The Effectiveness of Games in Enhancing Vocabulary Learning among Iranian Third Grade High School Students

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ABSTRACT

Games provide an opportunity for students to collaborate and cooperate with each other, create a fun, interesting, and effective learning environment, and promote an enjoyable learning experience and teach students vocabulary. This study aimed to investigate the effectiveness of games on Iranian high school students’ vocabulary learning. The researchers used vocabulary Bingo game for this objective. The researchers adopted the experimental research design for this study. 80 students were randomly selected for this study. The researchers chose 40 students with respect to their scores in Oxford Placement Test (OPT) as the participants of this study. They were divided into control and experimental groups, each group consisted of 20 students. Vocabulary Bingo game was used for teaching experimental group, while traditional teaching method was used for control group. The experimental group learnt vocabulary through using vocabulary Bingo game in 10 sessions. The gathered data were statistically analyzed by utilizing the statistical package for social science (SPSS). The researchers used independent sample t-test to measure the effect of vocabulary Bingo game on the experimental group. The findings showed that there were statistically significant differences in the mean scores of pre-test and post-test. The findings indicated that the experimental group outperformed the control group and the statistical results were considerable in post-test. Such findings were attributed to the use of vocabulary Bingo game in teaching vocabulary. The findings also revealed that using games is effective in improving learners’ vocabulary knowledge.

KEYWORDS: games, vocabulary learning, vocabulary Bingo game, high school students
Introduction

According to Kang (1995), vocabulary is the basic unit of language learning. The words shape the main sections of a message. A person is not able to learn a language without knowing words. Vahdat and Rasti Behbahani (2013) said that language learners do not have enough vocabulary knowledge, and despite a lot of ways to help learners learn it, no specific strategy has been identified as the most effective one. Thus, the research continues towards finding the best way of learning vocabulary. Cameron (2001) stated that it plays a significant role in learning a language. Schmitt (2000), Nation (2001), Read (2004), and Donmus (2010) declared that vocabulary development is a particular part of learners’ language development.

Vocabulary teaching and learning is a big challenge for both teachers and learners and teachers do not pay enough attention to it in their classes. One of the key factors in second language learning is to have enough vocabulary and effective communication can be stopped by limited vocabulary. Nation (2001) states that vocabulary knowledge makes possible language use and language use results in vocabulary improvement.

One way to build up new vocabulary in the student’s mind is using educational game in the teaching process. According to Sorayaie-Azar (2012), games have a great effect on learning vocabulary. They include friendly competition and create cooperative learning environment. They improve learners’ communicative abilities and learners have an opportunity to use the target language. The same idea has been stated by Derakhshan and Davoodi Khatir (2015) who expressed that games help learners to learn the target language skillfully. They are very enjoyable for learners that aid them in retaining new words rapidly. Game creates a meaningful context for language learning. It can be stated that using vocabulary games in the classes enables learners to improve their English knowledge flexibly and communicatively.

According to Pannesse and Carlesi (2007), the concept of applying games in the learning process is not a new issue. Teachers try to include different games into their teaching syllabus in order to create an enjoyable learning environment for learners. While this can be challenging, interactive, collaborative, and competitive games motivate learners to participate in the learning process. This idea has been supported by Donmus (2010) who said that learners should be at the center of the learning and their roles should be changed from passive participants to active ones. He emphasized that games have been frequently applied in teaching since they assist teachers in making their teaching enjoyable. Learners who learn vocabulary through using games can be more motivated while learning.

Yien, Hung, Hwang, and Lin (2011) used game-based learning in a nutrition course, finding that this method was more effective in increasing the learning process and learners’ attitudes than traditional teaching and influenced their dietary habits. In the current study, the researchers tried out to propose a solution for teachers through using games that help students to develop their vocabulary learning.
Statement of the problem

Four language skills can be connected with each other by vocabulary. Learners should have adequate vocabulary and know how to use it appropriately (Nguyen & Khuat, 2003). In Iran, educational contexts lack amusing activities that have made the language classes tedious and teachers do not use games, pictures, and role playing to attract their learners. Therefore, this kind of instruction has no significance for learners and they will lose their motivation for learning language. This has a negative impact on learners’ learning. Through this type of teaching, learners do not learn vocabulary because they do not have enough time to acquire those words by using traditional methods or using translation and repetition. Therefore, they face a lot of problems in acquiring vocabulary. In this way, learning vocabulary creates problems for the learners and leads to concern (Bavi, 2018).

