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**Research Paper**

# The Effect of Scaffolding through Presenting Examples and Pictures on EFL Learners' Vocabulary Learning and Retention

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**Abstract**
The current study examined the effect of scaffolding through presenting examples and pictures on EFL learners' vocabulary learning and retention. For this purpose, six research questions were posed and a quasi- experimental design was applied with two groups of learners who were selected as experimental groups. This research was carried out with a sample of 60 English students from Iran Zaban Institution. The data were collected using three instruments. Primarily, a standard test of Nelson which had 50 items was used to assess general proficiency of the learners for the purpose of their homogeneity. Then, in order to investigate the learner's lexical knowledge before executing the scaffolding strategies used by examples and pictures, the researcher prepared a vocabulary test used as pre-test. At the end of the treatment the students' lexical knowledge was assessed by a post- test. Also, a vocabulary test was used in order to measure their vocabulary retention after two weeks. The results indicated that employing examples helps vocabulary learning as well as retention. In addition, it was shown that using pictures helps both vocabulary learning and retention, and employing examples and pictures have almost the same effect on vocabulary learning. Finally, the results are discussed and compared with the previous ones, implications are explained, and some suggestions and recommendations are provided.
**Keywords:** *Example; Picture; Scaffolding; Vocabulary learning; Vocabulary retention*

**تاثیر داربست از طریق ارائه مثال ها و تصاویر بر یادگیری و حفظ واژگان زبان آموزان ایرانی**
مطالعه حاضر به بررسی تأثیر داربست از طریق ارائه مثال‌ها و تصاویر بر یادگیری و حفظ واژگان زبان‌آموزان زبان انگلیسی پرداخت. برای این منظور، شش سوال پژوهشی مطرح شد و یک طرح نیمه آزمایشی با دو گروه از فراگیران که به عنوان گروه آزمایش انتخاب شدند، اجرا شد. این پژوهش با نمونه ای متشکل از ۶۰ نفر از دانشجویان انگلیسی موسسه ایران زبان انجام شد. داده ها با استفاده از سه ابزار جمع آوری شد. ابتدا از آزمون استاندارد نلسون که دارای ۵۰ گویه بود برای ارزیابی مهارت عمومی فراگیران به منظور همگنی آنها استفاده شد. سپس به منظور بررسی دانش واژگانی زبان آموز قبل از اجرای راهبردهای داربستی که با مثال ها و تصاویر استفاده می شود، یک آزمون واژگانی که به عنوان پیش آزمون مورد استفاده قرار می گیرد، تهیه کرد. در پایان درمان، دانش واژگانی دانش‌آموزان توسط پس‌آزمون مورد سنجش قرار گرفت. همچنین برای سنجش میزان ماندگاری واژگان پس از دو هفته از آزمون واژگان استفاده شد. نتایج نشان داد که استفاده از مثال ها به یادگیری واژگان و همچنین حفظ واژگان کمک می کند. علاوه بر این، نشان داده شد که استفاده از تصاویر هم به یادگیری و هم حفظ واژگان کمک می کند و استفاده از مثال ها و تصاویر تقریباً تأثیر یکسانی بر یادگیری واژگان دارد. در نهایت، نتایج مورد بحث و بررسی قرار گرفته و با نتایج قبلی مقایسه شده، پیامدها توضیح داده شده و پیشنهادات و توصیه هایی ارائه شده است.
**کلمات کلیدی**: مثال، تصویر، داربست، یادگیری واژگان، حفظ واژگان

## Introduction

Vocabulary is the foundation in learning a language. Having just conscious knowledge of syntax

without lots of vocabulary would make oral production meaningless (Ur, 2000). According to Thornbury (2004), vocabulary teaching is one of the most central components of any language classroom. The main reason for this is the fact that it plays as a medium, which delivers the meaning. Furthermore, learning to comprehend and transmit the meaning is what is concerned with in learning languages. Currently, there has been increasing attention to teaching vocabulary, partly due to the improvement of new approaches to language teaching, which are much more vocabulary-centered.

Learning and development, in relation to sociocultural theory, is seen to be interactive. To put it in another way, sociocultural theory argues that learning and development is the socio-genesis product of meaningful social interactions among the community members in the particular learning context (Vygotseky, as cited in Sidek, 2011). Sociocultural development takes place in the so-called Zone of Proximal Development activity (Vygotsky, as cited in Matthew & Poehner, 2008). In fact, Newman and Holtzman (1993) stated that basically zone of proximal development comes up during an interactive activity where a novice and an expert person cooperate with each other to accomplish the intended task. Besides, Dorn, French, and Jones (1998) pointed out that scaffolding is a transitory support that teachers provide to help improve current skills and knowledge to a higher stage of competence.

Also, Dorn and Soffus (2001) and Dao and Trang (2022) believe that scaffolding a learner does not reflect that making the task or concept simpler during the learning experience or event, however, the task or concept remains consistent, and the instructor prepares different kinds of supports consistent with how well the learner is working on the task or deal with the new learning. Experts have to apply their knowledge of the learner and the task to help the learner in ways that will allow her/him to create some degree of understanding in order to improve autonomy in the learner. Practitioners are asked to control their students, know the strong point of their students, and utilize these strengths to scaffold the new learning process within the learner's ZPD and make modifications as necessary (Dorn & Soffus, 2001; Lyons, 2003). According to Lyons (2003), the main goal of scaffolding is to improve an independent learner. This is accomplished by eliminating the support slowly, or postponing the control and support prepared by the more knowledgeable person while the student begins to get more autonomy and knowledge. In order to achieve this, the more knowledgeable person needs to allow the learner confront with questions and problems and supervise the joint activity, mediate just when the learner cannot control his problem-solving activity appropriately (Dorn, French, & Jones, 1998; Lyons, 2003).

This vision argues that pictures are remembered better than words since they are more probable to be represented by both verbal and image codes. In the present study, pictures, visual representation of concepts, served as mediation to augment the usefulness of ZPD. According to some researchers (Thornbury, 2004; McDevitt & Ormrod, 2002; García-Gámez and Macizo's (2023), ZPD is strongly correlated with scaffolding as scaffolding acts within the ZPD; in other words, scaffolding of knowledge can help learners to attain the ZPD, while rote copying of language knowledge is not so much effective (Appel, 2006; Dao and Trang (2022). It was recommended that ZPD and scaffolding could prepare a supportive framework equipping teachers with the crucial techniques and skills to acquire language knowledge in proper ways at diverse ages and stages of learning.

