttest was higher than 0.05, the data were normally distributed (Table 1).

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**Table 1: One-Sample Kolmogorov-Smirnov Test for normal distribution of vocabulary learning scores in PS and NS groups**

	Pre Test	Post Test
N	60	60
Kolmogorov-Smirnov Z	.627	.756
P value	.827	.617

To check the equality of variances, Levene’s test was used. According to Levene’s test, the equality of group variances is confirmed in the society ( $F= 5.08, p>0.05$ ) (Table 2).

**Table 2: Levene's Test of Equality of Error Variances for vocabulary learning scores in PS and NS groups**

F	df1	df2	P value
5.085	1	58	.078

As Table 2 indicates, confirming the equality of variances hypothesis in the society means that distribution of scores in the study groups is equal. The interaction between Group × pretest score was also evaluated in predicting the dependent variable (posttest score) (Table 3).

**Table 3: Covariance to examine the slope of the regression for vocabulary learning scores in PS and NS groups**

Source	Type III Sum of Squares	df	Mean Square	F	P value
Group	5.251	1	5.251	1.388	.244
Pretest score	1016.386	1	1016.386	268.711	.000
Group * Pretest score	33.066	1	33.066	5.742	.065
Error	211.817	56	3.782		

According to the results presented in Table 3, it was found that the interaction was not significant ( $f=5.74, p> 0.05$ ); that is, there is no significant interaction between independent and intervening variables, and covariance analysis is followed by assuming the homogeneity of slopes.

By confirming the assumed hypothesis, covariance analysis will be as follow:

**Table 4: Descriptive Statistics for Two groups in terms of vocabulary learning scores in pretest and post test**

	Pre test				Post test			
	Mean	Std. Deviation	95% Confidence Interval for Mean Lower	95% Confidence Interval for Mean Upper	Mean	Std. Deviation	95% Confidence Interval for Mean Lower	95% Confidence Interval for Mean Upper
NS	13.23	3.77	11.83	14.64	14.63	3.59	13.29	15.97
PS	13.50	4.18	11.94	15.06	17.90	5.69	15.78	20.02

The results of Table 4 displays that mean of vocabulary learning scores in pretest for NS and PS groups is 13.23 and 13.50, respectively. In addition, vocabulary learning scores in posttest, without controlling the intervening variable, for NS and PS groups is 14.63 and 17.90, respectively. The posttests of both groups were compared and analyzed (Table 5).

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**Table 5: Analysis Covariance for compare the vocabulary learning scores in PS and NS groups**

Source	Type III Sum of Squares	df	Mean Square	F	P value	Partial Eta Squared	Observed Power
group	132.992	1	132.992	30.956	.000	.352	1.000
Pretest score	1066.784	1	1066.784	248.309	.000	.813	1.000
Error	244.883	57	4.296				

As illustrated in Table 5, the results of covariance analysis manifests a significant difference between posttest vocabulary learning scores in the two study groups ( $f= 30.95$ ,  $p<0.05$ ).

The results of covariance analysis on vocabulary learning scores of two groups are presented in Table 6. In this analysis, pretest scores have been statistically controlled; that is, the effect of pretest scores has been removed from vocabulary learning scores, and then, the two groups are compared based on the remaining variance.

**Table 6: Final estimate after controlling pretest vocabulary learning scores in PS and NS groups**

	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
NS	14.777	.379	14.019	15.535
PS	17.756	.379	16.998	18.514

After controlling the intervening variable, the mean of vocabulary learning scores for NS and PS groups is 14.77 and 17.75, respectively, which shows a significant difference ( $F=30.95$ ,  $p<0.05$ ). Thus, the null hypothesis, pictorial scaffolding (VS) does not affect Iranian EFL learners' vocabulary learning, was rejected.

**Discussion**

The results of the study indicated that the group receiving pictorial scaffolding outperformed the control group in vocabulary learning. This confirms the Stocking's (2010) study that investigated ways that help conceptual understanding and retention of vocabulary. The outcome of the study showed that interaction, visuals, word manipulation, and contextual analysis had significant effect upon vocabulary development. The finding of the current study is in line with the results of many studies which have investigated the effects of using picture on vocabulary acquisition of a second language. One of which is the study conducted by Tonzar *et al.*, (2009, as cited in Al Nassir, 2012). They compared two learning methods (using pictures and word-based learning) in order to evaluate the vocabulary acquisition of adults in an EFL context. The study results showed that the picture-based method led to a better performance than the word-based method. They have proposed that pictures represent features of objects; as a result, meaning can be gained from pictures even if one has little or no experience with the object illustrated.

Based on the finding of the study, the researchers concluded that the use of scaffolding enhances EFL learners' vocabulary learning. Olson and Prath (2000) observed that instructional scaffolding helps both learners and instructors to achieve the goal of any educator, which is to help students develop skills that will make them self- directed and self- regulated learners. It also allows them to reach levels of mastery that might be impossible for them to achieve without it. Scaffolding help learners develop or construct new understandings by elaborating on their prior knowledge through the support provided by more capable others (Raymond, 2000). Studies have actually shown that in the absence of guided learning experiences and social interaction, learning and development are hindered (Bransford *et al.*, 2000, as cited in Cole, 2006). Modern research continues to find that scaffolding is an effective teaching strategy.

Teachers should pay much attention to the use of pictorial scaffolding in presenting new vocabularies and should be innovative in selecting pictures for the students; pictures should be according to the topic and appropriate with the students' level.

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