One useful strategy to motivate learners to learn a language is the use of language games. When using games, teachers should perceive the definitions of games, notice their benefits such as the ability to relieve students’ anxiety and give them the opportunity for better communication. It is necessary for teachers to select a suitable time and incorporate games into curriculum (Ersoz, 2000). Through using games and fun activities, learners can interact with each other to learn by themselves and from other learners that decrease the fear of making mistakes (Bavi, 2018). Games are considered as a useful strategy to promote learners’ language proficiency (Ersoz, 2000).

Due to the limitations of the syllabus, games sometimes cannot be suitably used. Thus, it can be challenging for teachers to add some games in the classes to develop learners’ proficiency of the target language. Some teachers think that games just waste their time and do not like to use them in classroom since games sometimes have been regarded just for its one part that is fun (Ersoz, 2000). Learners should have a lot of vocabulary knowledge, therefore, they should be taught strategies to utilize vocabulary in order to fix the meaning of unfamiliar words in their minds (Gritton, 2005). Despite all reasons given for using games in teaching vocabulary to students, there are some ideas about whether to use them as a potent instrument for teaching or not. Having limited vocabulary knowledge gives prominence to the vocabulary instruction in the school (Johnson & Johnson, 2001).

Ashraf et al. (2014) studied the impact of games on Iranian learners’ vocabulary ability. They reported that games might be helpful in acquiring vocabulary. They found that games create an interactive context for learners to share their information and are regarded as an essential part of vocabulary attainment. The subjects competed and cooperated with each other in an enjoyable environment. Due to the fact that vocabulary learning is a serious problem for Iranian high school students, the researchers attempted to explore the effect of games (here vocabulary Bingo game) on vocabulary learning among Iranian third grade high school students. In this study, the researchers endeavored to find a solution for students’ vocabulary problems. So the purpose of our study was to suggest a method that uses games for overcoming students’ vocabulary problems.

Research question
This research aims to seek response to the following question:
Does using games have any effect on English vocabulary learning ability among Iranian third grade high school students?

**Hypothesis of the study**

The hypothesis of this study is as follows:
Using games does not have any effect on English vocabulary learning ability among Iranian third grade high school students.

**Literature review**

In this section, the researchers explained kinds of games briefly and reviewed some previous findings pertinent to the application of games in learning vocabulary.

**Kinds of games**

According to El shamy (2001) and Yahoui (2012), four kinds of games have been identified: Content-focused games, experiential games, content-focused frame games, and experiential frame games. Content-focused games are the most suitable ones for language classes. In these games, the content of the game is important and is developed to facilitate the learning of the content. The following classification is based on the material applied.

Paper and pencil games
These games are formed using paper and pencil. In these games, the participants interact with the content of the games. Therefore, they can learn more information. These games are helpful for reviewing learned knowledge because subjects should complete and solve information by using specific rules. They can be adjusted to different subjects (El shamy, 2001; Yahoui, 2012).

Card games
These games involve a set of cards related to some matters. They include definitions and features, where the learner should play with them to receive information. The participant should perform them by ordering cards, completing activities or answering questions. They are attractive because they are tactile and meet various learners’ styles (El shamy, 2001; Yahoui, 2012).

Act it out game
In this game, learners should find the suitable word that is suited to the definition or the qualities carried out by the learner or the teacher. Learners’ vocabulary can be improved by introducing new words because it is formed by performing and guessing. This game is of use to teachers to understand learners’ weakness in the learned knowledge (Hayns & Zakarian, 2010; Yahoui, 2012).

Spelling puzzle game
In this kind of game, learners spell variant things by reordering the letters. The aim is to combine word knowledge by connecting its spelling to its visual representation (Yahoui, 2012).
Crossword puzzle game
The purpose is to fill the white squares with letters. Learners should fit words across and downwards into spaces with numbers in a square diagram. They are the answer of some signs. This game is adopted by teachers according to learners’ level and course goals (Yahoui, 2012).

