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The Problem of English Spatial, Non-spatial, and Idiomatic Adpositions in Iranian EFL Environment: A Prototypical Approach

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Several studies of L2 learners' interlanguage have addressed the complexity of the English adpositional system due to several reasons like L1 transfer, lack of knowledge in L2, and the strong collocational relations of prepositions with other elements of the English language. The major purpose of the present study is to evaluate the performance of Iranian students dealing with three broad categories of spatial, non-spatial, and idiomatic adpositions in English. To achieve the inclinations of this piece of research, 60 students majoring in TEFL at Roudehen University were selected. A paper-based TOEFL test of English Proficiency was administered to assess the participants' general language proficiency. Three completion tasks with the division of spatial, non-spatial (nominal, adjectival, and verbal), and idiomatic adpositions were administered. The results presented the fact that the Iranian participants were considerably inclined to transfer their L1 adpositional patterns to their L2 production. The correlational analyses indicated that the scores related to adposition task in general, non-spatial as well as the idiomatic subtests were

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strongly correlated with the scores obtained from the TOEFL test. A moderate correlation was found between the spatial subtest and the TOEFL one. The independent sample t-test results between the freshmen and sophomores dealing with spatial, nominal, and adjectival subtests were considered to be significant. However, in reference to the verbal subtest, the difference between the two groups was not significant. The results obtained from the independent sample t-test indicated no significant difference between the freshmen and sophomores regarding their performances on idiomatic adpositions. Finally, the results of the correlation coefficients showed high correlation coefficients between the whole adposition test and the three subtests of spatial, non-spatial, and idiomatic ones. Moreover, high and moderate correlations were reported among the three subtests with the highest correlation between the spatial and non-spatial subtests and the lowest between the idiomatic and spatial ones.
Keywords: Spatial, Non-spatial, and Idiomatic Adpositions, Satellite-framed Language, L1 Transfer

Technically speaking, the term ‘adposition’ could be crystallized in terms of the three distinct subcategorizations as preposition, postposition, and circumposition with regard to the location each element occupies with reference to its phrase. According to the definition provided by the international encyclopedia of linguistics, an adposition replicates an element that prototypically combines with a phrase and provides clues regarding the way that phrase should be interpreted in the surrounding context. The encyclopedic definition of adpositions resembles these syntactic elements as the members of the syntactic category of prepositions symbolized as “p’’. A Prepositional phrase encompassing an adpositional head and its complement phrase could be utilized for a wide range of syntactic and semantic functions like modification and complementation. To imply a sense of consistency, we employ the term adposition for the three parts of speech: preposition, postposition, and circumposition all throughout this research project.

By delving into the field of pedagogy, we become easily convinced that many EFL English teachers and learners refer to learning and teaching prepositions as a perennial problem which is cumbersome to be eradicated. In the same way, early studies of English prepositions supported the idea that all non-native learners face an imbroglio as they attempt by every expedient to master the prepositional system of English. Therefore, the majority of learners resort to rote memorization which could be obviously judged as the most unsatisfactory situation.

The problems emerged from spatial language provides native speakers with a reliable diagnostic tool for the identification of non-native speakers. As stated by Bores and Demecheleer (1998, cited in Koosha & Jafarpour, 2006), prepositions are difficult to acquire for both EFL /ESL learners due to the fact that they are accompanied with literal as well as figurative meanings. Moreover, Mukattash (1976, P.269) believed that "prepositions are an ever-lasting problem for foreign learners of English.'' Rice, 1999 (cited in Morgestern & Sekali, 2009, p.261) explicated the complexity of the issue by stating the idea that "the factors determining the acquisition of prepositions would be linguistic rather than cognitive, and linked to language use and frequency of input.''

Such a difficulty may as well arise from different factors: an identical adposition like 'over' may have different meanings and functions as preposition, noun, adverb, adjective, and particle in English, and part of the complexity may be caused by its diversity in collocational properties. Furthermore, as mentioned by Saric (2001), prepositions are referred to as polysemous words in our cognitive framework that possess particular type of meaning. However, the important fact is that the meanings of prepositions are much more complicated compared with the other lexical categories, and the nature of the meaning could not be easily identified unless we distinguish the prototypical meaning as the best instance and the central model of a category. Consequently, learners resort to rote memorization to escape from the predicament posed by the complexity of the adpositional system in English, which would lead to unsatisfactory results.

