The Role of Games in Teaching English Numbers to Iranian EFL Learners at the Elementary Level

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Abstract

English vocabulary, especially at the elementary stage of language learning process, is easily forgotten. Language games seem to be a good strategy for learning a foreign language. This study aimed to find a way to help elementary EFL learners fix the new English numbers in their minds. First, the general test of English numbers as a pretest was administered to 60 participants. They were required to write equivalents of the target numbers in the blank spaces. After giving the pre-test, the researcher divided the learners into the experimental group and the control group. Students in experimental group were taught new English numbers through games including: One to TEN, Slap that, Number of chairs, How many plastic apples?, Count in jumps, Cooperative numbers Circling math challenge, Answer me, Buzz fizz, Circling math challenge, Choose your score now. In the control group, the new numbers were presented through traditional methods such as repetition or translation. The study was conducted at Poyandegan language Institute in Neyriz. Thirty students as an experimental group and 30 students as a control group aged between 9-12 participated in this study. The collected data were analyzed using paired and independent samples *T- test*. The study indicated that there were statistically significant differences in mean scores of vocabulary tests in favor of the experimental group in the post test. It is hoped that due to the findings of this study teachers will reconsider the role of games and appreciate its value.

***Keywords*:** English numbers, Elementary Learners, Games

Introduction

Students' learning is self-motivated and self-directed. Students are competent and active in the learning environment where they are involved in the process. Consequently, students are no longer the information consumers; in contrast, they construct their own knowledge and problems during an active learning process (Papert, 1993). There are three principles offered by Savery and Duffy (1995) to help explain constructivist learning: *Understanding comes from our interactions with the environment,* learners' knowledge comes from their pre-existing knowledge and experience, and new knowledge is formed when connecting previous experience to the new content and environment (Bransford, Brown, & Cocking, 2000). Papert (1993) has coined the term *body geometry*, which means that children do not learn the formal rules but instead develop insights through the way they interact with space. In this way, constructivist learning is a process in which a person translates a personal experience to construct his own knowledge (Braden, 1996).

Learning a language is not easy, and most students find it a stressful experience. It is often considered that when students are laughing, playing a game and having fun, they are not really learning. In other words, they are just wasting time. This is what most of the time is heard or seen in different discussions in Iranian context about second language learning classes. But this is not always true. Of course, language learning is a challenging task requiring constant effort especially for children, but as Wright, Betteridge and Buckby (2006, p.65) state, "games encourage learners to direct their energy towards language learning by providing them with meaningful contexts". In fact games are just neither for filling nor killing time. And we, as teachers, can use them in teaching English numbers to help our students make progress and learn faster. Games are really helpful for shy students who cannot express their feelings or talk in front of other people. By using games, students can be more active, autonomous, and energetic, learn about environment and the world they are living in, and be engaged in the teaching-learning process.

Games have a great pedagogical value, providing language teachers with many advantages when they are used in foreign language classes. Miller

(1995) also enumerates some reasons for using games. First, it provides relaxation for classroom and shows the students' attention. Second, it increases the rate of learning and raises students' concentration. Third, it identifies students' problem (Jafarian, Madani & Maghsoudi, 2013).

All skills and components of the language can be taught through playing games, which is based on a learner- centered approach.Of course, there is no need to pay attention to the meaningfulness, appropriateness, and the level of the learners (Widodo, 2006). The important point, therefore, is how to choose games, align them to the learners' abilities and make them useful language learning instruments.Children need to be involved and even excited in order to learn effectively (Khan, 1995). The present study is an attempt to investigate the effectiveness of games in improving English numbers learning. The study will compare the effectiveness of the using games and traditional methods for teaching English numbers to elementary students.

Jenkins (2005) showed that 65 percent of students called themselves regular or occasional game players. Taken together, these statistics establish that today's children are highly immersed in video and computer games, and the number of people playing games has risen constantly in recent years.This study aimed to find a way to help young EFL learners fix the novel vocabulary in their minds. The researchers divided the learners into the experimental group (giving an online language teaching game taken from: http//anglomaniacy.pl) and the control group (giving regular teaching). The result with the experimental group was superior to those of the control group. Games not only bring fun to the class, but they also motivate students and build their confidence.

Harb's (2007) study investigated the effect of educational games on the sixth graders' achievement in English language in Gaza southern governorates. The researcher used an experimental approach. The results revealed that there were statistically significant differences in the sixth graders' achievement in English language due to the method in favor of educational games.

Lindsay and Knight (2010) also see the games beneficial in language classrooms because games can accelerate the process of learning.

In addition, Hammad (2005) investigated the effect of role play strategy on the eighth graders' achievement in English language. The researcher used the experimental approach. The sample of the study consisted of 78 students, 39 students as experimental group were taught by role play strategy and 39 students as a control group were taught by ordinary method. The researcher used an achievement test as an instrument in the study. The results showed that the experimental group did better than the control group on the post test. Also, the role play had a great effect on the eighth graders' achievement in English language.