Previous findings on using games in learning vocabulary

In this part, the researchers review some prior researches done on using different kinds of games in learning vocabulary. Turgut and Irgin (2009) performed a study on learners’ language learning through computer games. The results of the study showed that learners who played online games performed better in vocabulary skill. Kalaycioglu (2011) investigated the impact of educational games on children vocabulary learning. 33 preschool children were the subjects of this inquiry. The experimental group received picture vocabulary games, but the control group did not receive picture vocabulary games. The findings of this research revealed a noticeable difference in the experimental group. The other finding of this study was that there was no significant gender impact for both groups in learning vocabulary.

Efendi (2013) carried out a research on using games to improve students’ vocabulary learning. The participants of this research were 29 students. The results represented that utilizing “Got It Game” and “Back to the Board Game” improves students’ vocabulary learning achievement. Al Masri and Al Najar (2014) conducted a research concerning the impact of using word games on students’ vocabulary knowledge. The findings showed that games are very useful for teaching vocabulary to learners. Cabrata (2016) examined the effect of using video games on Swedish learners’ vocabulary. 25 students took part in this investigation. The results indicated that participants who played video games scored higher on the vocabulary test, showing a higher receptive vocabulary proficiency.

A study was carried out by Franciosi, Yagi, Tomoshige, and Ye (2016) to clarify if less complex simulation games support foreign language learning. The researchers performed a quasi-experiment using whole classes involving Japanese learners. The treatment group used both an online vocabulary learning application and a simple simulation game, but the control group used just vocabulary learning application. The findings revealed that the treatment group outperformed the control group on a delayed post-test. It was also concluded that the simulation games can improve long-term retention of language vocabulary.

In some studies, the results didn’t show significant differences between game-based techniques and traditional ones. For example, Benoit (2017) conducted a study on comparing the scores of students who participated in game-based learning to the scores of those who participated in traditional activities. No statistically significant difference was observed in the vocabulary scores of both groups. The findings suggested that because games are popular with learners, teachers should incorporate them into the classroom to increase their vocabulary learning.

The other study done on using game-based activities also showed that there are some advantages and limitations towards their usage in language learning. For example, Klimova and Kacet (2017) carried out a study on the impact of computer games on vocabulary learning. The findings
revealed that computer games are effective in the learning of vocabulary. The findings also showed other advantages of using computer games in classrooms like exposure to the target language, increased engagement, or improvement of learners’ involvement in communication. Finally, it was indicated that there are some limitations on using games in language learning like the fact that high interactivity stops vocabulary learning, not all games are appropriate for learning, or the lack of knowledge about computer games prevents teaching from their correct use.

A number of studies have been performed in Iran to examine the effect of games on learning vocabulary. Alemi (2010) examined the role of word games in learners’ vocabulary learning. The researcher chose participants randomly from high school students. They were divided into two groups: experimental and control. Control group was taught words through traditional teaching methods while experimental group received word games as a treatment at the end of each session. The obtained scores displayed that word games have a positive impact on increasing learners’ vocabulary.

In the same way, Aghlara and Hadidi-Tamjid (2011) performed a research on the impact of computer game on improving children’s vocabulary. There were two groups: experimental and control; in the first group, they used the SHAIE digital game, while in the second group, vocabulary was taught via traditional methods. The findings revealed that children in the experimental group had a higher mean score than the control group. It was also indicated that games increase learners’ motivation to learn appropriately.

Another study was conducted about the impact of instructional games on students’ vocabulary (Dolati & Mikaili, 2011). 70 female students took part in this inquiry. The results also showed that game motivates and engages learners in the whole learning process. Aslanabadi and Rasouli (2013) carried out a study on the usage of games in improving Iranian learners’ vocabulary. The researchers divided subjects into two groups: experimental and control group. Experimental group receives an online game and control group receives regular teaching. Findings showed that games increased learners’ motivation and self-reliance.

The other study concentrated on the effect of video games on students’ vocabulary (Vahdat & Rasti-Behbahani, 2013). 40 subjects participated in the investigation. The investigators divided them into two groups: a control group who studied vocabulary in traditional classes and an experimental group who experienced it through a video game "Runaway: A Road Adventure." Results of this research represented that video game was very useful in vocabulary learning.