Prepositions are difficult for all EFL learners including Persian ones due to the fact that they frequently anchor English prepositions to the prepositional system of their mother tongue. On the other hand, the variety in meaning, application and number of the prepositions in English makes the task much more complicated. Different parts of speech in English have undeniable effect on the omission, selection, and deletion of prepositions in English, which leads to the emergence of syntactic errors in this area. Moreover, the idiomatic and metaphorical usage of some adpositions in English makes the task of learning these constituents laborious even by native speakers of the language.

In learning English prepositions, Iranian students attempt to substitute the prepositional system of Farsi for the English one. A thorough analysis of the prepositional systems of Farsi and English reveals the fact that not every English preposition has a definite equivalent in Farsi and vice versa. Furthermore, the two systems are not identical regarding the usage and meaning of their prepositions. For instance, the spatial adpositions, 'in, on, at', and the zero equivalent (?), in English may be problematic for L1 Persian speakers due to the fact that they could be replaced with the unique adposition 'در' in Persian. In other words, prepositions do not translate well to other languages including Persian, which implies that their range of senses is arbitrary. Such a difficulty is blatantly encountered in teaching grammars and textbooks, which could be regarded as a barricade hindering the advancement of English students who strive for a helpful logic that would pave their way to understand and learn English adpositions. Besides, overgeneralization may occur where 'in, on, at' are used for spatial relations where one of them is more appropriate. In fact, these particular adpositions occur with many different English words in abstract, metaphorical, and idiomatic usage despite the fact that their equivalent is devoid of having such a powerful stance in Persian.

The learners' interlanguage could be prominently evaluated in terms of the most controversial issue in SLA research, namely, 'transfer', through which "the adult SLA builds on pre-existing L1 knowledge…….which may guide creative combination in their L2

interlanguage to variously good and bad effects.''(Macwhinney, 1992 cited in Doughty & Long, 2003, p. 72). As mentioned by Odlin (1989, cited in Ellis, 1994) in spite of the existence of some counterarguments regarding the significance of transfer, a growing body of scholarship stresses the importance of transfer in second language acquisition. Similarly, Robinson and Ellis (2008) believed that the L2 system is devoid of a distinctive conceptual structure. In other words, its formal structure relies on the structure of L1. In this way, due to the frequency of transfer from L1 to L2, the learners' L2 could be regarded as a parasite on L1. What learners try to accomplish is diminishing this parasitism by constructing L2 representations in a distinct framework. Eckman (1977, cited in Saville-Troike, 2006) in his Markedness differential hypothesis, assumes that while unmarked features in L1 are resistant to be transferred to the learners' L2, marked features in L2 are cumbersome to be learned. The idea is further confirmed by Kelllerman (1979, 1983, cited in McLaughlin, 1987) who depicts transfer as a cognitive process in which we have to focus on the learners' perception of similarity between the structures of L1 and L2 as well as the degree of markedness of the intended structure in the learners' L1 in the way of making any fruitful decisions. In fact, the reawakened enthusiasm referring to the notion of transfer or the so called cross language influence has shifted its direction of interest. The researchers have concerned themselves more with the study of the conditions in which the probability of the occurrence of transfer is enhanced rather than being centralized on the existence or non-existence of the process of transfer in the learners' interlanguage. As it is stated by Eckman, 1978; Gass, 1979; Kellrman, 1997, 1979; Sjoholm, 1982 (cited in Kellerman & Smith, 1986, p.68), transferability could be evaluated in terms of a number of distinct factors like "the nature of the structures in questions, the distance between the languages, markedness, universals, and various typological criteria.''

As it is evident, the possibility of the occurrence of the two processes of transfer and overgeneralization has been examined by several investigations. The existing pieces of data suggest the fact that some of these possibilities are more probable. Talmy (1985,

cited in Robinson & Ellis 2008) asserted the idea that in reference to spatial adpositions transfer does occur in case of certain languages like Spanish and English. To shed light on the fact, he divided all languages into two groups of "satellite-framed'' and "verb-framed'' categories on the basis of the way each language packages motion events. A satellite has been defined by Talmy (2000, p.102) as "… the grammatical category of any constituent other than a noun-phrase or prepositional-phrase complement that is in a sister relation to the verb root. Accordingly, it could be both a bound affix and a free word and can encompass elements like verb particles (e.g., up, over) as well as verb prefixes (e.g., mis as in miscast). Satellite-framed languages like English crystallize path motions like movements in, on, etc… by employing a constituent like a preposition that is a satellite to the main verb, whereas "verb-framed'' languages like Spanish and Korean denote path in the verb itself, and some languages like Korean lack Spatial prepositions completely. These distinctions allowed a number of researchers to examine whether acquiring a second language with a verb-frame or satellite-frame can be influenced by the structure of the L1 with similar or different typology. The above-mentioned factor seems to be a debatable issue in the case of Iranian students learning English, as both languages of English and Persian could be classified under the category of satellite-framed languages.

