The Effect of Exercise Types on EFL Learners' Vocabulary Retention

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Abstract—**This paper is an attempt to investigate whether the Elementary EFL learners' vocabulary retention of the newly learned words significantly differs by using recognition exercises (fill-in-the-blank, and matching) and production exercises (paraphrasing, and glossing) in immediate and delayed vocabulary tests. 46 Iranian Elementary learners who were studying English in a language Institute participated. Four texts were selected from Elementary Total English book. Each text contained ten unknown words followed by one exercise type. Each session the learners read a text, and then did the following exercises. The meaning of the words was provided in a mini dictionary. After doing each exercise, the learners were instructed to provide an English synonym, or an English definition, or translation of the word in L1 for each word. Before the test, mini dictionaries were collected. After a two week interval, the participants' vocabulary learning was tested through the final vocabulary test containing all the words presented in four exercise types. The results of comparing four exercise types revealed that learners recalled more words in fill-in-the-blank exercise than other exercise types both in immediate and delayed tests. Moreover, the results indicated that recognition exercises were more effective than production exercises in EFL vocabulary retention. In addition, learners' scores in immediate tests were better than their scores in delayed tests in four different exercise types. Thus, unknown words should be repeated in different exercises, in order to be stored in long term memory and to be retained easily.**

Index Terms—**incidental vocabulary learning, intentional vocabulary learning, production exercises, recognition exercises, retention, vocabulary knowledge**

I. INTRODUCTION

Vocabulary knowledge has an important role in almost all areas of language learning. According to Nation (2001), "vocabulary learning is not a goal in itself; it is done to help learners listen, speak, read, or write more effectively" (p. 362). Therefore, learning a language depends on learning its vocabulary. Stoller and Grabe (1993) stated that development of vocabulary knowledge is highly necessary for both native and nonnative speakers. Moreover, Kaivanpanah and Zandi (2009) pointed out the significant role of vocabulary knowledge in reading comprehension in first language (L1) situations, and second language (L2) settings as well. Thus, vocabulary learning is important not only in L1, but also in L2 language learning. Hulstijn et al. (2005) believe that "If one does not know the meaning of the words occurring in a text, understanding is severely hampered" (p. 54). Hence, learners should pay attention to the words as a part of a message and individual words as well (Nation, 2001).

Many studies have examined the effect of different methods and on vocabulary learning (Brown & Perry, 1991; Avila & Sadoski, 1996; Zimmerman, 1997; Mora, 2000; Nation, 2001; Shapiro& Waters 2005; Sagarra & Alba, 2006). Zimmerman (1997) asserted that reading plus interactive vocabulary instruction can lead to great vocabulary learning. In addition, Naiton (2001) noted that incidental vocabulary learning activities such as role play, ranking, retelling are useful means of vocabulary learning. One important means to focus on vocabulary is Exercises. Exercise has a beneficial effect on vocabulary learning. Chastain (1988) believes that new information should be related to old information in order to be retrieved. Thornburg (2002, as cited in Cevik, 2007) states that in order to connect new knowledge (new words in context) to existing knowledge, it should be supported with the exercises. Amiryousefie and Kassaian (2010) assert that exercises direct learners to specific vocabulary items and help them understand the meaning of these words through different tasks. Moreover, Nation (1990, as cited in Cevik, 2007) states that "in order to remember a word, it needs to be encountered 5 to 16 times in activities or texts" (p. 2). Hence, if vocabulary items are repeated in different exercises and activities, learners' vocabulary knowledge will be enhanced to a great degree. Therefore, different exercises and activities will be beneficial in this way. Furthermore, some researchers believe that teaching vocabulary by reading text plus exercises and activities will be more effective (Paribakht & Wesche, 1994; Zimmerman, 1997).Vocabulary learning is one of the major focuses in language studies. Providing different tasks and activities can be effective and beneficial in this regard. Since few studies (Hulstijn, 1992; Folse, 2006; Llach, 2009) have been conducted in this regard; therefore, this study intends to compare exercise types through recognition exercises (fill-in-the-blank exercises and matching exercises) and production exercise (glossing and paraphrasing) on EFL learners' vocabulary retention. In this way, the result of this study can benefit language teachers and material writers to use more effective exercise types in order to improve learners' vocabulary knowledge.

II. REVIEW OF LITERATURE

A. Vocabulary Learning

Learning vocabulary plays an important role in language learning because as Gass (1999) believes "learning a second language means learning its vocabulary" (p. 325). Folse (2004) notes that vocabulary is necessary for language learning and both research and experience are well aware of this view. Hunt and Beglar (2005) assert that "the heart of language comprehension and use is the lexicon" (p. 24). "No matter how well the student learns grammar, no matter how successfully the sounds of L2 are mastered, without words to express a wide range of meanings, communication in an L2 just cannot happen in any meaningful way" (McCarthy 1990, as cited in Al-Hadlaq, 2003, p. 60). As Nation (2006) has shown, for comprehending written text, 8000 to 9000 word family vocabulary is necessary and for spoken text, 6000 to 7000 vocabulary is needed. Therefore, learning vocabulary is fundamental for language learning. As Schmitt (2008) mentions there are two types of vocabulary learning including incidental and intentional vocabulary learning. One means of intentional vocabulary learning is exercises.

