

The impact of picture-based vs. context-based method on Iranian intermediate EFL learners' knowledge of prepositions

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ABSTRACT

The present study aimed to investigate the effect of picture-based vs. context-based method on Iranian intermediate EFL learners' knowledge of prepositions. The main question this study tried to answer were whether using picture-based vs. context-based method might enhance higher knowledge of prepositions in Iranian learners of English at intermediate level. To answer the questions, 45 intermediate learners participated in the experiment of the study. They were selected from among a population of EFL learners via an OPT test score of at least one standard deviation below the mean. They were then divided into three groups of 15 and were randomly assigned to two experimental and a control group. A pretest of English prepositions (the nine most common) was administered to all three groups, then, they were taught prepositions for 10 sessions but with different methodologies: the experimental group one received a treatment of picture-based simultaneous with context-based method and the experimental group two received a treatment of picture-based method while control group received a treatment through conventional method (instructing general rules governing this category of words) without specific focus on proposed method. A posttest of English prepositions (the nine most common) was then administered to three groups. The data of the study were analyzed using the paired sample t-test to indicate the groups mean difference, and the degree of progress from the pretest to the posttest of the study in the experimental groups was indicated by calculating the ANOVA coefficient. The results indicated that using picture-based/context-based method was the most effective method in teaching prepositions.

Keywords: Picture-Based, Context-Based, Prepositions, Cognitive Linguistics, Syntax, Schema

INTRODUCTION

Prepositions are grammatical words that basically contribute to the syntactic structure of the sentence. Morenberg (1997) believes that "prepositions as part of grammatical system seem to occur everywhere in speaking and writing". A preposition indicates a relationship between two parts of a sentence. According to Quirk and Greenbaum (1993), a preposition expresses a relationship between entities. Prepositions are one of the areas which the learners most often deviated from Standard English for they have been focused on less than other language features. Some studies of English prepositions reveal that learning prepositions causes difficulties for all non-native learners on the one hand, also creates many problems for EFL instructors since they try to test different approaches and techniques for teaching English prepositions, that is, just as the prepositions are hard to understand, they are also hard to teach.

In order to determine what pedagogical methods are most effective, it is important to first understand what makes learning prepositions so difficult; this challenge can be attributed to several factors namely polysemous nature of prepositions, having very few syllables, and the sheer number of prepositions in the English language also contributes to their difficulty. The purpose of this study was to explore the effect of applying picture-based vs. context-based method as an independent variable on the students' knowledge of English prepositions as a dependent variable. In other words, the researcher intended to see whether teaching prepositions employing picture-based vs. context-based might enhance a better knowledge of prepositions among Iranian EFL learners at intermediate level.

STATEMENT OF THE PROBLEM

English syntactic rules often vary due to differences in register and dialect. English as a standard language Has both formal and informal register used in formal and informal writing and speaking. These registers are part of Standard English and applied in appropriate context. According to Traditional Grammar of English, there are eight parts of speech in English such as: the noun, pronoun, adjective, adverb, preposition, conjunction, and interjection. According to Morenberg (1997), Prepositions are always considered as the most crucial elements in teaching English particularly in the teaching of speaking and writing skills (Mukundan & Norwati, 2009). Prepositions are a very useful category in language that is, they do not just play the role of grammatical marker. Prepositions are crucial in a number of applications such as indexing and knowledge extraction for they express essential meanings of much interest like instruments, means, comparisons, amounts, approximations, localizations etc. They must necessarily be considered -and rendered accurately- in order to reach an effective translation and lexical choice in generating language.

Prepositions are grammatical words that basically contribute to the syntactic structure of the sentence. A preposition indicates a relationship between two parts of a sentence. They show a relationship in space (between one object and another), and/ or a relationship in time (between

events) in addition to other relationships such as instrument and cause. Prepositions can be used with different part of speech of the same root word; one preposition can be used with the verb form, another with adjective and still another with the noun form of the word. Prepositions can be classified according to their form, function and meaning. The form of prepositions never change, they can be simple (one-word/close-class), or complex (two/three- words/open-class or compound) prepositions. Regarding to the function of prepositions, Hasan& Abdullah (2009), quote from Leung (1990), that spatial preposition is to locate spatially one object with reference to another object and temporal preposition include two sub-types of time enclosure; the first indicates a period of time, whereas the second sub-type indicates duration such as length of time.

On the other hand, English prepositions have no a definite usage and meaning. They have many meanings across languages. Prepositions are one of the areas which the learners most often deviated from Standard English for they have been focused on less than other language features. English language learners hardly can learn nuances of all the English preposition, how to understand them, and how to use them. Numerous analyses of the linguistic output of ELLs have revealed that prepositional errors of substitution, omission, and addition account for the majority of syntactic errors. Since prepositions present such an immense challenge for language learners, it is vital that teachers develop effective instructional methods. Based on the problems mentioned above, source of prepositional errors can be referred to both inter-lingual and intra-lingual interference, although context of learning, avoidance and guessing have also been mentioned as other sources of prepositional errors in the literature (Herskovits, Annette, 1998). Most if not all EFL teachers and students are aware of the fact that the use of prepositions are the most troublesome areas to learn in mastery of a foreign language.

