Research Paper

The Effect of Paper Versus Online Worksheets on Iranian Young EFL Learners' Vocabulary Learning

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Abstract

This quasi-experimental research aimed at investigating the effects of two different modes of worksheets on the vocabulary learning of Iranian young EFL learners. Some 20 male and female learners enrolled in a language institute in Chabahar agreed to participate in this study. Then, they were randomly divided into two experimental groups, and a vocabulary test was administered before the treatment as the pre-test. This pre-test was administered to determine the learners' vocabulary knowledge and check their homogeneity. During the treatment, learners in Paper Worksheet Group (PWG) learned new words via paper worksheets, while the learners in Online Worksheet Group (OWG) learned vocabulary items via online worksheets. At the end, all the participants took a vocabulary post-test, which was the same as the pre-test. A paired sample t-test and an independent sample t-test were run, the results of which revealed that the PWG outperformed the OWG. More precisely, paper worksheets had a significant impact on young EFL learners' vocabulary learning. Using worksheets, teachers can create a relaxed, challenging, and fun atmosphere so that young EFL learners can learn complex vocabulary items through active and multi-dimensional learning.

Keywords: *Young EFL learners, Online Worksheet, Paper Worksheet, Vocabulary Learning*

Introduction

Words are the building blocks of a language since they label objects, actions, and ideas, without which people cannot convey the intended meaning (Nation, 2004). Ur (2005) defined vocabulary as all the lexical items we use in our language classes. The importance of vocabulary knowledge in acquiring or learning a new language cannot be overestimated (Mukoroli, 2011; Richards & Renandya, 2002). Teaching vocabulary was a neglected part of language teaching in the past (Carter & McCarthy, 1998; Taylor, 1990), but researchers have been increasingly turning their attention to vocabulary learning because it plays a vital role in learning a language (Carter & McCarthy, 1988; Harmon, Wood, & Keser, 2009; Schmitt, 2000).

Later on, several researchers underlined that the acquisition of vocabulary is essential for successful second language use, and it can be learned through listening to teacher talk, songs, or doing games (Gu, 2003; Maximo, 2000; Pavia, Webb, & Faez, 2019; Read, 2000; Rui, 2021; Zhouhan, & Webb, 2020). Although vocabulary is a major component of any language, many learners still have problems in language comprehension and production because they do not have adequate knowledge of words (Brown, 2010; Mehrpour, Razmjoo, & Kian, 2011; Nouri & Zerhouni, 2016). Since reading is the main source of input for young EFL learners in understanding and producing language, vocabulary learning by young EFL learners is an area which is still worth researching (Butler, 2019).

Teachers can play an important role in students' vocabulary learning using several useful techniques such as showing real objects, showing models, using pictures, teaching words in the context, and using drawings. They can also use storybooks, short texts, illustrations, flashcards, pictures, wall charts, and worksheets. Worksheets are a kind of printed instructional material that is developed and widely used by teachers for assisting their learners in obtaining enough knowledge, skills, and values (Kaymakcı, 2006). However, a large number of studies have shown that if vocabulary teaching is accompanied by some movements, it will be much more effective than passive learning techniques because there exists a positive relationship between physical exercise and cognitive functioning (Butler, 2019; Macedonia, 2014; Pass & Sweller, 2012; Pesce et al, 2009). To put it in a nutshell, one of the best approaches for teaching vocabulary items to young language learners is using exercises based on multidimensional learning approach (Tomlinson, 2003).

Active learning theory requires that learning is no longer loading information in learners' heads; instead, it involves active engagement of the learners in the learning process through collaborative learning (Hyun, Ediger, & Lee, 2017). Using worksheets, teachers can provide helpful comments about the lesson aims, hence encouraging students to engage in active learning which is accomplished through learning-by-doing in and out of class. Worksheets are known to help learners improve students' skills and knowledge in areas such as setting up recording data, interpreting data, experimental mechanism, and so on. Several studies have shown that worksheets increase students' interest in the lesson (Kurt, 2002; Kurt & Ayas, 2010; Öztürk & Tekin, 2020; Saka & Akdeniz, 2002). Today, worksheets have become an essential element of the curriculum in various countries especially at lower-level and children classes (Adlof & Storkel, 2006; Lesley & Labbo, 2003; Nur, 2018).

