

## Investigating the Use of Games and Flash Cards in Teaching Spatial and Temporal Prepositions to Iranian Pre-Intermediate EFL Learners

**Mansoureh Nikroo\***

Department of English  
Abadeh Branch, Islamic Azad University  
Abadeh, Iran  
Mansoureh\_nikroo@yahoo.com

**Fatemeh Behjat**

Department of English  
Abadeh Branch, Islamic Azad University  
Abadeh, Iran  
fb\_304@yahoo.com

**Arash Zareian**

Department of English  
Abadeh Branch, Islamic Azad University  
Abadeh, Iran  
arashzareian60@yahoo.com

**Abstract.** One of the most problematic areas for teachers and learners in English classrooms is prepositions. Two types of prepositions in English are spatial (space) and temporal (time) prepositions. Prepositions are words linking two entities and thereby specifying the relation of the two. The main purpose of this study was to investigate the role of games and flash cards in learning place and time prepositions among Iranian pre-intermediate EFL learners. The most common prepositions in this study were *in*, *on*, *at* instructed through game and flashcard modalities. Participants were 75 Pre-intermediate students divided into three groups as one control group and two experimental groups. After

---

Received: November 2015; Accepted: March 2016

\*Corresponding author

receiving the pre-test, the two experimental groups received the instruction based on game and flash cards modalities while the control group received it based on the conventional methods in six sessions. At the end of the treatment period, to discover the impact of using these modalities, a post-test was administered to three groups. One-way ANOVA analysis of the data determined the positive effect of using game and flashcard modalities on improving prepositions among pre-intermediate EFL learners. Results showed that games were more effective than the flash cards in teaching English language prepositions. Yet, flashcards turned out to be useful, too.

**Keywords:** Flash card, game, spatial and temporal prepositions

## 1. Introduction

According to Oxford Advanced Learners' Dictionary (2006, p. 996), "a preposition is word or group of words, such as in, from, to, out of, on and be half of, used before a noun or pronoun to show place, position, time or method". Preposition is traditionally defined as a word that indicates a relation between a noun or pronoun it governs and another word, which may be a verb, an adjective, or another noun or pronoun (Huddleston, 1984).

Prepositions can be classified according to their form, function and meaning. Concerning their form, prepositions can be simple (one-word preposition), or complex (also called two-word, three-word, or compound prepositions). Simple prepositions are a closed class. That is, we cannot invent new single word prepositions. However, complex prepositions are open class because new combinations could be invented. In English, there are approximately seventy simple prepositions. The most frequently used are: at, by for, from, in, of, on, to and with (Grubic, 2004).

Prepositions in English can serve to express a relation between two grammatical elements, prepositional complement and the object. They are function words that link words, phrases or clauses to other words in the sentences. They are not inflected, and express such ideas as location, destinations, direction of motion and time, manner (Hamdallah, 1988).

As part of the grammatical system, prepositions seem to occur everywhere in speaking and writing (Morenberg, 1997). Biber, Conrad and Reppen (2000) studied prepositions in different varieties of English, mainly conversation, fiction, newspaper language, and academic

prose. Although it is often said that function words like prepositions, as opposed to individual lexical words, are frequent in any text, there are wide differences among registers. Prepositions are the most frequent function word class in news and academic prose; however, they are much less common in conversations. Academic prose and news reportage have “the highest frequency of nouns and also the highest frequency of prepositions which serve as extensions or specifications of nouns” (Biber et al., 2000, p. 93). Prepositions can be used with different parts of speech of the same root; one preposition can be used with the verb form, another with the objective, and with the noun form of the word (Hamadallah & Tushye, 1993).

An English preposition is often defined as a word that describes the location of one object in relation to another. Prepositions are often vague and confusing, even for native speakers. It is extremely hard for ELL learners to learn the nuances of all the English prepositions, how to understand them, and how to use them.