Several studies have been conducted until now exploring English prepositional errors across different languages. However, only a few studies have been carried out thus far investigating the use of English prepositions among EFL learners in the Iranian context. For instance, Delshad (1980), carried out a contrastive study of English preposition. According to Delshad, Iranian EFL learners are likely to misuse or omit English prepositions as cited in Jafarpour& Koosha (2006). Similarly, Jafarpour and Koosha (2006), conducted a study to determine the extent to which Iranian EFL learners' knowledge of collocation of preposition is affected by their L1. The result showed that the errors of the learners tend to carry over their L1 collocational preposition to their L2 production. Moreover, Mahmoodzadeh (2012), investigated the errors made by Iranian EFL learners due to the cross-linguistic influence between their L1 and L2 (Persian and English respectively), the study indicated that the Iranian EFL learners were faced with the errors related to the wrong and redundant use of prepositions more frequently as compared with the errors related to the omission of preposition in L2 while translating from Persian to English.

In addition, Mehregan (2013) conducted a study regarding acquiring English language prepositions by Iranian EFL learners. She also considered the effect of proficiency and gender and examine the relationship between Iranian EFL student's general knowledge of English and their

use of English prepositions. The result of her study showed that there was a moderate and significant relationship between the learners' proficiency level and their use of prepositions. Also there were no significant differences between the gender of the participants and their use of prepositions in other words, both genders had a substantial awareness and control of their structural activities while reading the prepositional phrases. Also, Yousefi, Soori, Janfaza (2014) have investigated the causes of errors in the use of prepositions that are frequently made by Iranian students; the result of this study indicated that the errors committed by the students were due to both inter-lingual and intra-lingual interference.

Research Question of the Study

Based on the preceding explanation the current research aims to investigate the answer to the following question:

RQ: Does picture-based vs. context-based have any effect on Iranian intermediate EFL learners' knowledge of prepositions?

Hypothesis of the Study

The above mentioned question can be expressed in terms of the following research null hypotheses:

H0: Picture-based vs. context-based method does not have any effect on Iranian intermediate EFL learners' knowledge of prepositions.

REVIEW OF THE LITERATURE

Prepositions are considered as a category of words that are not easily defined by making reference to formal characteristics, in that prepositions do not have typical endings like the parts of speech. At most it can be said that prepositions tend to be very short, often consisting of only two or three letters. A few examples of prepositions are as follows : at, behind, beside, by, for, in, like, of, on, through, under, with, without, etc. Prepositions often express place or time (at, in, on, before), direction (to, from, into, down), or relation (of, about, with, like, as, near). They are unchanging in form. In a sentence, they usually occur before a noun (or Noun Phrase). Prepositions can be simple, that is, consisting of only one word, as mentioned above, or complex, that is, consisting of more than one word as in by means of, in front of, in spite of, etc. They combine with Noun Phrases to form Prepositional Phrases (PPs). For example prepositional phrase "with the dog" includes [PP with [NP the dog]]. The NP in this example is called a Prepositional Object or Prepositional Complement.

According to Quirk and Greenbaum (1993), a preposition indicates a relationship between entities; they express a relationship in space, between one object and another, and/ or a

relationship in time, between events, in addition to other relationships such as instrument and cause. Prepositions can be used with different part of speech of the same root word; one preposition can be used with the verb form, another with adjective and still another with the noun form of the word. Prepositions can be classified according to their form, function and meaning. The form of prepositions are invariable, they can be simple, one-word known as close-class, or complex, two or three- words, known as open-class or compound prepositions. Regarding to the function of prepositions, Hasan& Abdullah (2009), quote from Leung (1990) that spatial preposition indicates spatially one object with reference to another object and temporal preposition including two sub-types of time enclosure which the first expresses a period of time, whereas the second sub-type shows duration such as length of time.

On the other hand, English prepositions have no a definite usage and meaning. They have many meanings across languages. Li et al. (2005) stated that "the problem of translation of prepositions is twofold" (Li et al., 2005, p. 412): in different language, the translation of prepositional phrases does not essentially match in meanings and "even for a single meaning, different prepositions are possible". For instance, in the street and on the street are occasionally interchangeable but they have distinct meanings. A street is "a public road in a city or town that has houses and buildings on one side or both sides" (OALD, 2005), so it can be conceptualized as a container as in English, and On Monday I met Mr. Matthews in the street and he asked if I'd taken the cat to the vet and I admitted that I hadn' t (BNC, A5K 238) is used to express somebody"[somebody] at a point within an area or a space" (OALD, 2005). In American English, our houses are "on" a street, people drive "on" a street and live "on" a street, etc. Since a street also focuses on the road, "without a home; outside, not in a house or other building" (OALD, 2005), it results in a surface conceptualization.

English prepositions are also characterized by multi-function. Most central uses of English preposition characteristically denote spatial or temporal relations like "in, under, toward, before", and it can also "serve to mark various syntactic functions and semantic roles" like of, for (Huddleston & Pullum, 2002, p. 603). These characteristics make prepositions a highly difficult item for students in the target language. Although English prepositions are used frequently in every day conversations and therefore also display a high frequency in English language textbooks, students show rather low learning achievements. Theses natures of English prepositions lead to the fact that students are not able to draw links between the different meanings of the occurrences and thus fail to acquire the multiple meanings incidentally.

Cognitive Linguistic-inspired teaching materials based on cognitivist and constructivist insights explores how learners process and use information during the cognitive procedure. In addition, the CL-inspired teaching approaches as one application of meaningful learning would integrate the new concepts with related ideas in the cognitive structure and would have a great effect on the methodologies of Foreign Language Teaching (FLT) and learning. According to (Evans et al., 2007) CL "investigates the relationship between human language, the mind and

socio-physical experience" (Evans et al., 2007, p. 2) and the application of theoretical insights of the CL framework is described by the term Applied Cognitive Linguistics. The understanding of several grammatical and lexical phenomena is facilitated by these approaches which attempt to enhance FLT by providing good explanations (Robinson & Ellis, 2008) by connecting the new knowledge to relevant prior knowledge held in cognitive structures.