In contrast, as Blachowicz (2007) believes, vocabulary learning is long lasting when language learners use words in meaningful ways. Also, Shoari and Dvatgar (2015) declare that there would be no surprise that reading and writing sample sentences would be one of the best ways in easing vocabulary learning. Pictures may facilitate learning vocabulary; however, durability of learning is not undefended. Learning vocabulary with meaningful contexts might not be very fast like it is with pictures, however trying to estimate the meaning of vocabularies and find it out makes

learning more long-lasting. That is to say, learning with pictures may actualize in short term memory, though learning with sentence example may actualize in long term memory.

Schmitt (2000) points out that L2 students require around 2,000 vocabularies to keep conversations, 3,000-word families to read authentic passages, and as many as 10,000 words to understand challenging academic passages. It is not astonishing that learners see English vocabulary acquisition as their biggest language problem (Green & Meara, 1995) and show a robust need for explicit vocabulary instruction (James, 1996).

Likewise, word knowledge is crucial for social, emotional, and academic development. For English learners, learning the essential vocabulary for social competence may take at least two years, and this is often a student's chief goal. Attaining academic English, the language of learning, entails more perseverance. It may take upwards of four to seven years for students to obtain the lexical knowledge that let them access more serious curricula.

There were six research questions in this study as follows:

*RQ1. Does using scaffolding through presenting examples affect EFL learners' vocabulary learning?*

*RQ2. Does using scaffolding through presenting examples affect EFL learners' vocabulary retention?*

*RQ3. Does using scaffolding through presenting pictures affect EFL learners' vocabulary learning?*

*RQ4. Does using scaffolding through presenting pictures affect EFL learners' vocabulary retention?*

*RQ5. Is there any significant difference between the effects of using scaffolding through presenting examples and pictures on EFL learners' vocabulary learning?*

*RQ6. Is there any significant difference between the effects of using scaffolding through presenting examples and pictures on EFL learners' vocabulary retention?*

## Literature Review

Plenty of investigations have dealt with the influences of utilizing images pictures in second/foreign language lexical awareness (Rahimi & Sahragard, 2008; Diane Pyle, 2009; Yanguas, 2009) and proclaim that graphic representations are substantially helpful for remembering and retrieval.

One of the primary studies presented in literature is Paivio, Yuille, and Smythe, (1968, as cited in Iheanacho, 1997); and Paivio and Csapo (1969, as cited in Iheanacho, 1997). In these studies, various groups of participants were expected to recollect lists of words applying the same lexical items for which graphic ratings had been considered. The participants gained a considerable number of words which were rich in graphics compared with words with few graphics. Additionally, Nassaji (2004) executed a study manifesting that recollection is accelerated greatly when learners were taught to apply graphics to remember list of words, recall is facilitated dramatically.

Kellogg and Howe (1971, as cited in Zarei & Gilanian, 2013) also investigated the effects of graphic-accompanied written words as prompts for speaking performance of Spanish lexis by children. The images accelerated unknown vocabulary learning than the written inducements and the impact was survived more durably in memory yielding in lasting recollection caused by image-oriented word learning rather than other forms. Pishghadam, Khodadady, and KhoshSabk (2010) investigated the impacts of graphic-intelligences-oriented and verbal-intelligences-oriented vocabulary instruction on Iranian EFL students' word recollection and construction. According to the obtained data analysis graphic intelligence-oriented vocabulary instruction yielded escalated word recollection in graphic experimental group, while no effect in word recall was reported

through verbal-intelligences-oriented method in verbal experimental group and control group.

Iheanacho's (1997) did a similar study. In his study, the participants who received input via graphic representations outperformed on the recall tests than those who received input via motionless images. Similarly, Arkan and Taraf (2010) scrutinized the impact of realistic motion drawings in instructing English to novice Turkish learners. The investigation compared the training influences based on conventional grammar and vocabulary instruction and the one on realistic motion drawings serving the similar objective. Results supported the better demonstration of the experimental group in attaining the candidate syntactic and lexical items.

Shen (2010) compared two methods: verbal encrypting and verbal encoding alongside imagery encrypting. The scrutiny of the results manifested that in comparison with the verbal encrypting method, the verbal accompanying imagery encrypting method does not show a more substantial impact in the recollection of the articulatory features, construction, and implication of tangible words, but statistically significant dissimilarities were reported in the recollection of the structure and meaning of intangible words. The findings she obtained espoused dual coding theory and substantiate the significance of pictorial attainment in Chinese vocabulary acquirement.

Carpenter and Olson (2012) investigated whether novel words in a foreign language are gained more efficiently from images than from native language translations. In both between-subjects and within-subject designs, Swahili words were not acquired more successfully from images than from English translations (Experiments 1–3). The results of learning manifested that participant showed greater high self-assurance in their capability to remember a Swahili word from an image than from a translation (Experiments 2–3), and Swahili words were also viewed to be easier to analyze when accompanied with images rather than translations (Experiment 4). When this high self-assurance partiality was discarded via retrieval practice (Experiment 2) and guidelines caution the participants not to possess high self-assurance (Experiment 3), Swahili words were acquired more efficaciously from images than from translations. It looks, hence, that images were prone to boost learning of foreign language vocabulary—provided that the participants did not get highly self-assured in the influence of an image to assist them attain a novel word.

Sadeghi and Farzizadeh (2013) performed a study in which they investigated the lexical accomplishments of novice EFL learners in the Iran Language Institute (Urmia branch) employing graphical representations and the conventional technique of definition. The introduced hypothesis proved no significant difference between the two methods. The number of participants was 44. Their age bracket was 10-16 and all were males. The assigned participants were selected applying an intact group design sampling procedure. The instrument employed was Remedial Tests of the institute used both as a pre-test and a post-test having paid attention to vocabulary as heir central focus. The duration of the study was about three months and the training sessions included applying graphic representations for the experimental group. The control group on the other hand did not undertake any training but received conventional definition. Independent t-test was employed as the data analysis of the study. Statistically speaking, the results obtained revealed the outperformance of the experimental group than the control group in the post-group. Furthermore, the pedagogical implications of the study espoused applying graphic-oriented teaching strategies for vocabulary instruction.