Despite the large number of studies done on vocabulary learning in general, there exists limited research on the effect of worksheets on vocabulary learning. As regards the use of worksheets in other fields, Yildririm, Kurt, and Ayas (2011) conducted a study about the effects

of paper worksheets on students' achievement on chemical equilibrium. Nur (2018) and Hidayah, Lutfiana, Kurniawan, and Ishma (2021) investigated the effects of techno-ecopreneurship worksheet in improving scientific literacy of students in thermochemistry topic. However, Ulas, Sevim, and Tan (2011) studied the possible benefits of using paper worksheets that are developed after 5E (engage, explore, explain, elaborate, and evaluate) learning cycle model for the teaching of grammatical components, more exactly subject of adjectives. In the same line, Chandra and Hayati (2017) reported using speaking worksheets enhanced speaking accuracy and concluded that using guided speaking worksheets had positive impacts on senior high school learners' accuracy and fluency in spoken English.

Technology has an important role in language education and students' life. Technology is not a device to replace teachers, but it comes in the form of an assistant, maintaining or increasing the functional capabilities of students (Riley, Beard, & Strain, 2001). Most of the institutes, schools, and universities prefer to incorporate modern technology into their studies since technology improves the teaching and learning process (Ahmadi, 2018; Arifah, 2014; Costley, 2014; Francies, 2017; Harris & Al-Bataineh, 2016; Mustafa, Sain, & Abdul Razak, 2012). On the contrary, some other scholars argue technology has a negative impact on teaching and learning process (Alhusban, 2016; Carr, 2011; Stakkestad & Stordal, 2017; Strain-Moritz, 2016). Thus, this study makes a comparison between the effects of paper worksheet and online worksheet which is used through using WhatsApp group.

Having considered the use of worksheets in other fields and taking into account the possible benefits of using technology for teaching young learners, the researchers decided to conduct the current study and investigate the effects of using worksheets on learning vocabulary items by Iranian young learners. The researchers chose to do this since a quick look at the previous literature shows that most of the past studies investigated the effects of one type of worksheets (paper worksheets), and this was mostly done in other fields, but this study focuses on two modes of worksheets (paper and online worksheets), and the focus is on vocabulary leaning among young EFL learners, which is an under-researched area in the Iranian context.

Review of Literature

Vocabulary occupies an important position in learning a foreign or second language. Foreign language learners should use their vocabulary knowledge appropriately because they may not be able to achieve their full potentials in different areas of language while communicating in real-life contexts (Macis & Schmitt, 2017). Schmitt (2000) argued that "lexical knowledge is central to communicative competence and to the acquisition of a second language" (p. 55).

Acknowledging the benefits of multimedia and interest-based materials in teaching vocabulary, Vahdat and Rasti-Behbahani (2013) studied the effects of using video games on vocabulary learning. Collecting data from 40 intermediate students chosen through a TOEFL proficiency test, the students who were placed in the experimental group were taught the new words using a video game called "Runaway: A Road Adventure". The results showed that using video games were effective in teaching vocabulary items. In the same vein, and focusing on the relationship between vocabulary learning and using visual materials, Hashemi and Pourgharib (2013) collected data from 39 female intermediate students, between 16-20 years old. Having been taught during 8 sessions, the students in the experimental group studied the words through visual tools developed by the researchers. The results showed that using visual materials had a noticeable impact on students' vocabulary learning. Abdul-Ameer (2014) focused on vocabulary learning through digital stories, focusing on young learners of English at a basic level. The results

revealed that students in the experimental group had better performance and responses for both comprehension and production sections of the test. Broemmel, Moran, and Wooten (2015) undertook a study measuring the impact of animated books on vocabulary and language development of pre-school-aged children. The results revealed that e-books had a positive effect on children's literacy and vocabulary learning. However, it must be mentioned that these studies did not involve the students in the activities physically and did not develop their tasks based on active learning, which is considered in this study.