Among the more recent studies, Alemi (2010) attempted to investigate the role of using word games in expanding the learner's vocabulary. In so doing, an experiment using five word games, named Twenty Questions, Charades, Definition Game's, Passwords, and Crossword Puzzles respectively was conducted. The scores obtained from the groups were compared through independent t-test. The calculated t exceeded the t-critical value, confirming the positive effect of word games on expanding learners' vocabulary.

Jafari et al (2013) alsoattempted to compare the impact of learning vocabulary items through instructional games vs. traditional method on vocabulary improvement and retention in Iranian EFL students. The results of the t-test showed that, although the performance of the students in both groups increased after the instruction, the instructional games approach was more successful in long term vocabulary retention than the traditional approach.

In order to carry out the present study, the following research questions were posed:

1. Do games improve young Iranian EFL learners' learning of English numbers?
2. Do games improve young Iranian EFL learners' retention of English numbers?

Method

Participants

The participants of this study were 60 Elementary female students within the age range of 9-12 studying at Poyandegan Language Institute in Neyriz. All of them were native speakers of Persian studying *English Time 2*, a well-known course book. Before studying this book they have already studied *English time 1*.

Instruments

The instrument in this study was a 40 items test of English numbers as a pre-test.The students were required to write their equivalent meanings in Persian. 40 English numbers were selected from the students' textbook. Another parallel test on English numbers was given to experimental and control group at the end of the semester as the post test. Finally, a delayed posttest which had the same format and same questions but displayed the test items in a different order was administrated to measure their retention of knowledge of English numbers. In order to gain the validity of the test, we used teacher's point of views and its reliability was gained though piloting.

Data Collection Procedure

First, a test of English numbers developed and piloted by the researcher was administered to 60 participants, in which a list of 40 target English numbers was given to the participants. The time given was thirty minutes to answer. Each item received one point. After making sure of their homogeneity in the knowledge of English numbers, one group was the experimental group who were taught the new English numbers through games including ONE to TEN, Slap that, number of chairs, How many plastic apples?, Count in jumps, Cooperative numbers Circling math challenge, Answer me, Buzz fizz, Circling math challenge, Choose your score now.All these games were played at the end each class in pairs and groups. In the control group, the new numbers were presented through traditional methods such as repetition or translation. The instruction lasted two months (16 sessions), and they attended a 90 minutes class twice a week. At the end of the semester, there was an English number post-test for two groups to compare the performance of two groups. Two weeks later,

they were given a delayed posttest which had the same format and same questions, but items were displayed in a different order to measure their retention of knowledge of English numbers.

Results

Pretest

The scores obtained from the test of English numbers for both groups of the control and the experimental were compared and analyzed statistically. The means and standard deviations for the pretest scores are presented in Table 1.

Table1

Descriptive Statistics for the Participants' Performance on *the Pretest*

Group	N	Mean	Std. Deviation	Std. Error Mean
Control	30	22.66	3.14	.57
Experimental	30	23.44	2.99	.55

As shown in Table 1, the mean of the control group was lower than that of the experimental group (22.66 and 23, 44, respectively).To see if this difference was statistically significant or not, an independent t-test was applied. Table 2 shows the results.

Table 2
T-Test Results for the Participants' Performance on Pretest

	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
Equal variances assumed	.09	.756	-.977	57	.333	-.78161	.7999	-2.383	.82
Equal variances not assumed			-.978	56.98	.332	-.78161	.7992	-2.382	.81

As shown in Table 2, the mean difference between the two groups was not significant (t =977-8, p>0.05). This shows that the students in the two groups were at the same level of English numbers knowledge. Figures 1 shows the graphical comparison of the two groups in the pretest.

Posttest

The scores obtained from the immediate posttest for both groups of the control and the experimental were compared statistically. The means and standard deviations for the immediate posttest are presented in Table 3 as follows:

Table 3
Descriptive Statistics for the Participants' Performance in the Immediate Posttest

Group	N	Mean	Std. Deviation	Std. Error Mean
Control	30	24.63	3.76	.68
Experimental	30	32.26	4.51	.82

As shown in Table 3 above, the mean of the experimental group was higher than that of the control group 32.26 for the experimental group and 24.63 for control group. Then, an independent *t-test* was performed using SPSS to see if the possible differences between the two groups were statistically significant. The results are shown in Table 4 below.

Table 4
T-Test Results for the Participants' Performance on the Immediate Posttest

	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
Equal variances assumed	1.999	.163	-7.110	58	.000	-7.63	1.073	-9.782	-5.484
Equal variances not assumed			-7.110	56.17	.000	-7.63	1.073	-9.783	-5.482

The results of the independent samples t-test in Table 4 show a significant difference between the two means (t=-7.110, sig=.000) at the level of 0.05.Therefore, it can be concluded that participants of the experimental group improved to a greater extent. Therefore, the answer to the first research question is that using games has effectively improved participants' learning English numbers.

Delayed Posttest

In order to determine the effectiveness of using games on long term retention of English numbers two Paired sample T-test between scores of experimental and control group on posttest and delayed posttest were administrated. The first one was run between scores of control group that is shown in Table 5.