Mansourzadeh (2014) in an investigation compared two strategies of vocabulary instruction to young Iranian EFL learners. The instruments exercised in the study were motionless images and audio-visual assistance to explore the superiority of one over the other, if any. To put differently, the aim of this study was to figure out a response to the following question: Are audiovisual incentives more impactful than motionless images on vocabulary acquisition by young Iranian EFL learners? To obtain a statistically significant response to the question, two classes comprising 30 L2 tyro learners were selected among the whole 128 students learning L2 at Imam Hossein

guidance school in Zahedan, Iran. The vocabulary pre-test was administered to the assigned participants because they were all at the same English proficiency level. The treatment sessions for vocabulary instruction consisted of giving one group audiovisual assistance and the other group motionless images. In order to discover the impact of both training strategies, the post-test was given to both groups after ten treatment sessions. The descriptive statistics (mean and standard deviation) manifested that there discovered a significant difference between the group received images and the one exposed to audiovisual aids. To put differently, vocabulary instruction proved to yield more effective results accompanied with applying images.

Jafari (2019) explored the usefulness of scaffolding on knowledge of the vocabularies of Iranian EFL language learners. In fact, the purpose her this study was to find out if scaffolding is useful for learners or not. The participants were 22 EFL students from Bandar Abbas. Both control and experimental groups contained 11 students each. The study adopted experimental, pre-post-test control group design. The participants were randomly assigned to form a treatment group and a control group. Finally, the ANCOVA showed that prior English oral vocabulary knowledge predicted student's success during the vocabulary scaffolding intervention, and the scaffolding has positive effects on learning vocabulary. In the same vein, Dao and Nguyen (2022) investigated the influences of employing pictures on EFL learners' vocabulary retention. Also, the EFL students' attitudes toward this instruction were also explored. The participants of this study were a group of 70 seventh-graders at Duyen Hai Ethnic Boarding Junior High School in Tra Vinh province. The study contained two parts. The first part of the study coped with the intervention of vocabulary instruction for the two groups of learners. 35 learners were selected for the experimental group, and the other 35 for the control group. The experimental group experienced vocabulary instruction with pictures but the control group was received the traditional vocabulary teaching method (with no pictures). Both groups took the pre-test, post-test, and delayed tests. The results revealed that both groups' scores on vocabulary tests progressed, still the experimental group's scores were greater than that of the control one. Moreover, the study indicated that they had a positive attitude toward this teaching strategy.

Also, García-Gámez and Macizo (2023) explored the influence of gestures as scaffolding on foreign language vocabulary learning. In fact, they first addressed the state of the art in the field, then delved into the research carried out in their lab (three experiments already published) to finally offer an integrated theoretical interpretation of the influence of gestures in EFL vocabulary learning. They, in Experiments 1 & 2, investigated the influence of gestures on English noun and verb learning. Finally, the results indicated that participants expressed better learning results when English words were accompanied by harmonious gestures compared to those from the no-gesture condition. On the other hand, in the conduction which meaningless or unrelated gestures were presented together with new words, gestures had a unfavorable impact on the learning process. Furthermore, they addressed the question of if or not individuals must physically perform the gestures themselves to observe the effects of gestures on vocabulary learning (in Experiment 3). The results revealed that harmonious gestures enhanced English word recall when the participants only observed the instructor's gestures and when they mimicked them. These outcomes suggest that iconic gestures can affect learning vocabulary in an EFL context, especially when the gestures align with the meaning of the words. Besides, the active performance of gestures fosters counteracts the negative effects correlated with inconsistencies between gestures and word meanings.

Having witnessed the universal consensus among a number of scholars and investigators on the significance of selecting the most effective vocabulary instruction techniques, future investigations should be called for to embellish this noteworthy domain to obtain a variety of results to help teachers applying effective methods in teaching vocabulary. This study also tried to bridge this gap through investigating the effect of teachers as a scaffolding in providing pictorial vocabulary instructions on EFL learners' vocabulary learning and retention.

## Method

### Design of the Study

The quasi-experimental method was used in the current study. This study is concerned with two variables: scaffolding instruction was the independent variable with two layers of example and picture, and vocabulary learning and retention as the two dependent variables. There are two experimental groups (experimental group A: example group and experimental group B: picture group. They experienced different instructional treatments (Hatch & Farhady, 2003; p. 20). Students in experimental group A were taught vocabulary through at least three examples draw from the Oxford and Longman Dictionary while the students in experimental group B received vocabulary instruction using picture of the new words. After experiencing the treatments, both groups took a post-test and delayed of vocabulary.

### Participants

The participants of this study were 60 teenage male and female EFL learners of English who are currently studying at Iran Zaban Language Institute, Tehran, Iran. These participants were chosen from among 88 intermediate EFL learners via Nelson test**.** The participants aged between 15 and 18 years old. The first language of all of them was Persian, and they have never lived in a foreign country.

### Materials and Instrumentations

To accomplish the purpose of the present study the following material and instruments were used: Intermediate Section of the book "Steps to Understanding" by Hill, Nelson proficiency test at intermediate level; a valid general proficiency test to evaluate the subjects' level of language proficiency, the vocabulary pre-test to assess their vocabulary knowledge before being exposed to any kind of treatment, the vocabulary post-test, and vocabulary delayed post-test to measure the effect of using examples and pictures on subjects' vocabulary retention. These instruments are discussed below.

**a. Book "Steps to understanding".** The intermediate section of the book "Steps to Understanding" by Hill was used in this study. Each unit has a text which is an anecdote or comic story. Each unit contains 10 new words shown in blue color to be noticed easily. The related exercises follow the first page in different formats like True-False, Fill in the blanks, Matching, Open-ended and cloze passage. In fact, the first ten units of the book were taught to the students of the two groups.

**b. Nelson proficiency test.** To ensure that all learners have intermediate level of language proficiency, the Nelson Test was conducted initially and participants were selected based on their test scores. A pilot study was done with 27 intermediate EFL learners of another institute similar to the main participants of the study. In fact, the Nelson Test was appropriate to their level and no malfunctioned and unreliable item was detected. Therefore, the researcher did not omit any items of the Nelson Test the whole 50-item version was used.