Regarding the spatial usage of prepositions, their basic senses indicated location in space, so the spatial usages of prepositions can be experienced directly. Concerning domain of English prepositions, Dirven (1993) characterized the spatial conceptualizations of twelve prepositions and found radial meaning systems of meaning from physical space into mental space, that is, from spatial source domains via the domain of time (also possible target domain) to the more abstract target domain. Radden and Dirven (2007), categorized prepositional meanings into three domains: spatial, temporal and abstract domain. These three domains, as cognitive domains, form the coherent knowledge structure of English prepositions with inherent connection. The cognitive domain of the preposition suggested that all the prepositions in this domain should follow the same stable knowledge context. Although prepositions may be defined differently by different schools, they have the same stable knowledge context within each school.

Regarding teaching prepositions, different methodologies have been applied over decades. Here, three approaches pertaining teaching English prepositions are presented namely, the Traditional Approach, the Collocation Approach, the Prototype Approach. Teaching prepositions in traditional method is carried out through explicit grammar instruction, that is, Students concentrate on learning prepositions individually within context, with no further expansion (Lam, 2009). Using collocations is an alternative to traditional method of teaching prepositions collocations. Rather than teaching prepositions individually, students can be taught using "chunks," or words that often occur together. The prototype theory maintains that the polysemous nature of prepositions can be accounted for through analysis of the prototypical meaning. In other words, all non-prototypical meanings are believed to be associated to the prototype, often through metaphorical extension. Considering the preposition "on", Lindstromberg (1996), explains that non-prototypical meanings like "come on" can be for granted by extending the prototypical meaning.

Lam (2009), believes that using cognitive linguistic approach based on prototype theory enables teachers to point out the relationships between different uses of a preposition and depict patterns of meaning extension, as opposed to telling learners to simply memorize each use as an individual item. In this way, learners will optimistically be more conscious of the expressive range of a preposition (Lam, 2009). Learning English prepositions is a difficult and slow process for non-native speakers. Given that each language has its own set of grammar rules, there are points of conflict when someone wants to learn a second language (James, 2007; Jie, 2008). Prepositions are frequently the most important aspect of these clash points.

There is a mismatch problem between English and other languages (Celce-Murcia & Larsen-Freeman, 1999). Usually when someone is learning a foreign language, he/she will try to define an English word by its native equivalent. In respect to the usage of prepositions learners try to translate the English preposition with the equivalent in their mother tongue. Celce-Murcia (2001), maintains prepositional errors are due to first, "interlingual transfer", that is, the interference of mother tongue to the target language. Second, "intralingual transfer", where errors occur due to partial learning of the target language, Third, "context of Learning" that is attributed to poor presentation of prepositions in texts, which in most cases do not mention prepositions at all. Forth, "avoidance", when EFL learners avoid the words or chunks of words, which they find difficult to acquire (Lightbown and Spada, 2003). Fifth, "guessing", when students do not know or are in doubt about a specific preposition they try to guess the right one (Herskovits, Annette, 1998).

Prepositions are very tricky for EFL learners and even for teachers. Therefore, the teachers should make students aware of these "little tiny" words and then help them use the correct preposition in different contexts. It is very important that the teachers see prepositions as logical and not an isolated part of speech. Prepositions make logical sense; if not, the teachers should find a mental image to make them logical. They are mastered through memorization and practice. Teachers can teach prepositions to non-native speakers by using pictures. Moreover, teachers can bring real objects in the class and ask questions to the class. Also, they can provide students with a diagram and an explanation in respect of the meaning of these prepositions. Teachers should teach and test the really common prepositions like at, in, on, and with for beginners of English. They can do it in relation to a meaningful context like time or place like on Saturday, in August. For intermediate or advanced students, teachers can teach them as part of a chunk of language, such as consists of, interested in, good at, in accordance with etc., considering the age and level of learners is important regarding to the use of visual approach.

METHODOLOGY

Participants

In this study, the researcher considered Iranian EFL learners at intermediate level as participants of the study. The participants were forty five female, between 13-17 years of age, studying English at Shokuh Foreign Language Institute in Rudsar, Iran. The criterion used to select the participants in question was an Oxford Placement Test which had already been administered to measure their language proficiency. The researcher conducted her study with three groups including two experimental and one control group each group comprised of 15 learners. Then a pre-test was administered for checking their background information of English prepositions.

Instrumentation

Three testing instruments were utilized in the process of the present research. Initially, an Oxford Placement Test was administered to the participants to determine the learners' proficiency level and divide the sample into three groups. The time allotted to this proficiency test was 60 minutes.

A pre-test based on English grammar exercises (2016) to measure the students' level of preposition background information and make homogenous groups. It includes 20 multiple-choice items which students must answer in the allotted time that is 15 minutes.

The third instrument was a post-test to determine the effectiveness of using different modalities on learning spatial-temporal prepositions. The reliability of both tests of the study was estimated using the Chronbach's coefficient alpha Formula.

Materials

The materials in this study that afforded to three groups consisted of an Oxford Placement Test¹, test of prepositions, pictures and flashcards.

Oxford Placement Test (OPT)

In order to validate the level of the participants and form a homogenous group, participants were given the proficiency test of (OPT). This test has been developed by University of Oxford. The Oxford Placement Test is designed to measure test takers' ability to understand a range of grammatical forms and the meanings they convey in a wide range of contexts. It also measures the extent to which learners can use these language resources to communicate in English language situations. The two sections of this test contained two part questions totaling sixty multiple-choice standard questions for homogenizing the participants and the last section contained writing a well-organized paragraph respectively.