Moreover, two other studies were done about performing games in learning vocabulary and both had the same results. The first study was conducted by Mehregan (2014) regarding the effect of games on vocabulary achievement. Results of this research revealed that game based experimental group outperformed the control group in vocabulary achievement. The second study was performed by Taheri (2014) concerning the impact of using games on elementary students’ vocabulary. Findings obtained from this study represented that using games has an important impact on participants’ vocabulary recall.
By the same token, an Instructional Video Games (IVGs) was used to look into the learners’ vocabulary retention (Salehi, 2016). To do so, 32 male and 43 female were chosen. Experimental group was treated with the new way of learning IVGs, but control group was treated with memorizing new words. Findings showed that experimental group had a significant difference in vocabulary retention.

In a similar line of inquiry Bahojb Jafarian and Shoari (2017) conducted a quasi-experimental study to inquire the impact of game on learners’ vocabulary learning. Sixty male learners participated. The data were collected and analyzed through SPSS. The results obtained from this study provided strong support for the effectiveness of games in word acquisition because of their role in making a relaxed, less stressful, and enjoyable environment for learning.

**Methodology**

In this section, the researchers gave a detailed account of the steps taken towards conducting the study. Therefore, design, participants, instruments, procedure, and data analysis were explained respectively.

**Design of the study**

This study followed a pre-test, experimental and control groups, post-test design. First, there was a random subject selection. Second, participants were assigned randomly into two groups of experimental (N=20) and control (N=20). Experimental group received 10 sessions of teaching vocabulary based on bingo vocabulary game method while control group received a placebo. Then, a post-test of vocabularies was administered to both groups to evaluate learners’ vocabulary improvement.

**Application of vocabulary Bingo game**

This game go overs a lot of words. Learners make a bingo card that involves some words. They must write them randomly; consequently, all cards be disparate. After that, teacher reads definitions and the learner who represents all words in a column wins (Hayns & Zakarian, 2010; Vásquez, Hansen, & Smith, 2010; Yahoui, 2012). The aim of Bingo is to make a relationship between words and their meaning. It provides several meetings with the word to increase its learning since the teacher can apply identical vocabulary for the next time. Pavičić (2008) asserted that Bingo reinforces the beneficial manipulation of words where learners utilize them in the proper situation.

This game offers a good chance for learners to recognize their advance in learning vocabulary and for teachers to evaluate their learners’ advancement (Kavaliauskiene, 2000). The researchers used vocabulary bingo game because it involves game cards, bingo markers, and vocabulary cards pocket. Game cards have pictures of words and fruit names. 3x3 bingo cards were used in the research. Each game card had 9 target words and there was a picture of a word on each fruit or vegetable name. A small picture of the sun was utilized as a marker. Then, vocabulary cards pocket was used. It was a pocket that had many vocabulary cards. An English word was selected and it was voiced to learners.
Participants

80 participants randomly took part in this study. All participants were third grade high school students studying in Mofateh School in Langaroud, Iran. They were all female and fourteen to fifteen years old. They were chosen for an Oxford Placement Test (OPT). Then 40 students were chosen according to their scores in this test. They were divided into two groups: experimental and control (20 students in each group).

Instruments

Three instruments were used to carry out the objectives of this study. The first instrument was the Oxford Placement Test (OPT) developed by Allen (1992) to determine EFL learners’ proficiency level and makes the participants homogenized. According to Edwards (2007), this test evaluates learners’ knowledge of receptive and productive skills. OPT was administered for 80 students in third grade high school students in order to choose some of them on the basis of their level.

Researchers used this test in Mofateh High School, Langaroud, Iran. The reliability of this test was assessed using Cronbach’s alpha. Its coefficient Cronbach’s alpha was 0.82. Second, the participants of both groups received a pre-test of vocabulary. The goal was to compare the pre-test and post-test mean scores. The reliability of this test was measured using Cronbach’s alpha. The coefficient Cronbach’s alpha was 0.87 for this test. Third, in order to assess participants’ vocabulary learning during one period, researchers prepared a vocabulary test with 30 items. The researchers measured the reliability of this test. Its coefficient Cronbach’s alpha was 0.89.