The homogeneity of the students was ensured by calculating the mean and the standard deviation of scores. Among all participants, only those students whose scores were one standard deviation above or below the mean were selected as the main participants of the study. The test consisted of three parts: cloze tests, structure and vocabulary. All parts were in the form of multiple-choice questions. Altogether, they were 50 items and it took 45 minutes to answer the test. The reliability of Nelson test was estimated as .91 using K-R21 through the pilot study. Besides, three experts in

EFL accepted the face and content validity of the Nelson Test.

**c. Vocabulary pre-test**. To assess the vocabulary knowledge of the participants prior to the implementation of the treatment of the study, a teacher-made pre-test of vocabulary including 40 items was used. Twenty items of the pre-test were in multiple choice format and the other twenty ones were in close passage format. The first version of the vocabulary pre-test contained 45 items, but five of them which were found ambiguous and unreliable were deleted in the piloting phase of the study. In fact, the reliability index of the final version of vocabulary pre-test comprising 40 items was assessed as .83 using KR-21 in the pilot study. Finally, the face and content validity of the vocabulary pre-test was accepted by three experienced EFL teachers.

**d. Vocabulary post-test.** To assess the participants for their vocabulary learning, a vocabulary post-test including 40 vocabulary items was used. The vocabularies of immediate post-test were the same as the ones on the pre-test but the context and choices of some questions were changed so as not to be remembered by the students. Again, twenty items of the post-test were in multiple choice format and the other twenty ones were in close passage format. Like the pre-test, three experienced TEFL experts approved the face validity of the vocabulary post-test, and the KR-21 reliability value of the final version of vocabulary post-test turned out to be .86 in the pilot stage.

**e. Vocabulary delayed post-test.** To assess the participants for their vocabulary retention, a vocabulary delayed post-test including 40 vocabulary items was used. The vocabularies of delayed post-test were the same as the ones on the pre-test and immediate post-test but the context and choices of some questions were changed so as not to be remembered by the students.

Again, twenty items of the post-test were in multiple choice format and the other twenty ones were in close passage format. Like the pre-test and immediate post-test, three experienced TEFL experts approved the face validity of the vocabulary delayed post-test, and the KR-21 reliability value of the final version of vocabulary delayed post-test turned out to be .84 in the pilot stage.

**Procedure**

Before starting the research, the subjects were informed of the purpose of the research. In fact, they were assured that their responses to the Nelson test and Vocabulary tests are confidential and are just for the research purpose.

At first, a pilot study was carried out with a group of 27 intermediate EFL learners in another institute who shared similar features with the main participants of the study. Also, the reliability indexes of the three instruments of this study were computed and their face and content validity were confirmed by three EFL experienced instructors.

Before starting the treatment, 88 intermediate EFL learners were given Nelson test to be homogenized. They were allowed 50 minutes to take the test. After calculating the mean score and standard deviation, 60 learners whose score fell one standard deviation above and below the mean score were selected as intermediate EFL learners (or as participants). The selected participants were then randomly divided into two experimental groups. The pre-test was implemented by researcher in order to determine the participants level of vocabulary knowledge before the treatment in one session.

After implementations of Nelson test and pre-test, the treatments were initiated. In fact, in the experimental group A (i.e. example group), the teacher taught the students the new vocabularies of each lesson using these steps:

**Step 1:** The instructor presents the lesson objectives:

- aid students learn how to study and work in a group.

- elevate students' awareness and retention of vocabulary meaning.
- involve learners in talking, interacting, and thinking.
- cause students connect vocabulary learning to their personal experiences and real-world issues.

**Step 2:** The teacher writes three examples on the whiteboard in which the new words are underlined. Next, she presents the text.

**Step 3:** The teacher divides learners into groups and wants them to find the meaning of words through interaction and discussion and also employing a monolingual dictionary.

**Step 4:** Each group studies the materials (The underlined words, examples, dictionary) and discusses the meaning of new vocabularies and fits them with the text to see whether it is correct or not.

**Step 5:** Afterwards, the teacher reads the selected text and then randomly chooses a group to explain the meaning of vocabularies.

**Step 6:** it may be that the first group students have some problems in finding the suitable meaning for one or more words.

The teacher then invites the other students to provide a correction. For example, by asking: *can any other group help?*

Besides ensuring the whole class involvement, it also assists the teacher to decide if this problem is specific to the original student, or if others are having difficulty with it too. if other students cannot provide the correct meaning, after that the teacher knows that it is required to work on that word again at class level till to solve the problems completely.

The treatment lasted 10 sessions of 40 minutes. The classes were held two sessions a week. However, in the experimental group B (i.e., picture group), the researcher taught the students the new vocabularies of each lesson using pictures. Pictures were mediated in order for the students to better understand and learn the new words visually, using these steps:

**Step 1:** The teacher explains the goals of lesson objectives:

- help students learn how to study and work in a group:

She/he asks students don't just look at pictures, think about them. Discuss them. See if you can describe what's happening in them, and name everything in them.

- augment students' awareness and retention of vocabulary meaning.
- inspire students in talking, interacting, and thinking.
- make students link vocabulary learning to their personal experiences and real-world issues.

**Step 2:** The teacher separated students into groups and asks them to find the meaning of words through interaction and discussion and also using a monolingual dictionary.

**Step 3:** She presented new vocabularies and write them on whiteboard.

**Step 4:** She read the selected text.

**Step 5:** The teacher asked students to correlate the pictures with meaning of vocabularies that relate to the whole text (considering the collocation)

**Step 6:** Then she randomly chooses a group to present pictures and their related vocabularies according to their meaning. It may be that the first group students have some problems in finding the suitable picture for one or more words.

The teacher then invites the other students to provide a correction. For example, by asking: *can any other group help?*

This act makes the whole class engaged in addition to helping the teacher to decide if this

problem is specific to the original student, or if others are having difficulty with it too. If other students cannot provide the correct meaning, then the teacher knows that it is obligatory to work on that vocabulary again at class level till to eliminate the problems entirely.

Like the example group, the second group experienced their treatment for 10 sessions of 40 minutes and the students attended the class two sessions a week.

At session 11, which was the last session and the implementation of the treatments ended, the students of the two groups took the immediate post-test to measure their vocabulary learning. Like the pre-test, the students were given 40 minutes to answer the post-test.

Finally, two weeks after the immediate post-test, the teacher gave the delayed post-test to the students of the two groups in order to measure their vocabulary retention. The items of the post-test and delayed post-test were like the ones on the pre-test but the context and choices of some questions were changed in order not to be remembered by the students. Again, this test took 40 minutes to be answered.