Generally speaking, worksheets have been studied in areas other than English learning such as students' achievement on chemical equilibrium (Yildririm, Kurt, & Ayas, 2011). As a pioneer in this area, Ulas, Sevim, and Tan (2011) examined the possible benefits of worksheets on students' success in the learning of adjectives as a grammatical component following 5E (engage, explore, explain, elaborate, and evaluate) learning cycle model. The findings revealed that worksheets brought about better students' learning and were interesting for the students. Lizarazo (2011) researched the impact of using worksheets inside the class and in the exercises implemented in a blog on the use of adjectives in descriptive writings of sixth grade students. The results showed that the use of in-class and online-worksheets helped students develop their use of adjectives in describing people, knowledge pf word order, and their engagement and participation in the class. Castro (2017) investigated the effects of Moodle-based worksheets on the reading comprehension of Colombian EFL learners in a qualitative study. Using students' artefacts, focus-group interviews, and tests, she came to the conclusion that using interesting, planned, and contextualized virtual worksheets led to the development of both reading comprehension and strategies development as well as vocabulary learning. In a qualitative action research, Grosso (2017) also investigated if using worksheets based on vocabulary learning strategies enhanced the fourth grade students writing abilities. Using filed notes, tests, and artefacts, the researcher collected data from 25 boys and girls between 9 to 12 years old. The analysis of the qualitative and quantitative data revealed that using worksheets led to the development of the students' writing ability via enriching knowledge, presenting new vocabulary items to challenge the minds of the students, and rewriting and following model paragraphs. Chandra and Hayati (2017) researched if using speaking worksheets resulted in enhancing speaking accuracy of 22 senior high school learners. Using worksheets was shown to have a significant impact on the accuracy of their speaking skill. These qualitative studies, as it can be seen, focused on other areas of language learning such as grammatical components, adjectives, reading comprehension, speaking, and writing. However, this study aims to investigate the effects of worksheets on vocabulary learning in a quantitative study.

To summarize, most of the studies discussed have used paper worksheets (Chandra & Hayati, 2017; Ulas, Sevin, & Tan, 2011; Yildririm, Kurt, & Ayas, 2011). In addition, another group of studies in this regard investigated the use of worksheets for other skills and components of language and various fields such as math and chemistry lessons (Chandra & Hayati, 2017; Guerrettaz, 2021; Kasper, 2021; Nur, 2018; Ulas, Sevin, & Tan, 2011; Yildririm, Kurt, & Ayas, 2011), while this study investigated the use of worksheets in the learning of basic vocabulary items represented by pictures. More precisely, this study aimed to discover the effects of paper and online worksheets on Iranian young EFL learners' vocabulary learning. Besides, the researchers attempted to investigate which mode of worksheets had a more noticeable effect on Iranian young EFL learners' vocabulary learning. Thus, the following questions were raised for the current study:

RQ1. Do paper worksheets have any significant effect on Iranian young EFL learners' vocabulary learning?

RQ2. Do online worksheets have any significant effect on Iranian young EFL learners' vocabulary learning?

RQ3. Is there any significant difference between the effects of paper versus online worksheets on Iranian young EFL learners' vocabulary learning?

Methodology

Design

It was a quasi-experimental research with two experimental groups (PWG and OWG) since the researchers aimed to compare the effects of these two types of treatment on the learning of vocabulary learning. In this study, no control group was considered because the teacher taught new vocabulary items using two new methods. This investigation was comprised of two variables: vocabulary learning as the dependent variable and teaching through different types of worksheets as the independent variable. In practice, this study was designed employing a pre-test, treatment, and post-test phases. It was principally focused on examining the effects of different modes of worksheets on vocabulary learning.