B. The Significance of Exercise

In a study, Dunmore (1989) highlighted the need for exercise types in vocabulary learning and emphasized the importance of context in understanding the meaning of unknown words. In another study, Paribakht and Wesche (1994) pointed out the importance of using exercises in vocabulary learning. They reported that text-based vocabulary exercises and activities will be more effective and efficient than the reading only the text on vocabulary learning. However, the result of this study supports Amiryousefie and Kassaian's (2010) findings. Moreover, Llach (2009) emphasizes the effect of vocabulary exercisers in promoting vocabulary knowledge. Min and Hsu (1997) state that reading plus vocabulary enhancement activities is more effective than narrow reading in vocabulary acquisition and retention. These vocabulary enhancement tasks and activities draw learners' attention to a particular word and enable them to understand the meaning and function of the word and result in vocabulary learning (Min & Hsu, 2008). Hence, using different exercises is essential and beneficial for vocabulary learning and retention.

Paribakht and Wesche (1994) developed a hierarchy of vocabulary exercise types: 1.Selective Attention: This type of exercise draw learners' attention to a particular vocabulary item. For example: presenting a list of words before a text, and ask the learners to read the words and pay attention where these words appear in the text. 2. Recognition: As they assert in this type of exercise, the learners have to associate the word form and its meaning. Hence, the learners just need partial knowledge of the words. For example: matching a vocabulary item with synonym or definition of the word, and choosing the correct meaning of a word in a multiple choice test. 3. Manipulation: In manipulation the learners have to rearrange the elements of phrases by referring to their morphological and grammatical knowledge. For example: using stems and affixes to make word. 4. Interpretation: they state that in Interpretation, the learners are asked to make a relationship between vocabulary items with other words appeared in the text. For example: synonyms, antonyms. 5. Production exercises: The learners have to retain and reconstruct the vocabulary items, and then retrieve and make a suitable word in the text. For Example: open cloze exercises. Different exercises can lead to substantial gains of vocabulary knowledge and greater vocabulary learning. But the question is which exercise type is the most effective and beneficial in vocabulary learning and retention?

C. Factors Affecting the Efficacy of Different Exercise Types in Vocabulary Retention

Two major factors affecting the efficacy of exercises are "Noticing" and "Attention" which are mentioned in L2 acquisition studies (Truscott, 1998; Schmidt, 1990). Noticing is the process of "giving attention to an item" (Nation, 2001, p. 74). Kargozari, and Ghaemi (2011) state that "during noticing, the word is taken out of its message context for a certain period of time to be studied as a single item" (p. 1655). According to Folse (2006), different exercise types can draw learners' attention to specific vocabulary item, and make the learners notice to the particular word. For example, completing a cloze exercise with unknown words or writing original sentences can draw learners' attention to a particular item (Folse, 2006). Craik and Lokhart (1975, as cited in Folse, 2006) assert that depth of processing is another important factor affecting vocabulary learning and retention. Folse (2006) believes that exercises such as writing original sentences needs a deeper level of processing than matching or cloze exercises.

Nation (2001) asserts three important factors affecting L2 vocabulary development: Noticing, Retrieval, and the Generation. According to Nation (2001) noticing can take place when a learner is looking up a word in dictionary. The second important factor is the Retrieval. Nation (2001) states that retrieval is the remembering and recalling of a word with the same meaning in different contexts (Nation, 2001, p. 80). "The more the incidents of retrieval that take place at reasonably long intervals, the better the learning" (Kargozari, & Ghaemi, 2011, p. 1655). The third factor is generation which Nation (2001) defines as meeting a word in different contexts with different meaning of the words.

Moreover, Brown (1993) reports two important factors affecting acquisition of the words: Frequency of occurrence, and Saliency. According to Brown (1993) frequency of occurrence is the number of encountering of a word, and Saliency is the "importance of a word" (p. 265). Kargozari and Ghaemi (2011) report that vocabulary exercises can make a specific item more salient and make learners focus on a particular item. Hence, in this way learners pay more attention to that item. Therefore, it can be concluded that different exercise types can improve learners' vocabulary knowledge to a great degree.

D. Incidental and Intentional Vocabulary Learning

Incidental vocabulary learning refers to acquisition of a word when there is no conscious intention (Hulstijn, 2011), whereas the intentional vocabulary learning refers to "a deliberate attempt to commit factual information to memory" (Hulstijn, 2011, p.1). Read (2004) believes that in terms of vocabulary learning, both incidental and direct vocabulary learning are necessary. In addition, Hulstijn et al (1996) state that learners cannot learn the words solely by intentional vocabulary activities and words must be "picked up" through listening and reading activities. Furthermore, Hunt and Beglar (2005) believe that combining explicit and implicit vocabulary learning will be beneficial in terms of improving lexical knowledge in EFL contexts. Hence, vocabulary learning programs need to integrate both intentional and incidental vocabulary learning (Schmitt, 2008). Nation (2001) supports this point, and he claims that both incidental and intentional vocabulary learning are necessary in order to develop different language skills. Based on Schmitt's claim, Yali (2010) pointed out that a combination of incidental learning (reading text) and intentional vocabulary learning (specific explicit vocabulary exercises) resulted in better retention, and greater depth of vocabulary knowledge than the incidental vocabulary learning alone.