At last, after collecting the data, the vocabulary scores gained on the pre-test, immediate and delayed post-test were analyzed so as for the researcher to answer the research questions of the study.

## Results

### Homogeneity test results

As mentioned in chapter three, Nelson Test was administered to 88 participants to select homogeneous intermediate participants. The descriptive statistics indicated that the mean, medianand mode of the Nelson Test scores before homogenizing were 29.82, 30, and 34 respectively. Based on the results of Nelson Test, form among 88 students, those 60 students whose scores were one standard deviation minus and plus the mean (scores between 23 and 37) were picked up as homogeneous intermediate participants for the present study. Furthermore, it was proved that the ratios of skewness and kurtosis over their respective standard errors do not exceed the ranges of
+/- 1.96 showing that the mean, median and mode of the Nelson Test scores after homogenizing were 29.90, 30, and 34 respectively.

### Addressing Research Question 1

The first research question of this study asked if using examples affects EFL learners' vocabulary learning or not. The paired samples *t*-test was applied to answer this research question comparing the pre-test and immediate post-test vocabulary learning measures for the example group. According to Pallant (2013), “A paired-samples t-test is used when you have only one group of people and you collect data from them on two different occasions (pre-test and immediate post-test in this study) or under two different conditions” p. 252). Table1below represents the results of descriptive statistics for the vocabulary learning scores in example group.

Table1 shows the mean and standard deviation of vocabulary learning scores for the pre-test (*M* = 13.74, *SD* = 2.55) and immediate post-test (*M* = 25.40, *SD* = 3.01) in example group. Table1 provides the results of paired samples *t*-test for comparing the pre-test and immediate post-test vocabulary learning measures for the students in the example group.

**Table 1**

*Descriptive Statistics for Pre-test and Immediate Post-test of Vocabulary Learning Scores (Example Group)*

| Test | *N* | Mean | *SD* | Std. Error Mean |
|---|---|---|---|---|
| Pre-test | 30 | 13.47 | 2.555 | .467 |
| Immediate post-test | 30 | 25.40 | 3.013 | .550 |

Table2 indicates that the paired samples *t*-test found a statistically significant increase ($t(29) = 33.89$, $p = .000$, $p < .05$) in vocabulary learning scores from the pre-test to the immediate post-test for the students in the example group; as a result, it is asserted that using examples does not affect EFL learners' vocabulary learning. In fact, the gained score in vocabulary learning was 11.93 (out of 40) with a .95% confidence interval ranging from 11.21 to 12.65.

**Table 2**

*Paired Samples T-test for the Pre-test and Immediate Post-test of Vocabulary Learning Scores Means in Example Group*

| Gain Score | | | | | | |
|---|---|---|---|---|---|---|
| | *SD* | 95% Confidence Interval of the Difference | | *t* | *df* | Sig. (2-tailed) |
| | | Lower | Upper | | | |
| 11.933 | 1.929 | 11.213 | 12.653 | 33.890 | 29 | .000 |

**Addressing Research Question 2**

The purpose of the second research question of this study was to see if using examples affects EFL learners' vocabulary retention or not. We utilized the paired samples *t*-test to investigate this research question comparing the pre-test and delayed post-test vocabulary learning measures for the example group. The results of descriptive statistics for the vocabulary learning scores in example group are provided in Table3.Table3 displays the mean and standard deviation of vocabulary learning scores for the pre-test ($M = 13.47$, $SD = 2.55$) and delayed post-test ($M = 23.07$, $SD = 3.39$) in the example group.

**Table 3**

*Descriptive Statistics for Pre-test and Delayed Post-test of Vocabulary Learning Scores (Example Group)*

| Test | *N* | Mean | *SD* | Std. Error Mean |
|---|---|---|---|---|
| Pre-test | 30 | 13.47 | 2.555 | .467 |
| Delayed post-test | 30 | 23.07 | 3.393 | .550 |

The results of paired samples *t*-test for comparing the pre-test and delayed post-test vocabulary learning measures for the students in example group are summarized in Table4. As appeared in Table4, the paired samples *t*-test detected a statistically significant increase ($t(29) = 20.06$, $p = .000$, $p < .05$) in vocabulary learning scores from the pre-test to the delayed post-test in the example group; consequently, the researcher could claim that using examples influences EFL learners' vocabulary retention. Actually, the gained score in vocabulary learning was 9.60 (out of 40) with a .95% confidence interval ranging from 8.62 to 10.58.

**Table 4**

*Paired Samples T-test for the Pre-test and Delayed Post-test of Vocabulary Learning Scores Means in Example Group*

| Gained Score | *SD* | 95% Confidence Interval of the Difference | | *t* | *df* | Sig. (2-tailed) |
|---|---|---|---|---|---|---|
| | | Lower | Upper | | | |
| 9.600 | 2.621 | 8.621 | 10.579 | 20.063 | 29 | .000 |

**Addressing Research Question 3**

The third research question of this study concerned with the effect of using pictures on EFL learners' vocabulary learning. In order to explore the first research question, paired samples *t*-test was conducted. The results of descriptive statistics for the vocabulary learning scores for the picture group are given in the following table. Table5 represents the mean and standard deviation of vocabulary learning scores for the pre-test (*M*= 14.03, *SD* = 2.47) and immediate post-test (*M*= 26.57, *SD* = 3.17) in the picture group.

**Table 5**

*Descriptive Statistics for Pre-test and Immediate Post-test of Vocabulary Learning Scores (Picture Group)*

| Test | *N* | Mean | *SD* | Std. Error Mean |
|---|---|---|---|---|
| Pre-test | 30 | 14.03 | 2.470 | .451 |
| Immediate Post-test | 30 | 26.57 | 3.170 | .579 |

As it's observable from Table6, t value and significance level are indicative of statistically significant increase ($t$ (29) = 35.66, $p$ = .000, $p$ < .05) in vocabulary learning scores from the pre-test to the immediate post-test in picture group; accordingly, it can be concluded that using pictures improves EFL learners' vocabulary learning. Basically, the gained score in vocabulary learning was 12.53 (out of 40) with a .95% confidence interval ranging from 11.81to 13.25.