Participants and Context of the Study

The population of the study was comprised of 100 Iranian young EFL language learners who were attending English classes at Bahar language institute in Chabahar, southeastern Iran. However, the sample consisted of 20 learners who had enrolled in Bahar language institute and accepted to participate in this study. The number of participants was limited by the institute because the number of students in each class was limited to only 10 to 12 language learners, and there were only two classes at the time of research. It was the regulation of the institute, so the number of participants was not under the control of the researchers. The level of students was determined by the institute as beginners through the placement test they usually administer. The placement test of the institute had three sections. The vocabulary section consisted of 10 words, the conversation section included 10 simple conversation questions, and 15 items were related to alphabet recognition. However, the researchers did not base their decision on this test, and the learners' knowledge of vocabulary items were pre-tested. These participants were comprised of 10 male and 10 female learners with an age range of 8-12 years. The participants were 0- No Proficiency level, and they had not formally attended English classes before coming to the institute. The participants studied First Friend 1 book during 22 sessions, but the researchers taught the words via worksheets (paper and online worksheets) during 18 sessions.

Instruments

In this paper, four instruments were utilized: (a) paper worksheet, (b) online worksheet, (c) pre-test, and (d) post-test. The teacher used two books with different types of worksheets (My KG Activity Book-1 and 2). Besides, she provided some online worksheets according to the paper worksheets. In other words, the teaching materials were the same. An overview of the instruments is presented in the following sections.

Paper Worksheets

In this study, two modes of worksheet were considered: paper and online worksheet. The researchers used two different exercises for paper worksheets, including puzzle worksheets and simple form worksheets. In the puzzle worksheets, there were some pictures and a puzzle, and

every picture had a specific number. The students looked at the picture, completed the drawing, colored it, and then wrote the name of the pictures in the puzzle. Afterward, the teacher announced the answers loudly, the students repeated the answers, thus the answers of the pupils were checked. However, in simple form worksheets, there were some images with the written form of words underneath them. First, the teacher pronounced each vocabulary item loudly, asked the students to repeat the words, color the picture, and repeat the words to themselves to retain them in class. For example, a worksheet of animals was given to students at the end of a session. First, they looked at the paper worksheet, and they understood that it refers to animals. Second, the teacher showed the picture in the worksheet of animals, pronounced the words, and the students repeated them after her. Next, the researcher asked students to color the pictures and retain the name of animals by repeating new words.

Online Worksheets

Paper and online worksheets had the same materials, but they had different forms. In the online form, the researchers provided a video for new words with their pictures. In this case, every video addressed a specific vocabulary or topic. Also, the teacher created a WhatsApp group and uploaded the video files in the group (WhatsApp group). Students first watched the video and paid attention to the meaning and pronunciation of the vocabulary items. In the second step, they watched the video and repeated the words after hearing them. All these steps were taken online. Afterward, the researchers sent the exercise worksheets of new words, which were embedded in the videos. Like paper worksheet, the teacher used two modes of exercises in the online worksheet: letter missing exercise and consonant blends exercise.

In letter missing worksheets, there were several pictures with written words in which some letters were missing. Language learners looked at the pictures and understood the meaning of new words. Then, students wrote each word and sent it to their teacher. In consonant blends worksheets, there were two groups of letters at the top of worksheets and some pictures with written words in which two letters were missing. The students looked at the pictures and worked on the meaning of words. In the end, they selected a couple of letters and completed the words. In other words, the learners put a couple of letters in the blank parts of the words to complete the spelling of the words. For example, the couple of letters SC and SK were at the top of worksheets, and there were pictures of the school, skate, scarf, and skirt, with first two letters missing. The students looked at the picture, and they put a couple of letters in the blank parts. Finally, the learners sent their answers to their teacher using the internet (online form).