Pre-test of Prepositions

The pre-test includes questions of the nine most common prepositions (at, on, in, by, for, from, of, with, to), regarding to participants level of proficiency (intermediate level) downloaded from the relevant websites (preposition quizzes² and English grammar online exercises website³) to figure out the students' background knowledge of prepositions. This test with the reliability of $r=0.81$ contained twenty multiple-choice items which students were asked to answer them in fifteen minutes under the exam conditions.

Pictures and Flashcards

¹published by Oxford university press and university of cambridge local examinations syndicate.

²grammar.ccc.comment.edu/grammar/quizzes/preposition-quiz1.htm.

³www.english-grammar.At/worksheets/prepositions/index.htm.

In order to teach prepositions to participants, pictures and flashcards with related sentences for each preposition were employed. The flashcards of prepositions were downloaded from the relevant website⁴. Moreover, some pictures have been adopted from the second language acquisition of English prepositions (Patricia Boquist, 2009).

Post-test of Prepositions

The post-test includes questions of the nine most common prepositions (at, on, in, by, for, from, of, with, to), regarding to participants level of proficiency (intermediate level), downloaded from the relevant websites (preposition quizzes⁵ and English grammar online exercises website⁶), to figure out the students' knowledge of prepositions after teaching prepositions through hypothesized method. This test with the reliability of $r=0.79$ contained twenty multiple-choice items which students were asked to answer them in fifteen minutes under the exam conditions.

Procedure

The procedure of this study took several stages. As a primary stage, an Oxford Placement Test was administered and participants were asked to answer 60 multiple-choice questions and to write a well-organized paragraph between 150-200 words. This was examined by the researcher to test proficiency level of intermediate participants studying English at Shokuh Foreign Language Institute in Rudsar, Iran and the time duration of the test was sixty minutes. For answering this type of test, the participants could use neither dictionary nor any other kinds of gadgets. Forty five out of one hundred students were selected for the purpose of this study. The participants assigned in three groups (two experimental and one control group). After participants were placed in their groups, a pre-test, including twenty questions of the nine most common prepositions (at, on, in, by, for, from, of, with, to), regarding participants level of proficiency (intermediate level) was administered to measure the participants' prepositions background knowledge. The test was administered by a teacher in Shokuh Foreign Language Institute in Rudsar. The time duration of this test was 15 minutes.

The three groups were exposed to nine common prepositions " at, by, for, from, in, of, on, to, with". Participants were received ten sessions treatment regarding nine common prepositions (at, on, in, by, for, from, of, with, to). Each session, participants received nearly 15 minutes treatment, that is, they were asked to read the definitions and examples of each preposition by themselves. If they had questions, they could ask teacher to explain, such as vocabulary, phrases (about 2 minutes). Participants in experimental group-one were exposed to picture and the context in which the specific preposition has occurred (about 2 minutes). Teacher should explain the few first sentences and let students analyze other sentences. Once participants finished the exercises by themselves, teacher tried to associate every situation with abstract image schemas

⁴ Leo (1999), pictureit.prepositionmovement.html

⁵ grammar.ccc.comment.edu/grammar/quizzes/preposition-quiz1.htm.

⁶ [www.english-grammar. At/worksheets/prepositions/index.htm](http://www.english-grammar.At/worksheets/prepositions/index.htm).

and distinguished the similarity of each preposition. On the other hand, participants in experimental group-two were exposed to the picture regarding the specific preposition and were asked to match every picture with the definitions found earlier in a monolingual dictionary and then make sentences based on these phrases (about 2 minutes).

Table 1. Descriptive analysis results of the picture/context based group

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 Pretest Con/Pic	15.3333	15	1.29099	0.33333
Posttest Con/Pic	16.6667	15	1.39728	0.36078

However, participants in the control group were conventionally taught prepositions based on general rules governing prepositions and were asked to use prepositions describing objects in the classroom. No technical instrument such as computers, video and audio file was used. After teaching these common prepositions through visual aids (pictures) and context, a post-test was conducted to examine which group got the better result with the use of pictures and context and discriminate the participants' knowledge of prepositions. Once the papers were collected, the rater scored them according to the checklist scores. Ultimately, the required data analysis procedures were conducted to respond to the research question raised in this study.

Data Analysis

The data obtained from testing the hypothesis of the study were analyzed via calculating a paired sample t-test between the pretest and posttest scores of the two experimental and the control group of the study and the one-way ANOVA between the posttests of the two experimental and the control group of the study.

DATA ANALYSIS AND FINDINGS

The Descriptive Analysis of the Data

This section focuses on the descriptive analysis of the obtained data in this study. Such analysis was done using the SPSS software. Table (4.1) shows the descriptive analysis for the pretest and the posttest of prepositions in the experimental group one of the study:

As shown in table 1 the first experimental group which consists of fifteen participants exposed to pictures and the context in which the specific preposition has occurred, outperformed other groups in the test as normally expected, with the mean score of 16.6667. It can be argued that participants in this group highly favored from picture-based/context-based method presented to them.

Table 2. Descriptive analysis results of the picture-based group

		Mean	N	Std. Deviation	Std. Error Mean
Pair 2	Pretest picture	14.8667	15	1.18723	0.30654
	Posttest picture	16.3333	15	1.49603	0.38627

According to Table 2, the second experimental group which consists of fifteen participants exposed to the pictures regarding the specific preposition performed almost similarly in the posttest with the overall mean score of 16.3333.