Schmitt (2008) added that "the more a learner engages with a new word, the more likely they are to learn it" (p. 338). Taken together, more exposure of learners with new words through both intentional and incidental vocabulary learning will enhance vocabulary learning and will result in better vocabulary retention.

E. Vocabulary Learning through Texts plus Exercises

Reading text has a crucial role in learning vocabulary and leads to substantial gains of vocabulary knowledge. Dunmore (1989) asserted that reading is important means for learners, in order to learn and understand the new items. Pigada and Schmitt (2006) pointed out that more vocabulary acquisition occurs in extensive reading condition. Nagy (1997) asserts that "no single encounter with a word, whether in instruction or in the course of reading or listening, can lead to any great depth of word knowledge" (p. 74). As Stoller and Grabe (1993) report, reading texts following by related vocabulary exercises promotes the effect of incidental learning. Hulstijn et al. (1996) state several reasons that why the learners fail to learn the meaning of the words in the texts: 1. sometimes the learners do not pay attention to the presence of the unknown words, or they think that they know the words. 2. Sometimes they just pay attention to the message of the text, and they ignore to notice to the form of the words. 3. Most of the time, the meaning of the unfamiliar words cannot be inferred from the texts 4. One meeting of a new item does not result in acquisition. As Joe (1998) indicated, the process of reading plus doing a task (retelling a text) enhances incidental vocabulary learning, and results in great gain of vocabulary knowledge. However, Paribakht, and Wesche (2000) support this view, and state that reading plus vocabulary activities leads to a better vocabulary learning, and greater depth of vocabulary knowledge than the reading only condition. They report that these exercises and activities provide multiple exposures to different lexical features, and consequently promote learners' vocabulary knowledge. In other words, "the reason for better success of reading followed by vocabulary exercises may be that these exercises ensured learners attention to specific vocabulary items and required learners to analyze and understand the meanings and functions of target words through different tasks" (Amiryousefi,& Kassaian, 2010, p, 96). To sum up, combining implicit and explicit vocabulary learning through using texts, following by different exercises and activities can be beneficial and result in better vocabulary learning and retention.

F. Previous Studies

There are studies in which reading only the text and reading text plus different exercises and activities are compared in terms of vocabulary learning. The following studies resulted in the superiority of text plus different exercises and activities to text reading in vocabulary learning and retention.

In a study, Joe (1998) examined the effects of text-based tasks on incidental vocabulary acquisition in three different conditions. To carry out the study, 48 adult ESL learners who were learning English as a second language were assigned to three groups. The first group had to read a text and retell it with explicit generative training but the text was not available during recalling. The second group `had to read the text and then retell it without explicit generative training but the text was available during recalling. The third group (control group) did not have to read the text or recall it. Based on the learners' performance on the post test, it was found that the process of reading and recalling a text improved vocabulary learning incidentally. In addition, generative processing promoted vocabulary knowledge to a great degree.

More recently, Amiryousefi and Kassaian (2010) compared the effectiveness of the "reading only" condition and "reading plus" vocabulary exercises condition influencing learners' vocabulary knowledge. The participants of the present study were 120 EFL male learners. After administering a proficiency test (Nelson Test), the final number of the participants in this study was 60.They were assigned to two groups. The "reading only" group (n=30) had to read several texts then answer comprehension questions. The "reading plus" group (n=30) had to read passages and then answer different text-based vocabulary exercises. After the treatment, the Vocabulary Knowledge Scale (based on Paribakht and Wesch, 1993) was used to test the learners' vocabulary knowledge. It was revealed that in "reading plus" vocabulary exercises group, the learners gained deep and stable knowledge of vocabulary than the "reading only" group. The researchers believe that "these exercises directed the learners' attention to specific vocabulary" (p. 96). Moreover,

the learners had a better understanding of the meaning of the words. Therefore, it can be concluded that "vocabulary exercises are an aid to vocabulary learning" (Amiryousefi and Kassaian, 2010, p. 96).

The previous studies pointed out the importance of using different exercises and activities following a text to increase learners' vocabulary knowledge. These exercises and activities will enhance learners' vocabulary knowledge to a great degree. But the question is which exercise type is the most effective one to increase learners' vocabulary knowledge. Therefore, focusing on different exercises deserves much attention. Hence, the following researches aimed at comparing different exercises in terms of vocabulary retention and learning.

In a study conducted by Hulstijn et al. (1996), 78 Dutch advanced learners of French from three Dutch universities were asked to read a French short story in one of the three following text reading conditions: Marginal glosses (containing L1 translation of unknown words), Dictionary use (having opportunity to use a bilingual Dictionary), and control (not given marginal glosses or a dictionary). This study was conducted to reveal which condition will result in better vocabulary retention. After administering the posttests, the papers were collected and corrected by two researchers. The results indicated that combination of the Marginal Glosses and reoccurrence of the words in the text resulted in better vocabulary retention than the other two conditions. The results showed that the marginal glosses were more effective than the dictionary use in vocabulary retention, because learners often do not use a dictionary. Hulstijn et al. (1996) stated that " When readers do use the dictionary, the incidence of incidental vocabulary learning will be as good as, or even better than, when they are provided with marginal glosses" (p. 336).