Procedure

At first, a pre-test was given to participants to determine their homogeneity based on their English vocabulary proficiency. The participants were selected pursuant to one standard deviation below or above the mean. They were randomly divided into experimental and control groups of 20. Then, both groups received a pre-test. Some new words with high frequency were chosen for both groups. The researchers described the research for game group. The students were given instructions of game. The control group did not receive game instruction. The experimental group used vocabulary Bingo game, where it had access to different types of words. Learners who learned new vocabularies in this group cooperated with each other to learn them easier and faster. In the control group, the traditional teaching method was used. This group learnt new vocabularies in context. Finally, the participants of both groups (N=40) were prepared for post-test. Post-test involved 15 items (multiple choice questions =15 items). Then independent sample t-test was exercised to measure the impact of vocabulary Bingo game on the experimental group.

Data analysis
The study involves two sorts of statistical analysis. First, raw scores gained in pre-test and post-test exams were analyzed descriptively. Then researchers analyzed them based on inferential statistics. Moreover, in order to realize whether or not the differences between groups are statistically significant, independent t-test procedure and one way ANCOVA were run to compare the performance of both groups.

Findings

Descriptive analysis of data

This part involves the details of the results of the study. The findings are presented into two main parts: The descriptive analysis of the data with different tables and the inferential analysis of obtained data which consists of calculating the t-test and paired sample t-test based on specific tables. The second part of this section talks about resulting status of the hypothesis of the study, that is, whether it is rejected or supported.

The descriptive analysis of the data was done using SPSS software. Table 1 represents the descriptive analysis of the data between the pre-test and post-test of the experimental group.

Table 1. Descriptive results of the experimental group (EXP)

<table>
<thead>
<tr>
<th></th>
<th>N Statistic</th>
<th>Mean Statistic</th>
<th>Std. Deviation Statistic</th>
<th>Variance Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre EXG</td>
<td>20</td>
<td>17.7000</td>
<td>0.39581</td>
<td>1.25167</td>
</tr>
<tr>
<td>Pos EXG</td>
<td>20</td>
<td>18.6000</td>
<td>0.22111</td>
<td>0.69921</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1 illustrates that the number of subjects in experimental group is 20. The mean for the pre-test EX (pre-test of the experimental group) is 17.7000 as compared to the mean for the post-test EX (post-test of experimental group) which is 18.6000. The standard deviation of the experimental group shows more variability among the scores of pre-test EX rather than post-test EX scores. Therefore, subjects’ post-test scores in experimental group can be more homogenous after treatment. The proceeding table (2) shows the descriptive analysis of data between pre-test and post-test of control group.

Table 2. Descriptive results of the control group (CONG)

<table>
<thead>
<tr>
<th></th>
<th>N Statistic</th>
<th>Mean Statistic</th>
<th>Std. Deviation Statistic</th>
<th>Variance Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre CONG</td>
<td>20</td>
<td>14.3000</td>
<td>0.39581</td>
<td>1.25167</td>
</tr>
<tr>
<td>Pos CONG</td>
<td>20</td>
<td>16.3000</td>
<td>0.15275</td>
<td>0.48305</td>
</tr>
</tbody>
</table>
According to Table 2, 20 participants took part in control group. The mean for Pre-test CON (pre-test of the control group) was 14.3000 as compared to the mean for Post-test CON (post-test of control group) which was 16.3000. The standard deviation of control group shows more variability among the scores of pre-test CON rather than post-test CON scores. Accordingly, students’ post-test scores in control group may be more homogenous after treatment.

**Inferential analysis of data**

The inferential analysis of the data was done using Statistical Package for Social Science (SPSS). Following tables summarize the inferential analysis of data.

**Table 3. Independent Samples T-test result**

<table>
<thead>
<tr>
<th>Vocabulary</th>
<th>t-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equal variances assumed</td>
<td>t</td>
</tr>
<tr>
<td>Vocabulary</td>
<td>8.558</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td>8.558</td>
</tr>
</tbody>
</table>

In Table 3, t-value was estimated between the post-tests of vocabulary in both groups. Observed t-value is 8.558 which is higher than critical t value (t= 2.101) and the degree of freedom was 15.997 (df=15.997). The level of significance was estimated as to be .000 which has been used in rejecting or supporting the hypothesis in proceeding section. One-Way ANCOVA result run to identify learners’ progress within groups.