In reference to other spatial expressions, there are a number of research studies referring to a wide variety of languages supporting the idea of transfer from L1 to L2 to some extent (e.g., Carroll, 1997; Harley, 1989; Ijaz, 1986; Jarvis & Odlin, 2000; Mukattash, 1984, Pavesi, 1987; Schumann, 1986, cited in Robinson & Ellis, 2008).

To have a vivid perspective regarding the two general concepts of prototypical and idiomatic senses of adpositions as well as the significance of finding their relationship within the framework of meaning chains dealing with the polysemous nature of adpositions, it seems beneficial to highlight the underpinnings of the prototype theory. As stated by Geeraerts (1989), the origin of the prototype theory dates back to mid-1970s with the research project carried out by Eleanor Rosch, whose work was primarily

focused on the investigation of the internal structure of categories. In other words, the theory explicates the way through which categories are processed and represented. According to Hu (2002, p.353), the prototype theory stands in opposition with classical theory of categories which presupposes the idea that "a category is defined by a necessary and sufficient set of features and that all members of a category have full or equal status as category members.'' In contrast, Lakoff (1987, as cited in Hu, 2002) believed in the existence of "asymmetries among category members and asymmetric structures within categories.'' A prototypical structure could be shaped when a category is accompanied with some members being more prototypical of that category compared with the others. The idea was deeply appreciated by many linguists due to the fact that it could be purposefully utilized for the construction of a model applicable to such semantic phenomena as "the fuzzy boundaries of lexical categories, the existence of typicality scales for the members of a category, the flexible and dynamic nature of word meanings, the importance of metaphor and metonymy as the basis of that flexibility…'' (Geeraerts, 1989, p. 590).

As stated by Lakoff, 1987; Langacker, 1987; Talor, 1995, 1998 (cited in Hu, 2002, p.354), the application of the prototype theory could be simply traced in "theoretical discussions of cognitive patterns underlying linguistic categorization.'' Moreover, its assumptions have also been utilized in the formulation of plausible accounts of data in L1 acquisition pertinent to different grammatical structures. (e.g., Bates & MacWhinney, 1982; Bybee & Slobin, 1982; de Villiers, 1980; Shirai & Anderson, 1995 cited in Hu, 2002). In spite of the fact that only a few studies have addressed the application of the prototype theory to L2 acquisition, they provide us with results suggesting the idea that linguistic prototypicality exerts an influence on L2 learners' acquisition and use of grammatical structures (Hu, 2002).

Brugman, 1983; Hawkins, 1984 (as cited in Robinson & Ellis, 2008) employed the term prototypical sense and meaning chains dealing with the analysis of spatial adpositions and their polysemous or collocational properties. "It is helpful to realize that

grammatical elements of any sort are likely to be polysemous, having a prototypical meaning as well as an array of other, less central values possibly susceptible to schematic characterization.'' (Robinson & Ellis, 2008, p. 79). As explicated by Langacker (1987, cited in Robimson & Ellis, 2008), the function of a spatial adposition could be simply defined as the process of positioning or locating one object with reference to another object or entity. In this way, the term trajectory (TR) is assigned to the object which is located, whereas the object utilized as the reference point is regarded to be the landmark (LM).

On the other hand, Lakoff (1987 as cited in Robimson & Ellis, 2008) investigated the use of several adpositions in their metaphorical senses in a variety of contexts. He clarified the point by stating the idea that it is common for metaphors to accept image schemas as their input. We have several metaphorical models that apply a spatial domain as their source domain. Such an analysis could be employed in the way of interpreting some idiomatic expressions involving the adposition of 'over'. For instance, in the sentence 'Pete Rose is over the hill' a metaphor is used to imagine a person in a journey dealing with his occupational position. Here, the term 'hill' could be interpreted as a landmark and the person is positioned over such a landmark. Therefore, the term 'over the hill' implies the meaning that the person has reached and passed the zenith of his occupational status.