Table 5
Descriptive Statistics for the Control Group Participants' Performance on Delayed Posttest.

Paired Samples Statistics				
	Mean	N	Std. Deviation	Std. Error Mean
Posttest control	24.63	30	3.76	.68
Delayed post-test control	17.06	30	4.65	.84

As shown in Table 5 above, the mean of control group posttest was higher than the delayed posttest of control group (24.63 and 17.06,

respectively). In order to see whether differences were significant or not, a paired samples t-test was run. Table 6 shows the results.

Table 6
Paired-test Results for the Participants' Performance on the English Numbers Posttest and Delayed Posttest

Paired Samples Test							
Paired Differences							
Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
			Lower	Upper			
7.566	6.151	1.123	5.269	9.863	6.737	29	.000

According to Table 6, the value of the t-observed reveals that the difference between the means was statistically significant (t=6.737 and sig=000). The results showed that the differences between two groups were statistically significant for delayed and immediate posttest of the control group (p>.05). Therefore, the performance of the control groups' posttest was better than that of delayed posttest. It shows that the students in the delayed posttest lost their knowledge of English numbers they have learned.

Table 7
The Experimental Groups' Performance in the Immediate and Delayed Posttest

Paired Sample Statistic				
Group	N	Mean	Std. Deviation	Std. Error Mean
posttest of experimental	30	31.06	3.10	.56
delayed posttest of experimental	30	29.83	2.78	.50

According to the above table, the mean of the experimental group on posttest was higher than the delayed posttest (31.06 and 29.83, respectively).In order to see whether differences were significant or not, a paired samples t-test was run. Table 7 shows the result.

Table 8
Paired T-test Results for the Experimental Group's performance in the English Numbers Immediate Posttest and Delayed Posttest

Paired Samples Test

Paired Differences					t	df	Sig. (2-tailed)
Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
			Lower	Upper			
1.23333	9.76512	1.78286	-2.41302	4.87969	.692	29	.495

The results of the paired samples t-test calculation in Table 8 show that there was not a significant difference between the two means (t=-1.620, sig=.506) at the level of 0.05. Therefore, it can be concluded that participants' performance of the experimental group in delayed posttest has not changed to a great extent compared to their performances in the immediate posttest. Therefore, the answer to the second research question is that using games has effectively improved participants' retention of numbers.

Discussion

The present study aimed to examine the effect of using games on the learning and long-term retention of L2 numbers in children. After analyzing the data through descriptive statistics and applying a t-test on the experimental and the control groups' performance, the results revealed that the experimental groups outperformed the control group in both learning and retention of English numbers. Therefore, it can be said that teaching numbersbased on games could have positive effects on the experimental groups' learning the numbers. Several studies have emphasized the role of games in second language learning.

Harb's (2007) study examined the effect of educational games on the sixth graders' achievement in English language in Gaza southern Governorates. The results advocated the effectiveness of using games.Hammad (2005) also, investigated the using of role play in teaching and he gained positive results.Among the recent studies, Aslanabadi(2013) attempted to find a way to help young EFL learners fix the new vocabulary

in their minds. Through an experimental, study he showed that games not only bring fun to the class, but they also motivate students and build their confidence. Language games seem to be a good strategy for learning a foreign language and the results were in favor of experimental group.

The findings of this study support the above mentioned studies. Regarding the participants' retention of the numbers, students were also given a delayed posttest. The result revealed that there was a significant difference between experimental and control group. The experimental group outperformed the control group.

There has been very little work on the impact of games on long term memorization in general. Jafari et al. (2013) investigated the impact of learning vocabulary items through instructional games vs. traditional method on vocabulary improvement and retention in Iranian EFL students. According to the results of the study, performance of the two groups improved, but experimental group was more successful.

Gee (2004) applied a specified game to explain how children learn vocabulary. Instead of memorizing vocabulary, students put vocabulary into action, so they could transform the pre-existing concepts and knowledge into context. They got engaged in games because they were motivated to learn what they want to do.

Based on the results and discussion held previously, it can be concluded that the implementation of different types of the games could really help the students in mastering English numbers. The rules of the games were so simple and easy for the students to understand. The use of games could improve the mastery of the elementary students' knowledge of English numbers. Students who were learning through games engaged positively in all learning activities. Games have some characteristics that are advantageous to language learners.

According to Bradley (2010, as cited in Tuan, 2012)Games engage all students in the learning process. When students play games in pairs or groups, they have the opportunity to recognize and appreciate the contributions of others and use team-building skills. Also, games provide an opportunity for collaboration and/or cooperation. Classroom games provide an opportunity for students to collaborate with each other, while working towards a common goal winning. In some games, students are paired or

grouped, which may lead to peer tutoring and the use of cooperative skills in order to win. They may not realize that they are actually learning. Games can provide an enjoyable learning experience. Creating a fun and enjoyable learning environment is a large first step toward motivating students.

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Biodata

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