Table 3. Descriptive analysis results of the existing-method group

		Mean	N	Std. Deviation	Std. Error Mean
Pair 3	Pretest Existing	15.4000	15	1.54919	0.40000
	Posttest Existing	15.0667	15	1.48645	0.38380

According to Table 3, the control group which consist of fifteen participants exposed to general rules governing prepositions (conventional method) did not perform better than the two experimental groups in the posttest with the overall mean score of 15.0667.

Table 4. One-Way ANOVA results of the study

Preposition	ANOVA				
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	21.378	2	10.689	5.010	0.011
Within Groups	89.600	42	2.133		
Total	110.978	44			

In order to compare the three means of the obtained data and to test hypothesis, One-Way ANOVA was used. Based on Table 4.4 the sig. value is 0.011, which is less than .05 and $F > 1$ ($5.010 > 1$). Hence, the conclusion is that there was a difference somewhere among the mean scores of preposition test (i.e. posttest) for all the three groups. Consequently, the null hypothesis was rejected.

Inferential Analysis of the Data

To compare whether there was any difference among the learners' knowledge of prepositions both of the control and experimental groups, inferential statistics were also calculated through the Paired-Sample t-test between the pretest and the posttest of each group of the study. The data obtained from the pretest and posttest in each group were analyzed in order to verify whether there are any differences in the posttest scores of the three groups after instructing nine common prepositions to learners. The results are presented in the tables 5, 6, and 7.

Table 5. Paired Sample result for the picture/context group

		Paired Differences		T	df	Sig. (2-tailed)
		Mean	Std. Deviation			
Pair 1	Pretest Con/Pic Posttest Con/Pic	1.46667	0.63994	8.876	14	0.000

Table 6. Paired Sample results for the picture-based group

		Paired Differences		T	df	Sig. (2-tailed)
		Mean	Std. Deviation			
Pair 2	Pretest Pic- Posttest Pic	1.33333	0.61721	8.367	14	0.000

Table 7. Paired Sample results for the existing-method group

		Paired Differences		T	df	Sig. (2-tailed)
		Mean	Std. Deviation			
Pair 3	Pretest Existing- Posttest Existing	0.33333	0.89974	1.435	14	0.0173

The results indicate that after instructing nine common prepositions to learners, there is an insignificant difference in posttest scores between two experimental groups, but the difference in posttest score of control group are statistically significantly different from the two experimental groups:

Experimental Group₁: $df=14$, $t_{obs} = 8.876$, $\alpha=0.05$, critical $t = 2.145$

Experimental Group₂: $df=14$, $t_{obs} = 8.367$, $\alpha=0.05$, critical $t = 2.145$

Control Group: $df=14$, $t_{obs} = 1.435$, $\alpha=0.05$, critical $t = 2.145$

According to the results, observed-t in experimental group one is greater than the critical t ($8.876 > 2.145$) with level of significance ($\alpha=0.05$) and degree of freedom ($df=14$), besides, observed-t in experimental group two is greater than the critical t ($8.367 > 2.145$) with the level of significance ($\alpha=0.05$) and degree of freedom ($df=14$), they are both higher than that of control group ($1.435 < 2.145$). Therefore, picture-based and context-based method had a large impact on learners' knowledge of prepositions in both experimental groups. Consequently, it can be concluded that the control group did not perform better than the picture-based and the picture-based/context-based method groups. Since 8.876 is even greater than 8.367, the interpretation is that the picture-based/context-based method was more effective than the picture-based method in teaching prepositions to Iranian intermediate EFL learners. Therefore, this reject the null hypothesis of the study, claiming that the picture-based vs. context-based method remarkably impacts on Iranian intermediate EFL learners' knowledge of prepositions.

Results of Hypothesis Testing

In this section, the results of testing the hypotheses of the study have been presented and elaborated. In order to give a detailed analysis, attempts were made to take advantage of the results of the study as evidence to determine the rejection or support of the hypothesis. In addition, the rejection or support of the hypothesis was justified by explaining the consequences of such rejection or support, i.e. what would happen if the hypothesis of the current study was rejected or supported. Before analyzing the hypothesis, it will be repeated below:

H0: Picture-based vs. context-based method does not have any effect on Iranian intermediate EFL learners' knowledge of prepositions.

The hypothesis of the study which targeted the effect of using picture-based vs. context-based method on Iranian intermediate EFL learners' knowledge of prepositions was rejected. Evidence from various sources of data could help to verify the rejection. The results of the paired sample t-test of the study (see table 5&6) could be employed to confirm this analysis, accordingly, the X_1 observed t value calculated by the SPSS was 8.876 ($t_{obs} = 8.876$) while the critical value of t determined on the basis of considering the 2-tailed significance level of 0.05 ($P = 0.05$) was 2.000 ($t_{crit} = 2.145$). Also, the X_2 observed t value was 8.367 ($t_{obs} = 8.367$) while the critical value of t determined on the basis of considering the 2-tailed significance level of 0.05 ($P = 0.05$) was 2.000 ($t_{crit} = 2.145$). Thus, the observed t of the two experimental groups was higher than the critical t and high enough to reject the null hypothesis of this study.

The second evidence to verify the rejection of the hypothesis was the value of the level of significance calculated by the SPSS to be 0.000 (Significance 2-tailed = 0.000). Since this value was lower than 0.05 (based on the SPSS regulations), the difference between the means of the posttests of the study could not be by chance, and thus, the rejection of the hypothesis of the study indicated that using picture-based simultaneous with context-based method and using just picture-based method would enhance the higher knowledge of prepositions of the participants in the experimental groups of the study.