Pre-test and Post-test

As mentioned before, the level of students was determined by the institute via a placement test. This study does not focus on a specific proficiency level, and this term is not used in the title or study. Further, the vocabulary items are pre-tested to make sure of their vocabulary knowledge. Indeed, they wanted to determine their knowledge of the vocabulary items they aimed to study. The pre-test had 43 items, and each item tested a single word. These words were chosen from their book (First Friends 1) and their worksheets. The students were supposed to learn these vocabulary items during the course. After administering the test, the researchers checked the students' answers and recorded the result of the pre-test. After implementing the pre-test, the researchers omitted eighteen vocabulary items, which were easy and familiar for the majority of students (70%). As a result, the researchers came up with 25 words that were absolutely new for almost all the learners. Thus, the vocabulary post-test had 25 multiple-choice

questions, and each item tested a single word. Finally, the students' answers were checked, and the data were recorded in SPSS software. To control the practice effect, the researcher administered the post-test two months after the pre-test and changed the form of the questions. It must be mentioned that the test items were piloted on a group of 14 leaners very similar to the target participants in another language institute, and the reliability was calculated (0.67) before the research project started. As regards the validity of the test, the teacher book used such a kind of test for measuring vocabulary knowledge. Furthermore, Dunn and Dunn (2007) argued one of the most valid measures of vocabulary knowledge among young EFL learners is through using pictures. For example, Peabody Picture Vocabulary Test is one of the most widely used tests for this purposes. However, three experts in TEFL were asked to read and comment on the validity of the test.

Materials

The learners studied the book First Friends 1 during 10 sessions. Thus, the vocabulary items were from this book and their worksheets. These vocabulary items were taught during the usual time of the class. The vocabulary items were taught during the term using four different worksheets.

The students in PWG learned the new vocabulary items through paper worksheets. In this regard, the teacher first gave the simple form worksheets to students, and they looked at pictures and worked on the meaning of vocabulary. Second, the teacher pronounced the words loudly, and the students repeated them after her. Then, the teacher presented the meanings of words in the Persian language. PWG worked on the words in the classroom. They colored the pictures and repeated the words in the chorus. The language learners had to study the new words in each session because they had a new exercise in the next session. The new exercise was a puzzle worksheet, which had some pictures and a puzzle. Students had to know the meanings to complete the puzzle according to the pictures.

The new words were taught to OWG in online form, and there were two exercises for online worksheets. The teacher created a group in the WhatsApp application. Then, she uploaded the correct pronunciation and the pictures in the WhatsApp group. On the next day, the learners completed the online worksheets. These online worksheets were in two modes: consonant blends and letter missing worksheets. Afterward, the learners sent their answers to their teacher. In the next session, the correct answers were explained in the class, and all the new words were reviewed. Therefore, the language learners understood how the words are employed in a real situation. At the end of each class, the teacher announced the correct answers in the group, and the students watched the videos when they were out of class.

Data Collection Procedure

The students' proficiency levels were determined by the institute. This process was carried out via applying a placement test. However, the researchers provided a multiple-choice vocabulary test with pictures to check their homogeneity. This test included 43 items, but the researchers checked the vocabulary items to find the new ones for the learners. Then, they registered the learners' scores on those new items. Afterward, the students were divided into two classes, and the classes were named as PWG and OWG. In this study, both groups were considered as experimental groups. The teacher used paper worksheets in PWG and employed online worksheets for teaching the vocabulary items in OWG. After applying the treatment, the researchers administered a test one week after the treatment ended, and the scores were saved.

Data Analysis Procedure

The SPSS 24 was employed for the calculations and analyses. A set of statistical analyses were performed to find appropriate responses to the research questions. The homogeneity was evaluated for both groups by estimating the mean, standard deviation, maximum and minimum scores, and running independent samples t-tests. At the beginning of the study, the Kolmogorov-Smirnov (K-S) test was utilized to check whether the scores were distributed normally or not. Finally, paired sample and independent samples t-tests were used as the statistical procedures to answer the research questions.

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Results

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In this section, the results of the study are presented considering the research questions. First, the normality of scores' distribution was checked. Second, learners' performance in the pre-test was analyzed using independent samples t-test. This was performed to ensure that there was no significant difference between the participants regarding their knowledge of the vocabulary items before the treatment. Third, the independent samples t-test and paired sample t-test were employed to analyze the performances of students in the pre-test and post-test. These steps were taken to find if there was any significant improvement in the learners' vocabulary knowledge after the treatment.