The British National Corpus (Leech, Rayson, & Wilson, 2001, p. 120) listed “thirty most commonly used words” in English. There are eight prepositions which include at, in and on as the target prepositions to investigate. The reason for this choice is that they are among the most basic prepositions, and they have various meanings (Hayashi, 2001). McCarthy (cited in Hamadallah & Tushy, 1993) maintained that “As any English teachers well knows, our prepositions are particularly troublesome to the non-native speaker of English” (p. 181). According to Quirk and Greenbaum (1993), a preposition expresses the relationship between entities. They indicated a relationship in space between one object and another or the relationship in time between events in addition to other relationships such as instrument and cause.

Regarding the order of learning time and place prepositions, the spatial meanings of prepositions are typically acquired before the temporal meanings, which is consistent with the notion that these two kinds of semantic structures are asymmetrically related, with the former possibly providing a conceptual foundation for the latter (Clark, 1974). Quirk and Greenbaum (1993) referred to at and in as prepositions of time because they are used to answer the question when. At is used for points

of time, mainly clock-time such as at ten o'clock, at 5:30 P.M, at noon, for holding period like at the weekend, at Christmas, at Easter, and for phrases at night, at, the/that time. On is used with phrases referring to days like on Monday, or on the following day. In is used to indicate periods of time such as in the evening, during holy week, in August, in the months that followed.

This research is an attempt to discover the three common prepositions of place and time through games and flash cards to see if games or flash cards help junior high school Iranian learners learn them. Another objective of the present study is to see which one, games or flash cards, leads to a better achievement in the knowledge of prepositions of time and place. The prepositions selected for this study are in, on, at. The reason is that they are the most commonly used by junior high school learners, and students have many problems in using such prepositions.

## **2. Research Questions and Hypotheses**

This study is an attempt to answer the following questions:

Q1. Do flash cards and games help Iranian pre-intermediate EFL students improve their knowledge of temporal and spatial prepositions?

Q2. Which one, games or flash cards, leads to a better knowledge of temporal and spatial prepositions for Iranian pre-intermediate EFL students?

To answer these research questions, the following null hypotheses were formed:

HQ1. Games and flash cards do not lead to any improvement in the knowledge of spatial and temporal prepositions for Iranian pre-intermediate EFL learners.

HQ2. There is not a difference between the use of games and flash cards in better learning of English prepositions for Iranian EFL students.

## **3. Review of Literature**

Prepositions are grammatical or functional words that mainly contribute to the grammatical structure of the sentence (Thornbury, 2002). An in-

triguing feature of English is that many prepositions are used to describe both partial and temporal relationships (Rice, 1999).

In some contexts, prepositions can come to be thoroughly bleached of their meanings (Heine, 1993). The factors determining the acquisition of prepositions would be linguistic rather than cognitive, and linked to language use and frequency of input (Rice, 1999).

A glance at the literature gives some evidence for a processing difference between spatial and temporal uses of prepositions. Kemmerer (2005) stated that brain-damaged students with left pre-Sylvain lesions failed a test of knowledge of the temporal meanings of prepositions, but passed a test that assessed knowledge of the corresponding spatial meanings of the same prepositions, suggesting that the spatial and temporal meanings of prepositions are represented and processed independently of each other in the brains of adult speakers.

There are a number of ways to teach different aspects of grammar including prepositions. Two of the most effective modalities to present and work on the grammar of the language are flashcards and games. Nguyen (2008), in his research on teaching and learning grammar through games to tenth graders at Hung Vuong high school in China, indicated the necessity of games for easing the difficulties, and exciting the atmosphere in teaching and learning grammar. The results emphasized that the teachers who just follow the given practices in the textbook and do not create any games activities cause a grammar lesson to be a boring, hard-digesting experience to their students and surely, do not meet the need for more interesting and effective grammar classes.

Luong (2009) studied the application of games in grammar review lessons for sixth graders. The study consisted of a survey with the involvement of 8 teachers and 225 students from three High Schools and an experimental project with 82 students within 3 months. The students showed a dramatic improvement of students, and ability in using grammatical knowledge in writing test and oral performance as well.

Kofi (2010) compared the effects of three instructional conditions including using flash cards for teaching sight word, teaching community-referenced sight words, and phrases with a videotape in school setting and teaching the prepositions with the natural signs in community to

adolescents with mild and moderate mental retardation. The results revealed that in all three conditions, rapid acquisition of the community-referenced sight word occurred, and there was also a generalization from the videotape and flashcard conditions to the community sites.