The rejection of the hypothesis of the study could also be supported by showing both experimental groups participants' progress from the pretest to the posttest. Table 1 and 2 provided the evidence for this support. According to the descriptive analysis illustrated in table 1, the mean score between the pretest and the posttest of the experimental groups was higher than that of the control group. This meant that the posttest scores of prepositions were distant from the pretest scores in both experimental groups and indicated that using picture-based vs. context-based method affected the participants' knowledge of prepositions and caused the posttest scores to stand higher.

A further evidence for the rejection of the hypothesis of the study was the control group participants' lack of progress from the pretest to the posttest. Table 3 provided the evidence for this

support. According to the descriptive analysis illustrated in table3, the mean score between the pretest and the posttest of the control group was lower than that of the experimental groups. This meant that the posttest scores of prepositions were close to the pretest scores in the control group and indicated that using conventional method and grammatical rules of prepositions did not affect the participants' prepositional knowledge and caused the posttest scores to stand as close as possible.

Finally, to support the rejection of the above null hypothesis, One-Way ANOVA was used. Based on Table 4.4 the sig. value is 0.011, which is less than .05 and $F > 1$ ($5.010 > 1$). Hence, the conclusion is that there was a difference somewhere among the mean scores of preposition test (i.e. posttest) for all the three groups. Consequently, the null hypothesis was rejected. It implies that the picture-based and context based method affect learners' knowledge of prepositions more than would be expected by chance alone.

DISCUSSION

General Discussion

The findings of the current study indicated that using picture-based/context-based method in teaching prepositions could result in a better performance of language learners in a test of prepositions. The experiment indicated a clear effect for learners' knowledge of prepositions, that is, prepositional knowledge of PB and PB/CB groups was expanded and improved more than conventional group. Considering the scores of PB/CB group, this observation could be attributed to an explosive effect for learners. Apparently, the learners in this group had acquired remarkable comprehension of prepositions in question. Obviously, the proper instructional method facilitates the preposition learning. The result of this study documented the previous literary works which were mentioned in review of literature. A possible explanation for this study is that learners are extensively exposed to English to have developed full representation of common prepositions. The participants at the intermediate levels of proficiency are sufficiently exposed to the occurring prepositions to show a difference in scores related to of picture-based/ context based method rather than without it.

Results of the current study support those of earlier studies which have found picture-based and context-based method to be an effective means to teach prepositions to intermediate EFL learners. These findings seem to be compatible with the theory of Cognitive Linguistics made by Evans & Tyler. Pictures and other graphics are an increasingly popular way to address the problems with misunderstanding and misuse of prepositions. Since a prepositional phrase includes a preposition, its object and any associated adjectives or adverbs, the visual arts supply an excellent way to envision the relationships between the preposition, its object, and any modifying words. Providing a creative imagination, learners acquire a new language easily and enjoyably through the use of pictures rather from a textbook and dictionary. Applying pictures and other visual aids will make a communicative approach to language learning easier and more

natural, and help teachers to teach effectively in a foreign language context. It is widely believed that the proper pictures create the context which is beneficial for the EFL learners. This usefulness can help teachers to save their time that they spend on elaborating a task and on the other hand, they improve the comprehension of the language that EFL learners have.

Many language teachers are concerned to help learners to develop ability to use the foreign language. In this respect, environmental factors play an enormous part in affecting learners and in giving them information. Pictures are not just an aspect of method but through their representation of places, objects and people they are an essential part of the overall experiences, students are assisted to cope with. Specifically, pictures increase interest and motivation of students, a sense of the context of the language, and a specific reference point or stimulus. Penny Ur (1992), believes if learners see something or depicted representation of it, they will easily concentrate on thinking about that something. In the event that student are not provided with something to look at, they may be distracted by seeking or finding that item elsewhere, in objects that are totally unrelated to the learning task. Although written text provide visual focus in itself; but using pictures and other graphic materials can enhance comprehension and performance by clarifying difficult content, adding meaning to a very short or boring text or using to compare and contrast.

However, as a matter of fact, any teaching that takes usage, the formal properties of language, as the only aspect to be taught will fail to develop adequate language skills in learners. In addition to usage, teaching language as it is actually used by native speakers in appropriate contexts is the cornerstone of second and foreign language teaching (Rhalmi, 2013). According to Tetreault & Chodorow (2008), prepositions serve a wide range of linguistic functions, therefore, in choosing the appropriate preposition one has to know and understand the context as well as "the intended meaning" of what to be conveyed. Swan (1998), believes that it is difficult to learn to use prepositions correctly in a foreign language. Most English prepositions have several different functions, and these may be parallel to several different preposition in other languages.

Although, relying on only the linguistic elements in a text to get meaning is not enough, meaning involves more than the grammatical description and goes beyond the scope of grammar to an understanding of the situational context that involves individual beliefs and knowledge of the world. In response to these problems, Evans & Tyler (2005), have designed a theoretical framework known as Cognitive Linguistics. This theory states that each preposition has a central meaning that can be represented with a visual schema. The different peripheral meanings of the preposition then branch out from this central meaning. Therefore the meanings of each preposition are related to each other and are thus related back to the original image.