**Table 4. One-Way ANCOVA result for the PTG group**

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>3.279</td>
<td>1</td>
<td>3.279</td>
<td>23.413</td>
<td>0.001</td>
<td>0.745</td>
</tr>
<tr>
<td>Intercept</td>
<td>4.538</td>
<td>1</td>
<td>4.538</td>
<td>32.397</td>
<td>0.000</td>
<td>0.802</td>
</tr>
<tr>
<td>Pre/Pos PTG</td>
<td>3.279</td>
<td>1</td>
<td>3.279</td>
<td>23.413</td>
<td>0.001</td>
<td>0.745</td>
</tr>
<tr>
<td>Error</td>
<td>1.121</td>
<td>8</td>
<td>0.140</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3464.000</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>4.400</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In Table 4, the results of One-Way ANCOVA correlations between the scores of experimental group are elaborated; the sig. value (0.001) is smaller than 0.05; that is, difference is sufficiently important. Observed t value is 3.279 (t=3.279) that is higher than critical t value (t= 2.101). The degree of freedom was 1 (df=1) and this rejects the hypothesis of the research. Results of One-Way ANCOVA demonstrated that progress was statistically significant for experimental group.

### Table 5. One-Way ANCOVA result for the NPTG group

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>0.001</td>
<td>1</td>
<td>0.001</td>
<td>0.003</td>
<td>0.960</td>
<td>0.000</td>
</tr>
<tr>
<td>Intercept</td>
<td>17.969</td>
<td>1</td>
<td>17.969</td>
<td>68.475</td>
<td>0.000</td>
<td>0.895</td>
</tr>
<tr>
<td>Pre/Pos NPTG</td>
<td>0.001</td>
<td>1</td>
<td>0.001</td>
<td>0.003</td>
<td>0.009</td>
<td>0.000</td>
</tr>
<tr>
<td>Error</td>
<td>2.099</td>
<td>8</td>
<td>0.262</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2659.000</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>2.100</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5 explains that the sig. value of control group is 0.009 (sig. value=0.009). Observed t value is 0.001 (t=0.001) that is lower than critical t value (t=2.101). The degree of freedom was 1 (df=1).

**Results of hypothesis testing**

The results of testing hypothesis are depicted here. The findings have been used as evidence to reject or support the hypothesis of the study. Besides, the explanation of the consequences of rejection or support the hypothesis was used to justify them. The hypothesis of the study is reminded below:

H0: Peer testing game does not have any effect on English vocabulary learning ability among Iranian third grade high school students.

As mentioned before, a considerable improvement was specified in the performance of experimental group after treatment. Therefore, the null hypothesis stated above was rejected. The result of T-test in Table 3 corroborates this analysis. Observed t value is 8.558 while critical value of t was 2.101. Observed t was higher than critical t. So it is concluded that the hypothesis is rejected (t=8.558 > t= 2.101).

The other finding that rejects hypothesis was the value of level of significance (.001). Thus this was lower than 0.05, the difference between post-test of experimental groups’ performance from pre-test to post-test (Table 4). Furthermore, lack of progress of participants of control group pre-test to post-test is another evidence for rejecting the hypothesis (Table 5).
Discussion

This study was set out with the aim of assessing the effect of games on promoting Iranian third grade high school students’ learning English vocabulary ability. At first, one research question was proposed asking whether games have an impact on Iranian third grade high school students’ vocabulary learning ability. Besides, a null hypothesis was presented supposing that using games doesn’t have any effect on prompting student’s vocabulary learning.

As it was already mentioned, no significant differences were identified in vocabulary learning ability between the groups at pre-test, while there were significant differences may be ascribed to the presentation and non-presentation of games method to the students. The mean score of the two groups on the vocabulary learning ability of post-test displayed that experimental group obtained a higher mean than control group (18.6000 versus 17.7000), which turned out to be significant.