Baleghizadeh and Ashoori (2011) considered the effect of using flashcards and word lists on EFL students learning of foreign language content and function words such as prepositions. The result of their study indicated that flash cards could lead to a better learning of prepositions as function words as they can easily be practiced broadly. Following Luong (2009) and Baleghizadeh and Ashoori (2011) who supported the effectiveness of games and flashcards in teaching grammar, the present study is an attempt to see if they can specifically be useful in teaching spatial and temporal prepositions, and which one actually can play a greater role in improving Iranian students' knowledge of time and place prepositions.

## 4. Method

### 4.1. Context and participants

This study was done in a high school in Behbahan, Iran. Were selected 75 female second graders who were at the pre-intermediate level. Their selection was done based on random sampling. The researchers conducted the study with three groups, each included 25 learners with an average age range of 14 to 17 years old. A homogeneity test was taken in order to determine the proficiency level of the participants who were considered as pre-intermediate students.

**4.2. Materials and instrumentation** The materials in this study included English Book Two taught in high schools to Iranian EFL learners, and five different games including, Look Around, Where is it, A Messy Room, Preposition Dash, and Questionable Questions were used. These games were adapted from [www.Elsegamesworld.com](http://www.Elsegamesworld.com) and [www.english media lab.com](http://www.englishmedia lab.com). The other materials used were colorful educational flash cards which were taken from [www.isLCollective.com](http://www.isLCollective.com), [www.bogglesworldesl.com](http://www.bogglesworldesl.com), [www.woodwardenglish.com](http://www.woodwardenglish.com), [www.vocabulary.cl](http://www.vocabulary.cl), and [www.grammar.cl](http://www.grammar.cl).

In this research, three instruments were used. First, a homogeneity test including fifty multiple-choice items extracted from Richards, Lesley, Hasen, Sandy, and Zukowski (2008), was applied. This test was to determine the students' proficiency level. The reliability coefficient was previously calculated through Cronbach Alpha (.731), and its validity was reported as high.

The second instrument was a test adapted from the students' English Book Two (Birjandi & Soheyli, 2011), New Interchange Book 1 (Richards, 2007) and Top Notch 1 A (Soslow & Ascheer, 2007) in order to measure the students' level of background information on the intended prepositions.

Through a pilot study, the reliability of the pre-and post-tests was obtained. The pre-test reliability coefficient was calculated through Cronbach Alpha (.727). The next instrument was a post-test parallel to the multiple-choice pre-test on spatial-temporal prepositions. The post-test reliability was again calculated through Cronbach Alpha which turned out to be (.89). Also, the content validity of the tests was ensured by two experts in the field.

### **4.3. Data collection procedures**

In order to answer the research questions, first, a homogeneity test was used in order to determine the proficiency level of the learners. Then, a pre-test was used to check their background information about spatial and temporal prepositions based on the English book for Iranian EFL high school students (Birjandi & Soheyli, 2012), New Interchange book 1 (Richards, 2007), and Top Notch book 1 A (Soslow & Ascher, 2007) conducted.

The respondents were the students who were in the second grade in high school. After the administration of the proficiency test, 75 students at the pre-intermediate level were selected. Then, they were classified into three groups randomly, and a pre-test was run. It should be mentioned that the pre and post-tests items were selected from different sources, and they were both piloted to similar subjects before they were administered to the participants of the study for reliability purposes. Using Cronbach alpha formula and consulting experienced teach-

ers, the reliability and content validity of both tests were ensured. The pre and post-tests included sixty multiple-choice questions about spatial and temporal prepositions. During the treatment period, the two experimental groups were taught the time and place prepositions using games and flashcards in each group, and the control group worked on the prepositions using only the materials presented in their own books.

After the instruction, all students in three groups took part in a post-test of knowledge of time and place prepositions. The data collected through the pre and post tests were then taken for analysis.

## 5. Results

The results of the proficiency test are presented in Table 1.