In terms of knowledge of the second language, students' prior knowledge of the second language significantly counts as a factor in their current learning. Anderson and Pichert (1978),

state that the knowledge an individual possesses possibly influences what he or she will learn and remember. Also, based on cognitive psychology prior knowledge plays an important role in the acquisition of new knowledge. Here, the spatial usages of prepositions were considered as prior knowledge and the abstract usages, particularly in the abstract domain, were regarded as new knowledge. The poor presentation of prepositions in text, which in most cases do not mention preposition at all contribute to prepositional errors in a foreign language context. The creativity of expending prepositional semantics is fostered by meaningful learning, in contrast, traditional rote simply crams the knowledge. Especially, focusing on English preposition, learning traditionally by rote was giving the definition of every preposition in a straightforward manner. The result of the study indicated that the prepositional knowledge of the experimental group one improved much more than the experimental group two and the control group by applying the CL-inspired meaningful learning approach.

Prior studies have considered the importance of meaningful learning that associates or unites the new concepts or ideas with related ideas in the cognitive structure (Novak & Cañas, 2009) and the limitation of rote learning that is based on repetition and fails to involve the mental storage of items being associated with existing cognitive structures (Ausubel, 1963, 1968, 2000). The findings, that referring to all items applying CL-inspired meaningful learning get significantly better achievements, corroborated the ideas of the prior studies and further implied the advantages of CL-inspired meaningful learning. Based on the ITPC model and the application of CL-findings, CL-inspired meaningful learning underwent the continuum procedure of learning.

At first, CL-inspired meaningful learning provided image schemas which helped the participants to perceive the information by visual images and also provided written texts for assistance. This step corresponded to the visual register, during which process the visual images and written texts were included. During this step, the teachers also explained the application of image schemas to the sample sentences which corresponded to the auditive register. All these steps were concluded in the process of the sensory register, that is through the auditive channel and visual channel the new knowledge was involved in the first step of comprehension. Then the conceptual metaphor was applied to think about the relations between the image schemas and the questions in the teaching materials and in the test. Secondly, the knowledge in the spatial domain (as a conceptual domain) provides the prior knowledge as much as possible for the integration with new knowledge. It elaborated the underlying factors that have influence on learning English preposition. Accordingly, the participants in the experimental group one processed the whole procedure and profited from acquiring English prepositions by CL-inspired meaningful learning.

Suggestions for Further Research

The first point to consider is the issue of population of the study. It seems possible to go beyond the sample-population limitations of the study and to elicit information from a larger population. This was not practical in this study since there was a problem of distance: it was not practical to

have samples from all parts within the short period of the time allocated to writing this work; although, this is possible. The future researchers are advised to take the time and replicate the study from this aspect.

As the second point, similar research should be conducted with other groups of students who have different levels of English proficiency, gender, etc. in this research, gender differences among the participants were not taken into account, but future research may examine PB/CB method effectiveness in relation to gender differences.

The third point suggested to future researchers is that learners' knowledge of prepositions in current study was examined with multiple-choice completion. Further research can also administer writing and speaking tests to examine learners' prepositional knowledge. Moreover, the sole information elicited in the current study contained the data from the OPT as well as tests of prepositions used here, however, future researchers are suggested to conduct qualitative research studies as well as quantitative ones to elicit information about the teachers and learners positive or negative views about the treatment and the results of the study.

Forth, in this study target prepositions consisted of the nine most common prepositions; future research may examine the effect of picture-based vs. context-based method on the other prepositions. They may obtain different results concerning other prepositions.

As the final point, students' performance indicate using pictures simultaneous with context in which prepositions occur (linguistic context) notably impacts on learners' achievement. Nevertheless, future researchers are advised to examine other visual aids such as drawing on the board, film, wall chart, strips stories, etc. as well as situational context so that more generalized result may be obtained about using visual aids and context simultaneously in teaching prepositions.

REFERENCES

Abkhoo, F.,Gorjiani, B.,Pazhakh, A.(2014).Teaching spatial and temporal prepositions through audio, pictorial-speech, and video modalities to pre-

intermediate EFL learner. Retrieved May 12, 2015,from <http://www.ijlwlw>

[.org/finalversion/5735.pdf](http://www.ijlwlw.org/finalversion/5735.pdf).

Anderson, R. C., & Pichert, J. (1978). Recall of previously unrecalable information

following a shift in perspective. *Journal of Verbal Learning and Verbal Behavior*,

17, 1-12.

- Ausubel, D. P. (1963). *The psychology of meaningful verbal learning*. New York: Grune and Stratton.
- Ausubel, D. P. (1968). *Educational psychology: a cognitive view*. New York: Holt, Rinehart and Winston.
- Ausubel, D. P. (2000). *The acquisition and retention of knowledge: a cognitive view*. Boston: Kluwer Academic Publishers.
- Celce-Murcia, M., & Larsen-Freeman, D. (1999). *The grammar book: An ESL / EFL teacher's course (2nd edition)*. USA: Heinle & Heinle Publishers.
- Celce-Murcia, M., (2001). *Teaching English as a second or foreign language*. Heinle & Heinle.
- Delshad, S.(1980).*Persian and English Preposition Compared and Contrasted from a Pedagogical Point of view*. Unpublished Doctoral Dissertation. University of Texas, USA.
- Dirven, R. (1993). *Dividing up physical and mental space into conceptual categories by means of English prepositions*. In: Cornelia Zelinsky-Wibbelt (Ed.), *The Semantics of Prepositions. From Mental Processing to Natural Language Processing* (pp. 73-97). Berlin/New York: Mouton de Gruyter.
- Evans V. & Tyler A. (2005). *Applying cognitive linguistics to pedagogical grammar: The English prepositions of verticality*. *Revista Brasileira de linguistica aplicada*, 5(2), 11-42.
- Hasan, A. &Abdullah, I.(2009).*The conceptual mapping of the English preposition into arabic*. *European Journal of Social Science*, 4(8),604-613.
- Herskovits, Annette.(1986).*Language and spatial cognition; an interdisciplinary*