In another study, Folse (2006) compared the effect of written exercises on L2   vocabulary retention. To this end, 154 ESL learners of four U.S universities practiced 18 unknown words in three following different types of conditions: one fill – in – the blank exercises (recognition exercises), three fill – in – the – blank exercises (recognition exercises), and one original – sentence writing exercises (production exercises). An unexpected post test was administered to see whether vocabulary retention differ by using three different conditions. A repeated measures ANOVA showed that the mean scores of the three fill- in- the- blank condition were the highest and   the words under three – fill – in – the – blank condition were retained better than the other conditions. This study showed that doing multiple target word retrievals in an exercise is important in L2 vocabulary learning.

However, Kargozari and Ghaemi (2011) did the most recent research to compare the effect of different exercises on L2 learners' vocabulary retention. They examined three tasks on L2 vocabulary retention: multiple choice exercise, fill-in-the-blank exercise, and sentence writing. To this end, 54 Iranian EFL learners participated in this study. The learners were randomly assigned to three groups: fill-in-the-blank group, multiple choice group, and the sentence writing group. While doing the exercises, a mini dictionary was distributed among the learners in order to help them understand the meaning of the words, and their usage. Five days after the treatment an unexpected posttest was administered to the learners in order to investigate which exercise type is the most effective in vocabulary retention. To analyze the data, a Kruskal-Wallis Test was run. The results indicated that the mean of the multiple choice exercise was higher than the other two exercise types. The researchers concluded that the multiple choice exercise was more effective than the other two conditions on L2 vocabulary retention. They argued that in multiple choice exercises, retention of the words was longer than the other two types because in Multiple choice exercises the learners had to just focus on the meaning of the words, but in doing fill-in-the-blank exercise, and sentence writing the learners had to focus not only on the meaning of the words but also on the other aspects of language like grammar.

Many researchers (Paribakht & Wesche, 2000; Amiryousefi & Kassaian, 2010; Yali, 2010) reported that reading plus different exercises and activities led to better vocabulary retention than the reading only the text. Paribakht and Wesche 2000 stated that these exercises and activities make the learners pay more attention to a particular item, and result in better vocabulary learning. Yali (2010) supports this point of view, and states that combination of incidental and intentional vocabulary learning (through text plus explicit exercises) resulted in better vocabulary retention and learning.

Although a large number of studies have resulted in the effectiveness of different exercises in vocabulary learning and retention, few studies compared the effect of different exercises and activities on learners' vocabulary retention. Hulstijn et al. (1996) indicated that marginal gloss is effective and efficient in vocabulary learning. Otherwise, Folse (2006) concluded that three fill-in-the-blank conditions (recognition exercise) resulted in better vocabulary retention. The researcher pointed out that multiple target word retrievals in an exercise is an important factor. Kargozari and Ghaemi (2011) concluded that multiple choice exercises were conducive to vocabulary learning. Since few studies have examined the effect of different exercise types influencing learners' vocabulary learning and retention, and there is still no consensus among the researchers on this issue; therefore, the present study aims at comparing different exercise types influencing EFL elementary learners' vocabulary retention. The principal objectives of this study are to investigate the most effective exercise type influencing Elementary EFL learners' vocabulary retention. In addition, to compare recognition exercises (through fill- in-the-blank and matching) and production exercises (through paraphrasing and glossing) in EFL learners' vocabulary retention. Furthermore, to investigate whether there is differential gain of knowledge in immediate and delayed vocabulary post tests.

III. METHOD

A. Research Questions

The present study addresses the following research questions:

THEORY AND PRACTICE IN LANGUAGE STUDIES

1. Does EFL learners' vocabulary retention significantly differ by using different exercises of matching, fill-in-the - blank, paraphrasing, and glossing in immediate and delayed tests?

2. Are recognition exercises more effective than production exercises in EFL vocabulary retention?

3. Is there differential gain of knowledge in immediate and delayed vocabulary post tests?

B. Participants

To achieve the objectives of this study, 65 female Elementary EFL learners who were learning English in Ghalam-e-Bartar Institute participated in the study. Since all the learners had taken a placement test before attending the Institute classes, they were regarded homogenous in terms of proficiency level. They were studying Top Notch book1 A and B. Their native language was Persian. The classes were held 3 times a week. Since some of the learners were absent during the instruction and tests sessions, the final number of the participants in this study was 46.

C. Instruments

1. Pretest

To select the appropriate words for this study, a check list of 92 words was prepared. The words were selected from several texts from Elementary Total English book (Foley, Mark, & Hall, Diane, 2005). In selecting the words two criteria were considered:

1. All the words were unknown to the learners.

2. The words presented in this study had different parts of speech.

In order to ensure that the selected words were unknown to the participants, the checklist was handed to several Elementary learners who were at the same level of the proficiency of the participants in this study. The learners had to write the meaning of the words they knew. The familiar words were excluded. Hence, a list was developed including new words about which the learners did not have any previous knowledge. Four texts containing 40 unknown words were selected. Each text was followed by one type of exercises.