**Table 1:** Descriptive statistics on the students' proficiency test

N	Mean	Std. Deviation	Min	Max
100	25.89	6.874	14	40

Table 1 provides the descriptive statistics of the proficiency test. The scores ranged from 14 to 41 out of 50. The mean score was 25.89. A number of 75 students whose scores were one SD below mean were selected as target sample, and they were divided into three groups.

Then, a pre-test was to check students' background information on English prepositions used. The results of the pre-test scores of the three groups are descriptively presented in Table 2.

**Table 2:** Descriptive statistics on the pre-test scores

Groups	N	Mean	Std. Deviation	Min	Max
Control	25	27.40	8.377	14	40
Game	25	27.44	6.501	15	40
Flashcard	25	26.36	7.047	14	41
Total	75	27.07	7.268	14	41

Table 2 provides the descriptive statistics of the control group and the two experimental groups' scores in the pre-test. The scores ranged from



14 to 41 out of 50 in the pre-test. The mean score for the control, game and flashcard were 27.40, 27.44, and 26.36, respectively. The means of the three groups are almost the same. The SD of the three groups were as follows: control=8.377, game=6.501, and flashcard=7.047. As descriptive statistics could not determine the significant differences among the control group and three experimental groups' performances in the pre-test, a One-way ANOVA was run to discover the area of differences. The results are shown in Table 3.

**Table 3:** One-way ANOVA on the pre-test scores

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	18.747	2	9.373	.173	.841
Within Groups	3889.920	72	54.027		
Total	3908.667	74			

According to the above table, the observed F is .173 with the degrees of freedom as 2 and 72. The difference among the groups is not significant at ( $p < 0.05$ ). Thus, the three groups are homogenous in pre-test before the treatment. After teaching the students, a post-test was used to determine and compare the possible progress in the three groups' knowledge of temporal and spatial prepositions. The results are shown in Tables 4 and 5.

**Table 4:** Descriptive statistics on the post-test scores

Groups	N	Mean	Std. Deviation	Min	Max
Control	25	28.68	7.993	15	41
Game	25	34.32	6.081	24	44
Flashcard	25	29.00	7.360	17	41
Total	75	30.67	7.554	15	44

According to Table 4, the scores of the control group and the two experimental groups ranged from 15.00 to 44.00 out of 50 in the post-test. The mean scores for the control, and experimental groups were 28.68, 34.32(games), and 29.00 (flashcards). The SD for the control, game, and flashcard groups were 7.993, 6.081 and 7.360, respectively.

As shown in Tables 2 and 4, there were considerable differences in preposition learning before and after the modalities used. The means (control=28.68, game =34.32 and flashcard=29.00) of the control group and two experimental groups were greater in the post-test than the mean of the three groups (control =27.40, game= 27.44, and flashcard = 26.36) in the pre-test.

Table 4 shows that the control and two experimental groups in the post-test had some progress. Table 5 was run to determine the possible statistical differences among the three groups' performances.

**Table 5:** One-way ANOVA on the post-test scores

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	501.787	2	250.893	4.855	.000
Within Groups	3720.880	72	51.679		
Total	4222.667	74			

According to Table 5, the difference among the control group and two experimental groups is significant (.000) at  $p < 0.05$ . Thus, the three groups performed significantly different in the post-test. As the above table does not determine the area of difference between each of the two groups, a Post Hoc test was run. Table 6 illustrates the result of the Scheffe test.

**Table 6:** Results of the scheffe test on the students' post-test score

GROUPS:		Mean Difference	Std. Error	Sig.
Game	Flashcard	5.320*	2.033	.009
	Control	5.640*	2.033	.000
Flashcard	Control	.320	2.033	.047

The post-hoc Scheffe test was run to determine the potential differences among the three groups in post-test (Table 6). It determines the interaction and comparisons among the three groups. Based on the obtained results, games were the most effective type of modality. In other

words, games had the greatest effect on the spatial-temporal preposition learning, and flashcards were less effective in learning the intended propositions.

To answer the second research question, an Independent *t*-test was used to compare the achievement in the post-test between the scores of flashcard and game groups.