**Table 6**

*Paired Samples T-test for the Pre-test and Immediate Post-test of Vocabulary Learning Scores Means in Picture Group*

| Gain Score | *SD* | 95% Confidence Interval of the Difference | | *t* | *df* | Sig. (2-tailed) |
|---|---|---|---|---|---|---|
| | | Lower | Upper | | | |
| 12.533 | 1.925 | 11.815 | 13.252 | 35.661 | 29 | .000 |

**Addressing Research Question 4**

The fourth research question of this study enquired if using pictures affects EFL learners' vocabulary retention or not. To examine the second research question, paired samples *t*-test was used. The results of descriptive statistics for the vocabulary learning scores for the picture group are put in the following table. Table7 indicates the mean and standard deviation of vocabulary learning scores for the pre-test (*M*= 14.03, *SD* = 2.47) and delayed post-test (*M* = 25.50, *SD* = 3.30) in picture group.

**Table 7**

*Descriptive Statistics for Pre-test and Delayed Post-test of Vocabulary Learning Scores (Picture Group)*

| Test | *N* | Mean | *SD* | Std. Error Mean |
|---|---|---|---|---|
| Pre-test | 30 | 14.03 | 2.470 | .451 |
| Delayed Post-test | 30 | 25.50 | 3.298 | .525 |

According to the results shown in Table8, the paired samples *t*-test detected a statistically significant increase ($t$ (29) = 28.64, $p$ = .000, $p$ < .05) in vocabulary learning scores from the pre-test to the delayed post-test in picture group; thus, it can be declared that using scaffolding through presenting pictures contributes to EFL learners' vocabulary retention. In essence, the gained score in vocabulary learning was 11.47 (out of 40) with a .95% confidence interval ranging from 10.65to 12.28.

**Table 8**

*Paired Samples T-test for the Pre-test and Delayed Post-test of Vocabulary Learning Scores Means in Picture Group*

| Gained Score | *SD* | 95% Confidence Interval of the Difference | | *t* | *df* | Sig.(2-tailed) |
|---|---|---|---|---|---|---|
| | | Lower | Upper | | | |
| 11.467 | 2.193 | 10.648 | 12.286 | 28.639 | 29 | .000 |

**Addressing of the Research Question 5**

The purpose of the fifth research question dealt with probing the significant difference between the effects of using scaffolding through presenting examples and pictures on EFL learners' vocabulary learning. In order to analyze the data to examine this research question, the independent samples *t*-test was applied. "An independent samples t-test is used when you want to compare the mean score, on some continuous variable, for two different groups of participants" (Pallant, 2013, p. 247).

Table9 is a demonstration of the mean, standard deviation, and number of students for the example group ($M$ = 13.47, $SD$ = 2.55, $n$ = 30) and picture group ($M$ = 14.03, $SD$ = 2.47, $n$ = 30) on the pre-test of vocabulary learning.

**Table 9**

*Descriptive Statistics of Two Groups' Vocabulary Learning Scores (Pre-test)*

| Group | *N* | Mean | *SD* | Std. Error Mean |
|---|---|---|---|---|
| Example | 30 | 13.47 | 2.555 | .467 |
| Picture | 30 | 14.03 | 2.470 | .451 |

As seen in Table10, the significance level of .78 associated with Levine's value was above the selected significance level of .05 showing that the assumption of equal of variances was not violated. The *t* value and *p* value in the independent t-test, as appeared in Table 10, are indicative of no statistically significant difference in vocabulary learning scores ($t$ (58) = .87, $p$ = .38, $p$ > .05) between the example and picture groups. This result made the researcher conclude that the students in the two groups were almost equal regarding vocabulary knowledge at the onset of the study. Also, as demonstrated in Table10, the significance level of .82 associated with Levine's value is higher than the selected significance level of the study (.05) revealing that the data met the assumption of equality of variance.

**Table 10**
*Independent Samples Test for Two Groups' Vocabulary Learning (Pre-test)*

| Levene's Test for Variances | | | T-test for Means | | | |
|---|---|---|---|---|---|---|
| Factor | *F* | *Sig.* | *t* | *df* | Sig. (2-tailed) | Mean Diff. |
| Equal variances assumed | .075 | .785 | .873 | 58 | .385 | .567 |
| Equal variances not assumed | | | .873 | 57.933 | .385 | .567 |

Further, the researcher computed the related descriptive statistics before explaining the results of independent samples *t*-test on the immediate post-test; the results of which are manifested in Table11. Table 11 includes the mean, standard deviation, and number of students for the example group ($M$ = 25.40, $SD$ = 3.01, $n$ = 30) and picture group ($M$ = 26.57, $SD$ = 3.17, $n$ = 30) on the immediate post-test of vocabulary.

**Table 11**
*Descriptive Statistics of Two Group's Vocabulary Learning Scores (Immediate Post-test)*

| Group | *N* | Mean | *SD* | Std. Error Mean |
|---|---|---|---|---|
| Example | 30 | 25.40 | 3.013 | .550 |
| Picture | 30 | 26.57 | 3.170 | .579 |

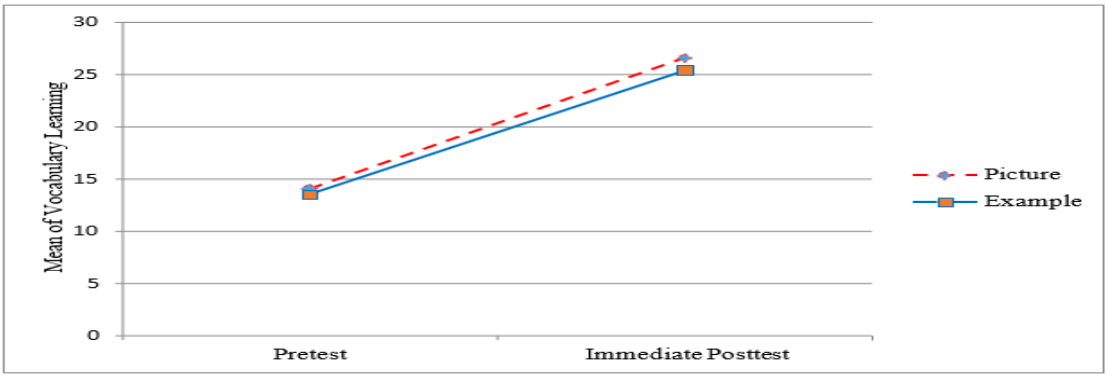
Furthermore, the independent samples *t*-test (Table 12) failed to find any statistically significant difference ($t(58) = 1.46$, $p = .15$, $p > .05$) in vocabulary learning measures between the example and picture groups; therefore, the researcher could declare that using examples and pictures have almost the same effects on EFL learners' vocabulary learning.