2. Recognition Exercises

In this study two types of recognition exercises were designed.

1) Fill – In- The – Blank Exercises: The first text which was selected from Elementary Total English book contained ten unknown words which was followed by ten fill- in- the- blank exercises including ten unknown words.

Following, an example is presented:

Fill in the blanks with the following words. There are more words   than necessary.

main   fabulous   experienced

The food smells ……………. . It's wonderful.

Jane is a(n) …………….. driver. She drives well.

2) Matching Exercises: The second text containing ten unknown words was selected from Elementary Total English book, followed by ten matching exercises containing ten unknown words. The learners had to match each word on the left column to the definition on the right. Following, an example is presented:

Match each word to the correct meaning.

1. take place   a. long often difficult journey

                                    b. happen

3. Production Exercises

Two types of production exercises were developed in this study. In production exercises the learners had to write synonyms of the unknown words (glossing) and paraphrase the sentences containing the unknown word (paraphrasing).

1) Paraphrasing Exercises: The third text was selected from Elementary Total English book. It was followed by ten sentences including ten unknown words from the text. The learners had to paraphrase the sentences including the unknown word.

Following, an example is presented:

Write the synonyms of the underlined words.

I got caught in the morning rush hour. There was a heavy traffic.

2) Glossing: In the fourth text was the synonyms of ten unknown words were prepared on the right hand side in the text. The text was followed by ten sentences in which the new words were underlined and the learners had to write synonym for the underlined word. Following, an example is presented:

Paraphrase the following sentences and use the synonyms of the underlined words.

You'll get a fine if you park your car here.

4. Mini dictionary

The meaning of the unknown words in texts was provided in a mini dictionary which contained 59 words: 40 unknown words presented in four different exercises, and 19 words in four texts that the learners had to know their meaning in order to understand the meaning of the texts. The vocabularies were arranged in alphabetical order to facilitate finding the new words. Each word was followed by its part of speech, a definition, and an example sentence which were taken from Oxford Elementary Learners' Dictionary (Crawley & Ashby, 2000) which showed the use of the word.

5. Post – Test

Vocabulary tests were developed based on the new words in each exercise. Each session after doing each exercise, the learners' knowledge of the words presented in each exercise type was tested. Each test contained ten unknown words for which the learners had to write an English synonym, or an English definition, or translation of the word in L1. Two weeks after the instruction, the delayed test containing 40 unknown words presented in 4 different exercise types was administered to the learners to see whether the vocabulary retention significantly differed by using different exercises.

C. Procedure

Main study

The main concern of this study was to investigate the most effective exercises on EFL learners' vocabulary retention. To this end, 46 Elementary EFL learners participated in this study. The instruction took four sessions in summer, 2011. During the instruction, the learners had to read the text, and then do the exercises in 25 minutes. The teacher helped them understand the meaning of the words in the texts. It is worthy to note that, the text was available during doing the exercises to help learners do the exercises. Mini dictionaries were handed to learners to help them understand the meaning of the new words and they were collected before administering the test. The instruction lasted for four sessions. Each session they practiced one type of exercises, i.e. matching, fill-in-the-blank, glossing, and the paraphrasing exercises. After doing each exercise, a test of vocabulary that was based on the words in each exercise was administered to the participants. The learners were asked to provide an English synonym, or an English definition, or translation of the word in L1 for each word. After two weeks, the delayed post test was administered to the learners to examine the effect of different exercise types on EFL learners' vocabulary retention.

D. Data Analysis

A repeated- measures ANOVA will be used to see whether vocabulary retention significantly differs by using different exercises. A paired samples t-test will be used to see whether recognition exercises are more effective than the production exercises in EFL vocabulary retention. A paired samples t-test again will be used to see whether there are differential gains of knowledge in immediate and delayed vocabulary post tests.

IV. RESULTS AND DISCUSSION

A. Reliability of the Exercises

The reliability of the exercises was measured using Kurder _ Richardson Formula 21.
The reliability of the exercises in both immediate and delayed tests is presented in Table 4.1.

TABLE 4.1.
RELIABILITY OF THE EXERCISES

	Immediate	Delayed
Fill-in-the-blanks	0.78	0.68
Matching	0.82	0.75
Paraphrase	0.79	0.70
Gloss	0.81	0.90

As seen in Table 4.1, the reliability of exercises in both immediate and delayed tests was high. The results indicated that the reliability of each exercise type in immediate test was higher than delayed test except glossing.

B. Investigation of the First Research Question

The first research question attempted to see whether the EFL learners' vocabulary retention significantly differs by using different exercises of matching, fill- in-the-blank, paraphrasing, and glossing. Since each learner was exposed to four different exercise types, a repeated- measures ANOVA procedure was run. The Descriptive Statistics is presented in Table 4.2.