**Table 7:** Independent samples *t*-test to compare the two experimental groups' post-test scores

Variable	F	sig	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Equal variances assumed	1.469	.000	2.786	48	.008	5.320	1.909
Equal variances not assumed			2.786	46.351	.008	5.320	1.905

The Independent *t*-test shows the mean of game and flashcard group scores were statistically different (sig=.000). The results indicated that the mean of the game group was more (M=34.32, SD=6.081) than the mean score of the flashcard group (M=29.00, SD= 7.360),  $t(75) = 1.469$ ,  $p = .000$ . And the difference was statistically significant implying that group who used games could improve their knowledge of time and spatial prepositions than the one who used flashcards.

## 6. Discussion

To discuss the results of the research, the research questions raised earlier in the study are referred to as follows:

Q1: Do flash cards and games help Iranian pre-intermediate students improve their knowledge of temporal and spatial prepositions?

Q2. Which one, games or flash cards, lead to a better knowledge of temporal and spatial prepositions for Iranian pre-intermediate students?

This study examined the effects of the teaching prepositions via games and flashcards. The experiment showed a clear effect for the learners' spatial-temporal preposition learning. Considering the scores of flash

card modality group, this could be observed. Apparently, the learners in this group could acquire notable comprehension in the spatial-temporal prepositions. In this research, games and flash cards were used for teaching place and time English prepositions. Games comprise many factors such as rules, competition, relaxation, and learning. The main focus of using game in class is not only to help students to learn more effectively but also to have fun. Flash cards are an effective method in learning new items. Flash cards help students to discover and improve their problems. There are supporting ideas about the use of teaching aids in learning and acquiring language-skills.

A possible explanation for this result is that the subjects at the pre-intermediate levels of proficiency were sufficiently exposed to the occurring prepositions through the flash cards and games. The results of the current study support those of earlier studies which had found flash cards and games to be an effective means to teach concepts to the young children.

The supporting ideas on using the flash cards can be seen by Baleghizadeh and Ashoori (2011) who considered the effect of using flashcards and content and function words on EFL students' learning.

Also the results of the present study are in line with Luong (2009) who studied the application of games in grammar sixth graders.

In Crookal's (1990) opinion, games are effective ways to teach a foreign language specially its grammar as learners and teachers change their roles and relations through games, and learners are encouraged to take an active role in their learning process. As a result, games provide learners with a chance to direct their own learning. From an instructional view point, creating a meaningful context for language use is another advantage that games present.

Games also provide a wonderful atmosphere in the language class. It is widely documented that English language games improve learning, and with learners, they are one of the most effective classroom tools. The first reason why games are so useful is that since games make learning fun, students are willing participants and are not just present in class because they have to be. Students pay more attention because when they enjoy themselves, they work together, feel better about themselves

and do even better. This is a learning cycle working in their favor. Also, playing a game has a purpose and an outcome.

Games are a valuable activity for language learning, especially for young learners. Students enjoy games and thus participate without anxiety. Games are mostly inclusive activities in that they involve all the students, and they can cater to different learning styles and different personalities. As the results of the present research also indicated, though both flashcards and games are useful in teaching time and place prepositions, games can be more effective.

## 7. Conclusion

The purpose of this study was to investigate the possible effective ways to teach major prepositions of time and place in English including *at*, *in* and *on*. In order to do so, the researcher suggested two different types of modalities using games and flashcards.

Teaching grammar is an essential component when communication is the target in learning a foreign language. Teaching grammar is important because the knowledge of grammar can be considered the base of English language.

Games are good devices for practicing grammar points, and they can be used to teach structure or grammar. Besides, games can make the teaching-learning process fun and enjoyable. They are activities with rules, a goal and an element of fun. They can be an integral part of any language syllabus. Using games in teaching not only helps learners to learn better but also increases learners' motivation, rapport, cooperation and social interaction. On the one hand, playing games will help students to have a good language ability.

Flashcards are also useful as sets of prompts for practicing grammar and can also be useful for vocabulary. Flashcards can be used in the English classes as a means of introducing the meaning and use of prepositions to facilitate students' understanding of the meaning and use of prepositions. They allow teachers to explain the meaning behind various structures without explanation. Therefore, flashcards can provide a degree of naturalness to the language teaching and learning by revealing

reality which is essential for learners because the classroom does not reflect real-life language usage by itself. They support students to retrieve previous knowledge in order to make sense of the language grammar and then use it meaningfully for communication.