A normality test was run to provide valid results and reliable conclusions based on parametric tests. Since the sample size was fewer than 50 (Number = 20), the Shapiro-Wilk test was used for the analysis of the data. As shown in Table 1, the distribution of the scores was normal for both groups in the pre-test, because the significance (sig.) values were 0.63 and 0.33, which were significantly greater than 0.05. It was concluded that the data were normally distributed, thus the researchers used paired-samples and independent-samples t-test.

Table 1
Test of Normality for Pre-test of Groups One and Two

Tests of Normality	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
PWG	0.175	9	0.200[*]	0.94	9	0.638
OWG	0.125	11	0.200[*]	0.92	11	0.332

Checking the descriptive data indicated that the OWG (M = 13.72, SD = 5.47, N =11) scored on the vocabulary pre-test not much higher (i.e., possibly consistent) than the PWG (M = 11.88, SD = 5.03, N = 11). According to Table 2, the results of the independent samples t-test

revealed that there was no significant difference between the means of the two groups' scores on the vocabulary pre-test at the outset of the study.

Table 2

Results of Independent-sample t-test for Vocabulary Pre-test of the Two Groups

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Pre-test of Both Groups	Equal variances assumed	0.15	0.70	-0.77	18	0.44	-1.83	2.37	-6.83	3.15
	Equal variances not assumed			-0.78	17.71	0.44	-1.83	2.35	-6.79	3.11

According to the obtained data, the PWG (M = 11.88) had a weaker performance than the OWG (M = 13.72). The tables presenting descriptive statistics are deleted for the sake of space. However, it shows that there was no significant difference between the vocabulary knowledge of the PWG (M = 11.8889, SD = 5.03598) and OWG (M = 13.72, SD = 5.47), $t(18)$ = -0.77, p = 0.44. It was concluded that the two groups were homogeneous in terms of their vocabulary knowledge. It is essential to mention that the normality of the scores was checked for the post-test too, the results of which are fully presented in the following table.

Table 3

Normality Test for Post-test Scores of Groups One and Two

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Post-test of OWG	0.19	11	0.20[*]	0.92	11	0.40
Post-test of PWG	0.21	9	0.20[*]	0.84	9	0.07

The results of Table 3 demonstrated that the distribution of scores was normal. The p-values for both post-tests were greater than 0.05 (the values were 0.40 and 0.07, respectively). Next, a paired-sample t-test was employed to determine if there was a significant difference between the average values of the first groups' vocabulary learning under two different time conditions of pre-test and post-test. The results of this test are given in Table 4. In the PWG, the mean of the vocabulary pre-test was 11.88 (SD = 5.03), and the mean score of the post-test was

20.44 (SD = 4.63). There was a difference between vocabulary test scores from Time 1 (before the intervention) to Time 2 (after the intervention). However, this evidence was not sufficient, and the researchers needed to check the results by t-test.

Table 4

Paired Samples t-test for Pre-test and Post-test of PWG

		Paired Differences						
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	Pre-test of PWG Post-test of PWG	-8.55	4.36	1.45	-11.90	-5.20	-5.88	8	0.00

The information on Table 4 demonstrated that there was a significant difference between the scores of students on vocabulary tests for pre-test (M = 11.88, SD = 5.03) and post-test (M = 20.44, SD = 4.63) conditions, $t(8) = -5.88$, P = 0.000. Therefore, it was concluded that the PWG improved in their vocabulary learning because of the treatment.

To answer the second research question, the performances of students in OWG on the pre-test were compared to their post-test results. Thus, a paired-samples t-test was run to compare the second experimental group's vocabulary learning in the pre-test and post-test conditions. Regarding the descriptive statistics, their mean score changed from 13.72 to 14.27, but their SD dramatically decreased (from 5.47 to 3.90).