TABLE 4. 2.
DESCRIPTIVE STATISTICS FOR IMMEDIATE AND DELAYED TESTS OF FOUR EXERCISE TYPES.(N=46)

	Minimum	Maximum	Mean	Std. Deviation
matching_immediate	2.00	10.00	7.9348	2.52457
matching_delayed	.00	10.00	4.5652	2.77811
Blanks_immediate	2.00	10.00	9.0435	1.72506
BLanks_delayed	.00	10.00	5.8261	2.59319
paraphrase_immediate	1.00	10.00	8.6304	2.03698
paraphrase_delayed	.00	10.00	4.5435	2.59663
gloss_immediate	1.00	10.00	6.8261	2.83082
gloss_delayed	.00	10.00	4.4348	3.61265
Valid N (listwise)				

Based on the results presented in Table 4.2, it can be argued that the fill-in-the-blank exercise has the highest mean in both immediate and delayed tests ($\bar{x}$ =9.0, $\bar{x}$ =5.8 respectively), followed by the paraphrasing exercise ($\bar{x}$ =8.6, $\bar{x}$ =4.5 respectively), the matching exercise ($\bar{x}$ =7.9, $\bar{x}$ =4.5 respectively), and glossing exercise ($\bar{x}$ =6.8, $\bar{x}$ =4.4 respectively). Based on the results, it can be claimed that the fill – in the – blank is the most effective exercise among different exercise types influencing EFL learners' vocabulary learning.

TABLE 4.3.
TESTS OF WITHIN-SUBJECTS EFFECTS IN IMMEDIATE TESTS.

Source		Type III Sum of Squares	Df	Mean Square	F	Sig.
factor1	Sphericity Assumed	59.799	3	19.933	6.415	.000
	Greenhouse-Geisser	59.799	2.691	22.222	6.415	.001
	Huynh-Feldt	59.799	2.879	20.774	6.415	.001
	Lower-bound	59.799	1.000	59.799	6.415	.015

Table 4.3 indicates that the differences among different exercises in immediate tests are significant ($p<0.05$). It can be argued that different exercises have significant effect on the learners' vocabulary knowledge in immediate tests. Therefore, learners' vocabulary retention differs by using different exercises in immediate tests.

TABLE 4.4.
TESTS OF WITHIN-SUBJECT EFFECTS IN DELAYED TESTS.

Source		Type III Sum of Squares	Df	Mean Square	F	Sig.
factor1	Sphericity Assumed	59.799	3	19.933	6.415	.000
	Greenhouse-Geisser	59.799	2.691	22.222	6.415	.001
	Huynh-Feldt	59.799	2.879	20.774	6.415	.001
	Lower-bound	59.799	1.000	59.799	6.415	.015

As seen in Table 4.4, the differences among different exercise types in delayed tests are statically significant ($p<0.05$). It can be concluded that different exercises have significant effect on learners' vocabulary retention in delayed tests. Therefore, learners' vocabulary retention differs by using different exercises in delayed tests.

Thus, based on the results presented in Table 4.3 and 4.4 the differences among four different exercises in both immediate and delayed tests are statistically significant ($p<0.05$). It can be argued that different exercises have significant effect on the learners' vocabulary retention. Therefore, the first null hypothesis is rejected. Thus, it can be concluded that the EFL learners' vocabulary retention significantly differs by using different exercise types in both immediate and delayed tests

C. Investigation of the Second Research Question

The second research question aimed at investigating whether the recognition exercises are more effective than production exercises influencing EFL learners' vocabulary retention. To this end, a paired samples t-test was used to compare recognition and production exercises. Before utilizing the paired samples t-test, the descriptive statistics are presented in table 4.5.

TABLE 4.5.
DESCRIPTIVE STATISTICS FOR IMMEDIATE AND DELAYED TESTS OF RECOGNITION AND PRODUCTION EXERCISES

	Minimum	Maximum	Mean	Std. Deviation
recognition exercises immediate	3.00	10.00	8.4891	1.83027
recognition exercises delayed	1.00	10.00	5.1957	2.42780
production exercises delayed	.50	9.50	4.4891	2.85869
production exercises immediate	3.00	10.00	7.7283	2.10741
Valid N (listwise)				

As seen in Table 4.5, the mean scores of recognition exercises in both immediate and delayed tests($\bar{x}$ =8.4, $\bar{x}$ =5.1) are higher than the mean in production exercises ($\bar{x}$ =7.7, $\bar{x}$ =4.4).To see whether the difference is significant or not a paired samples t-test was run. The results are presented in Table 4.6.

TABLE 4.6.
PAIRED SAMPLES TEST FOR BOTH RECOGNITION AND PRODUCTION EXERCISES IN IMMEDIATE TESTS.

			Paired Differences			95% Confidence Interval of the Difference				
	Mean	Std. Deviation	Mean Difference	Std. Deviation	Std. Error Mean	Lower	Upper	T	Df	Sig (2-tailed)
recognition exercises immediate production exercises immediate	8.4891 7.7283	1.83027 2.10741	.76087	1.57670	.23247	.29265	1.22909	3.273	45	. 002

In Table 4.6 the mean difference between two immediate exercises, t statistics (t-observed) is significant (p< 0.05). As seen, the mean of recognition exercises ($\bar{x}$ =8.4) is higher than the mean of the production exercises ($\bar{x}$ =7.7) in immediate tests (8.4>7.7). Therefore, it can be claimed that recognition exercises are more effective than production exercises in EFL vocabulary retention in immediate tests.