**Table 12**
*Independent Samples Test for Two Groups' Vocabulary Learning (Immediate Post-test)*

| Levine's Test for Variances | | | T-test for Means | | | |
|---|---|---|---|---|---|---|
| Factor | *F* | Sig. | *t* | *df* | Sig. (2-tailed) | Mean Diff. |
| Equal variances assumed | .050 | .824 | 1.461 | 58 | .149 | 1.167 |
| Equal variances not assumed | | | 1.461 | 57.851 | .149 | 1.167 |

Figure 1 below contains a Line Chart that was made to illustrate the vocabulary learning results for both groups on both pre-test and immediate post-test.

**Figure 1**
*Two groups' means of vocabulary learning (pre-test & immediate post-test)*




In fact, Figure 1 indicates that the vocabulary learning means for the two groups of students are not far from each other on the pre-test; likewise, the mean for the two groups is close to each other on the immediate post-test as well.

**Addressing Research Question 6**

The sixth research question of the present study enquired if there is any significant difference between the effects of using scaffolding through presenting examples and pictures on EFL learners' vocabulary retention. Independent samples *t*-test was performed on the delayed post-test in order to explore this research question.

Table 13 is a display of the mean, standard deviation, and number of students for the example group ($M$ = 23.07, $SD$ = 3.39, $n$ = 30) and picture group ($M$= 25.50, $SD$ = 3.30, $n$ = 30).

**Table 13**

*Descriptive Statistics of Two Group's Vocabulary Retention Scores (Delayed Post-test)*

| Group | *N* | Mean | *SD* | Std. Error Mean |
|---|---|---|---|---|
| Example | 30 | 23.07 | 3.393 | .619 |
| Picture | 30 | 25.50 | 3.298 | .602 |

As represented in Table 14, the significance level of .94 associated with Levine's value is above the selected significance level of the study (.05). That means the data did not violate the assumption of equality of variance. Additionally, Table 14 indicates that the independent samples *t*-test found a statistically significant difference ($t(58) = 2.82$, $p = .007$, $p < .05$) in vocabulary retention measures between the picture and example groups; for this reason, it was asserted thatusing pictures is more effective than using examples to boost EFL learners' vocabulary retention.

**Table 14**

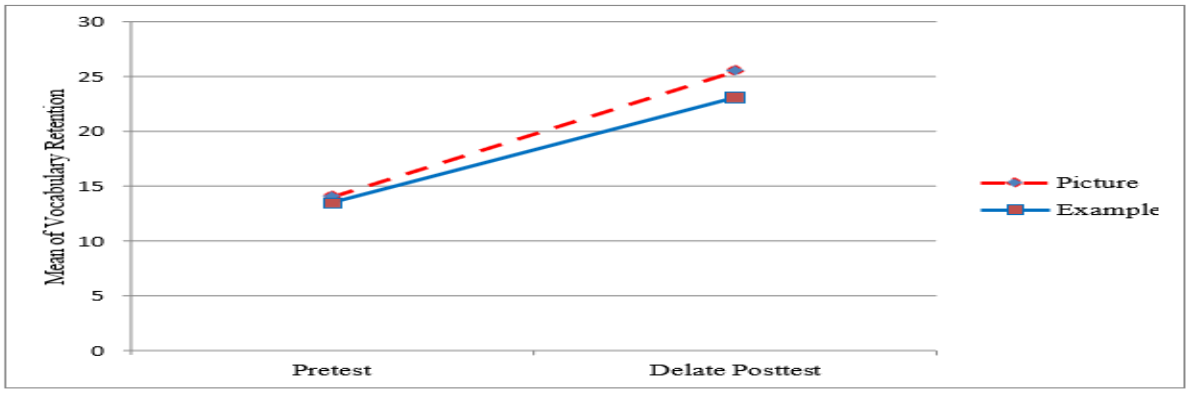
*Independent Samples Test for Two Groups' Vocabulary Retention (Delayed Post-test)*

| Levene's Test for Variances | | | T-test for Means | | | |
|---|---|---|---|---|---|---|
| Factor | *F* | Sig. | *t* | *df* | Sig. (2-tailed) | Mean Diff. |
| Equal variances assumed | .004 | .943 | 2.817 | 58 | .007 | 2.433 |

| | | | | |
|---|---|---|---|---|
| Equal variances not assumed | 2.817 | 57.954 | .007 | 2.433 |

**Figure 2**

*Two groups' means of vocabulary retention (pre-test & delayed post-test)*




As can be seen clearly in Figure 2, the vocabulary retention means score for the two groups of students are far from each other on the pre-test; nevertheless, the mean for the picture group is noticeably higher than the example group on the delayed post-test of vocabulary retention. In fact, the Line Chart indicates that there is a sharp raise from the pre-test to the delayed post-test for the students in the picture group but not for the example group.

## Discussion

the related institute management required some special concordances and agreements to perform the study on his language institute from the beginning and its permission and coordination caused difficulties and problems. Second, the required number of the learners was not available in one or two classes so it was obligatory to get help from more classes or majors. Moreover, some students participated with reluctance in pre and post-test and treatment due to some disinterests and this issue made some disorders in the research process. Forth, the absence of the participants in treatment and test sessions influenced the number of learners who attended in the study. Fifth, a few learners were not involved with some texts since they felt the texts looked boring.

Besides, the matter of learners' stress threatened the results of the current research. Seventh, the central goal of this research was to focus on differences in instructions and try to specify the differential effects. However, the conciseness of the interventions constrained researcher's ability to control effects that obtained from ongoing attention to vocabulary in classroom instruction. Lastly, instructional intensity comprised time spent on each class of experimental groups and it was so difficult to prescribe amount of time for activities.

The results of this study are in line with Khaliliaqdam, Saeidi, and Azabdaftari's (2015) research in which they found that pictorial scaffolding had an outstanding effect on vocabulary learning. In fact, they selected sixty male and female Iranian EFL students, aged from 16-17, were selected from a total number of 185. They randomly assigned them to experimental and control groups, with 30 students in each group. The experimental group received pictorial scaffolding as a method of vocabulary instruction, but the control group received the traditional teaching of vocabulary. The results of the statistical analysis, ANCOVA, showed that pictorial scaffolding had a considerable effect on vocabulary learning.