Based on the results of the present research, it can be concluded while both flashcards and games are effective in learning English time and place prepositions, games can play a more determining factor in improving Iranian pre-intermediate high school learners' knowledge of English prepositions.

## References

- Baleghizadeh, S., & Ashoori, A. (2011). The impact of two instructional techniques on EFL learners' vocabulary knowledge: Flash cards versus word lists. *Mextesol Journal*, 35(2), 1-9.
- Biber, D., Conrad, S., & Reppen, S. (2000). *The Longman grammar of spoken and written English*. Essex: Pearson Education Limited.
- Birjandi, P., Soheili, G., Nowroozi, M., & Mahmoodi, G. (2011). *English high school 1*. Tehran: Iran Textbook Publisher.
- Clark, E. (1974). On the acquisition of the meaning of "before" and "after". *Journal of Verbal Learning and Verbal Behavior*, 10, 266-275.
- Crookall, D. (1990). *International relations: Specific purpose language training*. Retrieved September 25, 2015, from [www.educationalbooks/ac.org](http://www.educationalbooks/ac.org)
- Grubic, B. (2004). Those problematic English prepositions! *CFI-Baci Conference Long Beach, California*, 1-34.
- Din, F. S., & Wienke, E. (2001). The effect of flash card use on students, comprehension of chemistry vocabulary. *ERIC Document 458115*.
- Hamdallah, R., & Tushyeh, H. (1993). A contrastive analysis of selected English and Arabic prepositions with pedagogical implications. *Papers and Studies in Contrastive Linguistics*, 28, 181-190.
- Hamdallah, R. W. (1988). *Syntactic errors in written English: Study of the errors made by Arab Students of English*. Unpublished doctoral dissertation, University of Lancaster, U.K.

- Hayashi, M. (2001). The acquisition of the prepositions “in” and “on” by Japanese learners of English. *Jacet Bulletin*, 33, 29-42.
- Heine, B. (1993). *Auxiliaries, cognitive forces, and grammaticalization*. New York: Oxford University Press.
- Huddleston, R. (1984). Introduction to the grammar of English. *Language Arts & Disciplines*, 483-488.
- Kemmerer, D. (2005). The spatial and temporal meanings of English prepositions can be independently impaired. *Neuropsychologia*, 43, 797-806.
- Koffi, E. (2010). *Applied English syntax: Foundations for word, phrase, and sentence analysis*. Dubuque, Iowa: Kendall Hunt Publishing Company.
- Leech, G. N., Rayson, P., & Wilson, A. (2001). *Word frequencies in written and spoken English: Based on the British national corpus*. London: Longman.
- Luong, B. H. (2009). *The application of games in grammar review lessons for sixth graders*. HCM city: M.A thesis at the University of Social Sciences and Humanities, Vietnam National University-HCM City.
- Morenberg, M. (1997). *Doing grammar (2nd ed.)*. New York: Oxford University Press, Inc.
- Nguyen, T. B. Y. (2008). *Teaching and learning grammar through games in the tenth grade at Hung Vuong high school*. HCM city: M.A thesis at the University of Social Sciences and Humanities, Vietnam National University- HCM City. Oxford Advanced Learner’s Dictionary.
- Quirk, R., & Greenbaum, S. (1993). *A university grammar of English*. England: Longman.
- Rice, S. (1999). Patterns of acquisition in the emerging lexicon: The case of to and for in English. *Brain and Language*, 68, 268-276.
- Richards, J. C. (2007). *New interchange placement test*. Cambridge: Cambridge University Press.
- Richards, J. C., Lesley, T., Hansen, C., Sandy, C., & Zukowski, J. (2008). *Interchange passages placement and evaluation package (3rd ed.)*. New York: Cambridge University Press.

Soslow, J., & Ascher, A. (2007). *Top Notch 1 A*. London: Longman.

Thornbury, S. (2002). *How to teach vocabulary*. Malaysia: Pearson Education Limited.