As seen in table 4.7, the mean difference between two delayed exercises, t statistics (t-observed) is significant (p<0.05). The mean recognition exercises ($\bar{x}$ =5.1) is higher than the mean of the production exercises ($\bar{x}$ =4.4) in immediate tests (5.1>4.4). Therefore, it can be claimed that recognition exercises are more effective than production exercises in EFL vocabulary retention in delayed tests.

TABLE 4.7
PAIRED SAMPLES TEST FOR BOTH RECOGNITION AND PRODUCTION EXERCISES IN DELAYED TESTS

				Paired Differences							
						95% Confidence Interval of the Difference					
		Mean	Std. Deviation	Mean	Std. Deviation	Std. Error Mean	Lower	Upper	T	Df	Sig. (2-tailed)
Pair 1	recognition exercises delayed production exercises delayed	5.1957 4.4891	2.42780 2.85869	.70652	1.79374	.26447	.17385	1.23920	2.671	45	.010

The results in table 4.6 and 4.7 are indicative of significant difference between recognition and production exercises in both immediate and delayed tests. It can be seen that the mean scores of recognition exercises are higher than production exercises in immediate and delayed tests. Thus, it can be claimed that recognition exercises are more effective than production exercises.

D. Investigation of the Third Research Question

The third research question sought to investigate if there are differential gains of knowledge in immediate and delayed post tests. A paired samples t-test was run to investigate this research question. The results are shown in Table 4.8.

TABLE 4.8.
PAIRED SAMPLES TEST FOR BOTH IMMEDIATE AND DELAYED TESTS IN DIFFERENT EXERCISE TYPES.

	Mean	Std. Deviation	Mean Difference	Std. Deviation	T	Df	Sig.(2-tailed)
Blanks _immediate Blanks _delayed	9.0435 5.8261	1.72506 2.59319	3.21739	2.64922	8.237	45.	.000
Paraphrase-Immediate paraphrase _delayed	8.6304 4.5435	2.03698 2.59663	4.08696	3.23059	8.580	45	.000
Matching _immediate matching _delayed	7.9348 4.5652	2.52457 2.77811	3.36957	3.38204	6.757	45	.000
gloss_ immediate – gloss_ delayed	6.8261 4.4348	2.83082 3.61265	2.39130	4.20306	3.859	45	.000

As seen in Table 4.8.the immediate tests of different exercise types have higher mean scores than the delayed tests. The results show that the differences are statistically significant (p<0.05). Therefore, it can be concluded that there is differential gains of knowledge in immediate and delayed posttests in four different exercise types. Hence, it can be argued that learners' performance on immediate tests was better than their performance on delayed tests.

E. Discussion

Many researchers (Stoller, & Grabe, 1993; Joe, 1998; Paribakht, & Wesche, 2000; Amiryousefi, & Kassaian, 2010) note that using exercises following a text can lead to better vocabulary learning and retention. The major objective of the present study was to determine which exercise type is the most conductive to the learners' vocabulary retention. Based on the results, it was found that fill-in-the-blank exercise is more effective than the other exercise types in vocabulary learning. It is worthy to note that one important reason in the efficacy of fill-in-the-blank exercise is that, it is the most common and popular exercise type used in the classrooms. Therefore, the learners are more familiar with this exercise type. The results of the present study are similar to Folse (2006) who compared three conditions: three fill-in-the-blank exercises, one fill-in-the-blank exercise, and one original-sentence -writing exercise. The results indicated that three fill-in-the-blank exercises condition had the best vocabulary retention. He concluded that doing multiple retrievals in fill-in-the-blank exercise facilitated vocabulary learning. He noted that multiple encounters of words in fill-in-the-blank activities result in better retention of vocabulary items. In contrast, Kargozari and Ghaemi (2011) examined three tasks on L2 vocabulary retention: multiple choice exercise, fill-in-the-blank exercise, and sentence writing. They concluded that the multiple choice exercise was more effective than the other two conditions on L2 vocabulary retention. They asserted that retention of the words in multiple choice exercises was longer than the other two types because most of the time used in doing the exercise was devoted to processing of the words in this type of task but in fill-in-the-blank exercise, and in sentence writing most of the time used for processing was devoted to other aspects of language like grammar. In contrast with this study, Llach (2009) compared the three exercise types in vocabulary acquisition in a foreign language and found that learners in sentence writing (production) group recalled and recognized more words immediately and after three weeks. Moreover, Hulstijn (1992) compared two conditions: Multiple choice exercises provided after a text, and gloss condition (with Dutch synonyms). The results indicated that multiple choice exercises (recognition exercises) were more effective than gloss condition on vocabulary retention. In addition, Hulstijn (1996) compared the influence of Marginal glosses, Dictionary use, and Reoccurrence of unknown words, and concluded that Marginal glosses were more effective than Dictionary use condition in vocabulary learning.