- study of prepositions in english. In Aravind K. Joshi(Exec. Ed), Studies in Natural Language Processing. Cambridge University Press.
- Huddleston, R., & Pullum, G. K. (2002). The Cambridge grammar of the English language. Cambridge: Cambridge University Press.
- Jallili, H. ; Shojaei, M.(2012).Persian EFL students' developmental versus fossilized prepositional errors. Iran University.
- James, M. (2007). Interlanguage variation and transfer of learning [Electronic version]. International review of applied linguistics in language teaching, 45.
- Janfaza, A., Soori, A., Yousefi, S.S.(2014).Common preposition errors committed by Iranian students. Retrieved May 12, 2015,from [http : // www . journals . aiac . org . au/index.php/IJALEL/article/view/1036/966](http://www.journals.aiac.org.au/index.php/IJALEL/article/view/1036/966).
- Jie, X. (2008). Error theories and second language acquisition [Electronic version]. USChina foreign language, 6(1), 35-42.
- Lam, Y.(2009).Applying cognitive linguistics to teaching the spanish preposition por and para. language awarness, 18(1), 2-18.doi:10.1080/09658410802147345.
- Leech, Geoffrey N., Rayson, Paul, & Wilson, Andrew. (2001). Word frequencies in written and spoken English: Based on the British National Corpus. London: Longman.
- Li, H., Japkowicz, N.; Barrière, C. (2005). English to Chinese translation of prepositions. In Eighteenth Canadian Conference on Artificial Intelligence. Lecture Notes in Computer Science, 3501, 402-416.
- Lightbown, Patsy M. and Spada, Nina. 2003. How Languages are Learned. Oxford: Oxford University Press.

Lindstromberg, S. (1996). Prepositions: meaning and method. *ELT Journal*, 50 (3), 225- 236.

Mahmoodzadeh, M.(2012). A Cross- linguistic Study of Preposition in Persian and English: The Effect of Transfer. Retrieved May 12, 2015, from [http : // www . google . com / url ? sa = t & rct = j & q = & esrc = s & source = web & cd = 1 & ved = 0 c b 0 Q Fj A A & url - http .](http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0cb0QFjAA&url=http://www.sid.ir/en/VEWSSID/J-pdf/53001020130303.pdf)

Mehrgan, Masumeh (2013). Acquiring English language prepositions by Iranian EFL learners: the effect of proficiency and gender. Retrieved October 18, 2015, from www.sid.ir/en/VEWSSID/J-pdf/53001020130303.pdf.

Morenberg, M. (1997). *Doing grammar* (2nd ed.) New York. Oxford University Press, Inc.

Mukundan, J., & Norwati, Roslim. (2009). Textbook representation of prepositions. *English Language Teaching*, 2(4), 13-34. Retrieved October 18, 2015, from [http://www . ccsenet . org / journal / index . php / elt / article / view / 4440 .](http://www.ccsenet.org/journal/index.php/elt/article/view/4440)

Novak, J. D., & Cañas, A. J. (2009). How people learn. Retrieved January 1, 2013, from <http://cmap.ihmc.us/docs/howpeoplelearn.html>.

Paivio, A. (1986). *Mental representations: a dual coding approach*. Oxford, England: Oxford University Press.

Quirk, R. & Greenbaum, S.(1993). *A University Grammar of Contemporary English*. London: Longman Group Ltd.

Radden, G., & Dirven, R. (2007). Space and extensions of space. In: G. Radden & R. Dirven (Eds.), *Cognitive English Grammar. Cognitive Linguistics in Practice 2* (pp.303-334). Amsterdam/Philadelphia: John Benjamins.

- Rhalmi, Mohammed (2013). Meaning and Context in Language Teaching. Retrieved August 4, 2015, from [www. Myenglish pages.com/blog/meaning-and context in language-teaching/](http://www.Myenglishpages.com/blog/meaning-and-context-in-language-teaching/).
- Robinson, P., & Ellis, N. C. (2008). Conclusion: cognitive linguistics, second language acquisition and L2 instruction – issues for research. In: P. Robinson, & N.C. Ellis (Eds.), *Handbook of Cognitive Linguistics and Second Language Acquisition* (pp. 489-545). New York/London: Routledge.
- Svartvik, J. (1988). English prepositions in applied linguistics. In: J. Klegraf & D. Nehls (Eds.), *Essays on the English Language and Applied Linguistics on the Occasion of Gerhard Nickel's 60th Birthday* (pp. 397-406). Heidelberg: Julius Groos.
- Swan, M. (1998). *Practical English Usage*. Oxford: Oxford University press.
- Talmy, L. (1983). How language structures space. In Jr. Pick, L. Herbert & L. P. Acredolo (Eds.), *Spatial Orientation: Theory, Research and Application* (pp. 225-282). New York: Plenum Press.
- Tetrealt, j. & chodrow, M. (2008). Native judgement of non-native usage: experiments in preposition error detection In. *COLING workshop on human Judgements in computational linguistics*.
- Ur, penny; Wright, Andrew (1992). *Five-minutes activities*. Retrieved May 12, 2015, from <http://www.africanafrican.com/folderB/.../B201-ocr.pdf>.
- Wehmeier S. (2000) *Oxford Advanced Learner's Dictionary*. Oxford: Oxford University Press.