Similarly, our findings support Rowe, Silverman, and Mullan's (2013) study. In fact, they uncovered that pictures are better remembered than vocabularies. They found out that when a number of easily named pictures versus their equivalent verbal labels are shown, learners often

have an easier time recalling the names of the pictures in comparison with the verbal names. They called this phenomenon as the picture superiority effect.

Also, our findings correlate with Jafari' (2019) results which found that prior English oral vocabulary knowledge predicted student's success during the vocabulary scaffolding intervention, and scaffolding has positive effects on learning vocabulary.

Additionally, the results of this study align with a separate study done by Dao and Trang (2022), which investigated the effect of using pictures to instruct vocabulary in EFL classroom. The results indicated that both groups' scores on vocabulary tests enhanced, however, the experimental group's grades were higher than that of its counterparts. Besides, the study also had the result of the experimental students' attitudes toward the intervention of using pictures to teach vocabulary. They showed a positive attitude toward this teaching strategy.

Besides, the García-Gámez and Macizo's (2023) study corroborates ours in that they concluded that harmonious scaffolding gestures enhanced English word recall when the participants only received the instructor's gestures and when they mimicked them. Their finding simply that iconicgestures can foster EFL vocabulary learning, especially when the gestures accompany the meaning of the words. Moreover, they found that the active performance of gestures improves counteract the negative effects correlated with inconsistencies between gestures and word meanings.

However, the results of this study are not consistent with Blachowicz's (2007) results. Actually, he came to the conclusion that vocabulary learning is long lasting when language learners use words in meaningful ways. Likewise, Shoari and Dvatgar (2015) found that it's not surprising that reading and writing sample sentences would be one of the best methods in easing word learning. Pictures might facilitate learning vocabulary but permanence of learning is unsupported. Learning word with meaningful contexts might not be very fast like it is with pictures, nevertheless trying to assess the meaning of vocabularies and find it out causes learning more long-lasting. In other words, learning with pictures can take place in short term memory, still learning with sentence example may represent in long term memory.

Besides, our findings correlate with the study done by Demir (2017). In fact, he discovered that using pictures and sentence examples enhance vocabulary learning.

## Conclusions and Implications

Conducting this research, the researcher could come to some conclusions. The first conclusion that was made doing the current study was that employing examples helps vocabulary learning. In other words, EFL teachers can utilize more tangible and good example in order to teach new words.

The second conclusion that the researcher could make by carrying out this study was that vocabulary retention can be enhanced via using examples. Similar to the previous conclusion, but this time for vocabulary retention, it is concluded that using examples can lead to vocabulary retention of EFL learners.

Another conclusion of this study was that using pictures helps vocabulary learning to occur. In fact, some new words that are difficult and time consuming to be explained by the teacher, can be taught via some pictures. Actually, these pictures activate students' background knowledge and schemata leading to learning those new words. Actually, some students have so stronger visual memory and IQ that they can help them learn better using visual presentation.

The present researcher could come to the fourth conclusion as using pictures augments vocabulary retention. In fact, employing pictures and photos of the new words can help language learners to remember reconstruct the new words long after they have learnt them. Activating learners' schemata may cause this function of retention and remembering the new words.

The next conclusion that was made in conducting this study is that employing examples and

pictures have almost the same effect on vocabulary learning. That means these two treatments do not have differential effect on vocabulary learning.

Besides, doing this research, the researcher concluded that picture is more efficient and helpful than example to progress vocabulary retention. That may be due to the fact that a greater number of students had more powerful visual memory than linguistic memory since applying picture was more beneficial than employing examples.

Firstly, regarding the effect of scaffolding through presenting examples and pictures on EFL learners' vocabulary learning and retention, teachers should prepare suitable pictures from everywhere they can such as internet, magazines, books, photo dictionaries, and their own drawings, etc. Sometimes one picture may not suffice, so more than one picture is necessary. If the work is voluminous and cumbersome, the co-teachers can co-work and one person, for example, prepares the necessary pictures for one lesson, and others do the next lessons and share their works. Also, the teachers can keep these pictures for the next semesters in order to not replicate these bulky works. These procedures can also be done to find good and appropriate examples for teaching new words. The teachers can use appropriate dictionaries to use examples from them. Sometimes there aren't nice examples for some new vocabularies, thus the teacher should use one's imagination and creativity to use appropriate and novel examples for the new words.

However, sometimes due to some reasons it is not possible to prepare the required picture to teach new words. Therefore, it is the teacher's responsibility to use one's imagination, creativity, and art to draw suitable pictures on the paper or on the board. Again, like the previous section, the co- teachers can do some part of the job of drawing pictures each and share them with other teachers. Another important point is that the teachers can ask the students to help and work as a project.

In fact, they can search on the internet at home to find beautiful pictures of the assigned unit and share them with others in the classroom. Even some of the students may be capable of drawing pictures on the board or paper to be used for learning and remembering the new words.

Concerning examples, teachers can ask students to generate other good examples for new words after teaching the word by explanation and defining new words. Some students can produce novel and wonderful examples that can be felt and learned by the classmates. This way has some advantages. In fact, the students will attempt to use their brain to produce examples that can lead to learning those words by being active. Also, the students may feel confident and responsible to be asked to have a role in the process of teaching and learning language.

Also, parents can help the teachers by providing pictures of the new words. Some of the parents may be professional net searchers who can search appropriate and colorful pictures on the internet and give them to the teacher to be used in the classroom. Moreover, some parents might be good and professional drawers and help draw some pictures that cannot be found easily on the internet or difficult to be drawn by the teacher or students.

In fact, institute managers and supervisors should help teachers to provide the pictures and examples for new words by giving them internet service, printer machine, supplementary salary so as for the teachers to be motivated to use pictures in their teaching new words.

Moreover, material designers and curriculum leaders should use a greater number of pictures and tangible and proper examples in their lessons of the textbooks in order for the students to learn a greater number of vocabularies. Inserting pictures can be done in the main text, exercises, and appendices. These all can help learners learn and remember vaster number of new words.

Besides, testers can use the benefits of this study as well. In fact, they can prepare suitable pictures to be used at the stem of the questions to be answered. As you know, evaluation is part of teaching in general so using good and appropriate picture can help the examinees to learn and memorize the new and difficult words.

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