The second research question investigated whether the recognition exercises are more effective than production exercises on EFL vocabulary retention. To this end, a paired samples t-test was used. It was found that recognition exercises are more effective than production exercises on Iranian EFL learners' vocabulary learning. Folse (2006) believes that writing original sentences (as a production exercise) is time-consuming and take more time than doing fill-in-the-blank (as a recognition exercise). Therefore, one advantage of recognition exercises is that they take less time than production exercise. Thus, teachers should use recognition exercises rather than production exercises, in order to improve learners' vocabulary knowledge.

The third research question sought to investigate if there are differential gains of knowledge in immediate and delayed post tests. After utilizing the paired samples t-test, it was found that the immediate tests had considerably higher mean than the delayed tests. With regard to the results, learners' performance in immediate tests was better than their performance in delayed tests. It can be claimed that the learners learned the words during the instruction but after two weeks they forgot some of the words and could not retain them. According to Chastain (1988), the information should be transferred from short term memory to long term memory and it should be stored in long term memory in order to be retained and recalled later. Hence after the first meeting of the newly learned words, they should be repeated in different exercises. As Nation (2001) asserts "there is so much to know about each word that one meeting with it is not sufficient" (P. 74). Consequently, the vocabulary items should be repeated in different exercises in order to be stored in long term memory; so that, they can be retained and recalled easily. Thus, teachers should prepare more exercises and activities and provide more practice opportunities for the learners. The amount and type of practice play an important role contributing to retention and recall (Chastain 1988). Therefore, vocabulary items encountered in

different exercises can be beneficial. Paribakht and Wesche (2000) believe that the repetition of the new items in different exercises and tasks may encourage the learners to pay more attention to the words, because they understand that they may deal with the words again. If the learners practice more, the vocabulary knowledge transfers from short term memory to long term memory and the learners recall the words easily. Thus, the vocabulary items will stick to learners' mind, and this will facilitate the retention of the new words.

V. CONCLUSIONS

A. Conclusion

The present study was an attempt to examine the impact of different exercise types influencing Elementary EFL learners' vocabulary retention. This study aimed at comparing recognition exercises (fill- in – the –blank, and matching) and production exercises (paraphrasing, and glossing) immediately after the treatment, and after two weeks. The first research question investigated which exercise type is conductive to the learners' immediate and delayed vocabulary retention. It was found that EFL learners' vocabulary retention significantly differed by using different exercise types. Indeed, different exercises had different results in improving learners' vocabulary retention. The results showed that the fill-in-the-blank exercise was the most effective exercise type influencing EFL learners' vocabulary retention, followed by paraphrasing exercise, the matching exercise, and the glossing exercise which had the lowest scores.

(Fill-in-the-blank exercise > Paraphrasing exercise > Matching exercise > Glossing exercise).

Concerning the impact of recognition exercises and production exercises on EFL learners' vocabulary retention, it was found that recognition exercises (fill- in – the –blank, and matching) were more effective than production exercises (paraphrasing, and glossing). Therefore, teachers are advised to provide more opportunities for the learners to practice vocabulary by using recognition exercises rather than production exercises in their classes.

In addition, the results indicated that learners' scores in immediate tests were better than delayed tests. The learners retained the words better in immediate tests than after two weeks. It can be concluded that the learners forgot some words and could not recall them after two weeks. Webb (2007) noted that in order to learn a new item, ten repetitions are needed. Therefore, repetition of newly learned items is highly necessary, in terms of vocabulary learning. Moreover, Sokman (1997) asserted that in order the words to be stored in long term memory, they should be provided in increasingly longer intervals, e.g. after 24 hours, and then after a week. Therefore, it is the teachers' task to provide repetition opportunities by using different exercises in different intervals and by engaging learners in different activities and tasks to improve their vocabulary knowledge.

B. Implications

Since vocabulary learning plays an important role in language learning, teachers, and materials designers should find the most effective way to teach unfamiliar vocabulary to the learners. The results of the present study suggest some pedagogical implications and provide guidance for language teachers.

The findings of the present study indicated that using recognition exercises increases learners' vocabulary knowledge better than production exercises. The current study suggests that using fill-in-the-blank exercise produces better vocabulary retention than the other types and can improve learners' vocabulary knowledge. Utilizing effective vocabulary exercises and activities can draw learners' attention to particular vocabulary items (Folse, 2006). Therefore, teachers should spend more time on teaching unknown words by using different exercise types such as fill-in –the-blank exercise which results in better vocabulary retention. In this way, the words would stick to learners' minds, and the learners can remember the words easily after a long time.

In line with some other studies (Nation, 2001; Hunt & Beglar, 2005; Schmitt, 2008; Yali, 2010), the present study asserts that the best way to teach vocabulary is combining incidental vocabulary learning and intentional vocabulary learning which results in better retention and learning vocabulary. As Paribakht and Wesche (2000) reports, multiple encounters of the words through text plus vocabulary exercises promote vocabulary knowledge to a greater degree.

Based on the findings of this study, recognition exercises such as fill-in-the-blank are more effective than production exercises on learners' vocabulary retention. Therefore, teachers are recommended to provide multiple encounters of unknown words through texts following by recognition exercises such as fill-in-the-blank exercise which lead to a better retention and greater depth of vocabulary learning of unknown items.

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