Table 5

Paired-Sample t-test for Pre-test and Post-test of OWG

Paired Samples Test									
		Paired Differences							
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	Pre-test of OWG Post-test of OWG	-0.54	5.00	1.50	-3.90	2.81	-0.36	10	0.72

According to Table 5, it was revealed that there was no statistically significant increase in the vocabulary scores of OWG from Time 1 (M = 13.72, SD = 5.47) to Time 2 (M = 14.27, SD = 3.90); t (10) = -0.361, p = 0.72. It was concluded that there was not any significant difference between these two sets of scores obtained from pre-test and post-tests at Time 1 and Time 2. To

be more exact, the online-worksheet did not show any significant impact on Iranian young EFL learners' vocabulary learning.

The first and second research questions were answered by comparing the results of pre-tests and post-tests for each group separately. In the last step, it was time to find the better group in the post-test. Accordingly, an independent samples t-test was run to compare the gained scores of groups one and two on the post-test of vocabulary items.

Table 6
Results of Independent t-test for the Post-tests of Both Groups

Independent Samples Test									
		Levene's Test for Equality of Variances		t-test for Equality of Means					
		F	*Sig.*	*t*	*df*	*Sig.* (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower Upper
Post-test of Both Groups	Equal variances assumed	0.13	0.71	3.23	18	0.00	6.17	1.90	2.16 10.18
	Equal variances not assumed			3.17	15.72	0.00	6.17	1.94	2.04 10.29

The results of Table 6 revealed that the PWG (M = 20.44, SD = 4.639) showed a better performance than the OWG (M = 14.27, SD = 3.90), t (18) = 3.23, p=0.005. This shows that there was a significant difference between the vocabulary knowledge levels of the two groups after the treatment period. It was concluded that the paper worksheets had a more effective role in teaching the vocabulary items.

Discussion

As mentioned before, this study aimed to assess the effectiveness of paper and online worksheets on the vocabulary learning of Iranian young EFL learners' as EFL learners and determine which worksheet was more effective in their vocabulary learning. The comparison of the results of pre-test and post-test of each group indicated that both paper and online groups had improvement in their vocabulary learning. The progress in the post-test scores of PWG in comparison to pre-test was noticeable, and they progressed significantly through using paper worksheets. Furthermore, it was revealed that there was a significant difference between the mean scores of the groups, with PWG obtaining higher scores on the post-test. These results agree with the results of previous studies which provided some evidence for the positive effect of paper worksheets on learning, leading to achievement in different areas of language and science (Ulas, Sevim, & Tan 2011; Yildririm, Kurt, & Ayas, 2011). Grosso (2017) also found that designing worksheets based on vocabulary strategies helped students improve their writing

ability, learn new words, and become more motivated in language learning. Lizarazo (2011) also concluded that implementation of worksheets in classes helped students improve their writing descriptions and confidence level.

The students' improvement in their vocabulary learning can be attributed to three main factors. The first reason is that using worksheets in English learning classes allows teachers to involve the learners in the learning process directly, which prevents them from being bored and makes them motivated to learn English. Another reason is that very young leaners, unlike adult learners, do not have a long attention span. Therefore, teachers must use learning activities which are interesting and typical for Iranian young EFL learners, and painting and drawing are two of the common hobbies among Iranian young EFL learners ageing under 12. The third reason is that since young learners, in this study young learners aging 8-12 years old, are very active and energetic, thus they might be disruptive if they are not enjoying the class activities very much. Therefore, the best solution is to engage them in activities in which they do actions, move around, and are physically active (NRCIM, 2004; Wyels, 2011).

However, learners of OWG who were taught new words via online worksheets did not experience a significant change from the performance on pre-test to post-test. Since most of the stages involved in the OWG were similar to or the same as activities done in the PWG, thus this failure has to do with the fact that these activities were done with cellphone and online. This result is opposing the findings of the research conducted by Castro (2017), who showed that using organized, interesting, and contextualized online worksheets can improve students' reading comprehension significantly. On the other hand, this result is in the same line as previous research, as mentioned before, warning us against the use of technology. These scholars believe that technology is not a panacea for all educational problems (Alhusban, 2016; Carr, 2011; Stakkestad & Stordal, 2017; Strain-Moritz, 2016). They argued that using technology in some specific contexts and cultures might yield results which run counter to our expectations.