The findings indicated that the use of vocabulary Bingo game increases Iranians’ EFL learners’ motivation in vocabulary learning. This finding has been supported by Al-Masri and Najar’s (2014) study who confirmed that a lot of pupils in their study found games pleasing and motivating. The other finding of this study revealed that games provoke learners to cooperate with their peers. This finding is exactly compatible with the finding of Mehregan’s (2014) study who indicated that the use of games helps learners to cooperate and work with each other.

So, the findings of this study revealed that there was a statistically significant difference between experimental group working with games and control group dealing with traditional teaching method. On the other hand, as findings of the study demonstrated, the hypothesis was rejected. That is, peer testing game did have a significant impact on Iranian third grade high school students’ vocabulary learning ability. The result of T-test was used to confirm this finding. The observed t value was 8.558 while critical value of t was 2.101. Thus, observed t was higher than critical t that rejects the hypothesis of this research (t=8.558 > t= 2.101).

The above finding has been supported by the findings of the studies of Dolati and Mikaili (2011), Efendi (2013), Vahdat and Rasti- Behbahani (2013) who emphasized that the use of games contributed to the better learning of vocabulary due to its fun, relaxing, and motivating environment and games also helped learners improve their vocabulary learning because they enhanced their incentive to learn effectively and appropriately.

The results manifested that applying games had significant efficacy on third grade high school students’ vocabulary learning ability of experimental group. Besides, the findings revealed a considerable difference between groups in post-test. The general findings showed that experimental group that was taught by using bingo vocabulary outperformed the control group that was solely taught by traditional teaching method. This finding is supported by the previous research (Aghlara & Hadidi- Tamjid, 2011; Alemi, 2010; Aslanabadi & Rasouli, 2013; Bavi, 2018; Kalaycioglu, 2011; Mehregan, 2014), indicating that experimental group which learned vocabulary by the use of games performed better than the group which learned vocabulary without using games. The results also revealed that learners who learned vocabulary out of
games participated more keenly and attained more words than other participants who did not use games in learning vocabulary.

**Conclusion**

This research examined the effectiveness of games on vocabulary learning ability among Iranian third grade high school students. The findings indicated that pleasant and motivating environments can greatly lead to more vocabulary learning. Furthermore, one of the strategies that creates enjoyable and appealing situation is the use of games. Using games help learners learn vocabulary. A lot of Iranian learners found games fun, enjoyable, and motivating. It was indicated that games should be used as one of the effective instruments for learning vocabulary. Therefore, utilizing games helps learners actively participate in learning vocabulary. However, the findings indicated that the use of games leads to vocabulary learning if instructors give learners an opportunity to learn the language in an ideal setting. According to the obtained findings, games helped learners remember vocabulary better and faster, encouraged learners in learning words in a relaxed setting as they involve friendly competitions which retain learners’ interest, and motivated learners to participate actively in the learning activities to develop everyday use of L2. To sum up, the results of this study showed that learning vocabulary by games is an excellent technique that should be used for EFL/ESL learners. The results also imply that games not only guarantee learners’ successful learning, but also increase collaboration among them.

**Pedagogical implications of the study**

There are some pedagogical implications concerning the employment of games in vocabulary learning and teaching. It is suggested teachers use games in teaching vocabulary. Therefore, teachers should be aware of importance of games in developing students’ needs and abilities and help them to choose the suitable strategy for them. Schools can be provided with motivating equipment to augment students’ enthusiasm, increase their interest, and know their students’ individual differences. Using games in learning vocabulary persuades individuals to be more active when playing the game and it stimulates creativity and helps students understand and learn the vocabulary at higher levels of thinking than teaching through rote memorization alone. Using games enables students with disabilities overcome their disability. It provides students with immediate feedback and different types of reinforcement.

**Suggestions for further research**

Research particularly in using games is not a limited field and there are varied things to be worked on for the factors discussed. The first point refers to the population of the study. It may be possible to go further the same population limitations and the larger population, the more information. The next point is the limitation of time, engaging the all students to fulfill the games was not practical based on the allocated time to do. It is expected that future authors and scholars replicate the results of this research to various instructional centers like English institutes. In the following studies, it is suggested to perform qualitative and quantitative research to get learners’ opinions toward using games in learning vocabulary.
References