The use of online worksheets might have been ineffective since the students in that group did not paint the picture and were not involved in the learning process as much as those of the paper worksheet. The second reason is that since the OWG students were not observed by the teachers, they might have not repeated the new words as many times as needed. After all, very young EFL learners are not as independent and responsible as adult learners and might need supervision and direct guidance to follow the steps. The third reason is that since most Iranian children at this age are busy with cell phones playing online and offline games with their friends, they might perceive and use cellphones for fun and games, and do not consider it seriously as an educational instrument.

Conclusion

The study aimed to investigate the effects of paper and online worksheets on the vocabulary learning of Iranian young EFL learners aged between 8 and 12. The comparison of pre-test and post-test of the two experimental groups showed that while paper worksheet influenced the vocabulary learning of the participants, the online-worksheet did not help students to improve their performance on the vocabulary tests significantly. The results of this study indicating the efficiency of using paper worksheets in vocabulary teaching and learning can be explained in the light of multi-dimensional approach, active learning, and interest-based learning.

In multi-dimensional approach, students experience learning through feelings, movements, and doing actions at the same time. This approach not only changes the classroom environments and brings about a lively atmosphere but also engages the students in the learning process

actively. Tomlinson (2003) claimed that "a multi-dimensional approach aims to help learners to develop the ability to produce and process an L2 by using their mental resources in ways similar to those they use when communicating in their L1" (p. 168). To be more exact, this approach assists students by providing learning opportunities through experiences, encouraging them to use all their senses, using the resources offered in the worksheets. In this study, students watched the videos or saw the pictures, used their hands, moved around, talked to each other, and painted the pictures, and at the same time they were thinking of the meaning of the words. Thus, different senses were involved in the learning process. As Tomlinson (2003) argues, multi-dimensional approach is based on four principles of engaging affect (students like painting and cartoons), imaging activities (mental images which help language production and processing), inner voice (activities where students talk to themselves while doing the tasks), and finally kinaesthetic activities (having physical activity and movement).

These results can also be seen in the light of active learning too, where students are actively or experientially involved in the learning process depending on their level of involvement. In fact, students do something more than passive listening. Mynard and Sorflaten (2003) asserted that leaning is an active process by nature, but people might do this in different ways.

Another theory which can lend support to the results of this study is interest-based learning theory. Interest-based learning looks at Iranian young EFL learners' interests as the basis for making decisions about curriculum design and implementation, and it ensures that teaching materials be in accordance with Iranian young EFL learners strengths, abilities and interests. It can be delivered online or face to face, uses small group instruction, and leads to engagement in learning. Students are allowed to do the activities at their own pace and submit the works to their teachers in the format they prefer (Hidi, 2000). In this regard, Ladino (2013) asserted that "when students perceive the content as interesting and useful, they probably learn the language because they are motivated and there are more possibilities for successful learning" (p. 61). Therefore, English teachers must work on topics that their students enjoy, thus making the class and its activities more interesting and meaningful. To take this point into account, the researchers utilized worksheets that used multi-dimensional approach techniques, and they did their best to provide a situation where Iranian young EFL learners could use as many of their senses as possible.

This study, like every other research, suffered from several shortcomings. The main shortcoming of this research was the small number of Iranian young EFL learners involved in the experiment. This was out of the control of researchers since there were just two classes at this level in the language institute, and the usual number of students in each class was limited to ten to twelve students. The next limitation of the study was that the researcher conducted the online class through using WhatsApp groups, which is not a platform for holding online class. Future researchers are suggested to conduct the online classes using specially developed platforms and software which have much more options and give students to do all the activity online. The third weakness of the study was the fact that the researcher could not check the students' activities at the same time that they are doing it, thus students might have not followed the steps as required and suggested by the teachers. Therefore, if future researchers can use software and programs which check and record the students' activities and speech while doing the exercises, this will give a better picture of their behavior. Finally, this study looked at the pre-test and post-test scores and neglected the learning process, future investigations can address the language related episodes happening while the students do these tasks and shed light on more complex aspects of language learning while using worksheets.

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