Some other researchers have tried to explicate the application of adpositions in both spatial and metaphorical or idiomatic uses in terms of the functional relationships between objects. Garrod, Sanford (1989) and Vandeloise (1991, cited in Robinson & Ellis, 2008) referred to location control as a key component in the description of the use of the two adpositions of 'in' and 'on'. " For an object to be 'in' or 'on' a reference object entails that the reference object will constrain the location of the located object over time, such that moving the reference object will cause the located object to move with it.'' Such a hybrid relationship could be shaped through a bond between both the 'geometric' construct of containment and the 'extra-geometric' construct of location control. To clarify the point, we can refer to instances of spatial

and idiomatic adpositions set forth by Robinson and Ellis (2008). The statement 'A person in a queue' presents the idea that a person's location is decided by the queue and the movement of the queue and not the person's movement alone. When we say 'A person is in a bad mood', that person's behavior is being affected and controlled by his/her mood. In the same way, being on social security transfers the idea that the security is provided by social services. As it is evident, the functional relationship between objects could be regarded as a significant factor for interpreting the spatial as well as idiomatic use of many adpositions in English. In other words, the appropriate interpretation and application of a polysemous adposition is to some extent dependent on grasping the relationship between its polysemous properties (spatial and idiomatic adpositions) and prototypical meaning.

As it is evident, the acquisition of second language which is necessarily investigated in spontaneous dialogical contexts may give new insights into prepositions as a complicated grammatical category. Which prepositions are transferred more frequently from learners' L1 to their L2? Is there any significant relationship between the acquisition of L2 prepositions and the learners' degree of second language proficiency? Are adpositions considered to be more complicated when used in their idiomatic sense compared with the situation in which they are applied in their prototypical sense? In order to tackle these questions, the researchers analyzed the performances of L2 learners on different types of adpositions. Based on their personal experience as English teachers at university, the researchers were well aware of the several problems which English university students have with English, and of their generally poor level of attainment in EFL due, in their opinion, to poor educational system and the methods used by those who are not familiar with the predictable errors that their students will make and the causes behind them.

One particular problem with which Iranian students struggle is the use of English prepositions, an area where they incessantly make considerable number of errors and, interestingly enough, where there have been only a small number of experimental studies at the academic level. All these reasons provided the

researchers with the motivation to scrutinize the difficulties the students face as they endeavor to master the English prepositions. The researchers hope that the results will pave the way for other studies that will cover a far wide area of the English language in future.

Research Objectives

This research project is primarily based on the following objectives:

Basically speaking, it attempts to find out the extent to which Iranian EFL learners' knowledge of collocation of adposition is affected by transfer from their L1 as well as their lack of knowledge in L2 with regard to the idea that both English and Persian belong to the category of satellite-framed languages. Moreover, the researchers tried to observe any significant relationship between the learners' performance on the TOEFL test as the measurement of general English proficiency and their knowledge of spatial, non- spatial, and idiomatic subtests as well as the whole adpositional test. The third area of this research project was allocated to the process of finding out whether or not knowledge of collocations of adpositions shared between Farsi & English and, based on interlingual transfer (spatial, nominal, adjectival, and verbal adpositions) could differentiate between the two groups of freshmen and sophomores. Another area of interest of this research project was devoted to the analysis of finding whether or not the learners' knowledge of metaphorical adpositions in English could differentiate between freshmen and sophomores. Perhaps, such an analysis was carried out with the intention of not being limited to the study of the problems caused by the participants' L1 (inter-lingual errors) and to expand the scope of the research to a comparative study encompassing the intralingual errors in metaphoric contexts as well. The final area of this investigation could be crystallized in terms of finding out whether or not the students' performances differ significantly dealing with the three types of adpositional subtests (spatial, non-spatial, and idiomatic) without considering the participants' educational status (freshmen/sophomores). The following research

questions, therefore, were born in mind regarding the above-mentioned objectives.

Research Questions

1) Is the Iranian EFL learners' knowledge of collocation of adpositions affected by their L1 with regard to the fact that both L1 and L2 languages are satellite-framed?

2) Is there any meaningful relationship between learners' knowledge of spatial, non-spatial, and idiomatic adpositions as well as the whole adpositional test and their performance on the EFL proficiency test (TOEFL)?

3) Could the knowledge of collocations of adpositions shared between Farsi and English and based on interlingual transfer (spatial, nominal, adjectival, and verbal adpositions) differentiate between freshmen and sophomores?

4) Could the knowledge of collocations of adpositions specialized in English and based on intralingual transfer (idiomatic adpositions) differentiate between freshmen and sophomores?

5) Does the subjects' performance differ significantly dealing with the three types of adpositional subtests (spatial, non-spatial, and idiomatic) in the test?

Method

Participants

A total of 95 female and male Iranian EFL freshman and sophomores learners studying at Roudehen University majoring in English translation constituted the participants of the study. Sixteen of the students were excluded from the study due to the fact that they were not present in the second session of the test

administration and had not taken the adpositional tasks. Furthermore, nineteen students were eliminated since they did not take the tests seriously. Ultimately, there were 60 subjects left (30 freshmen, 30 sophomores) and the data gathered from this group was analyzed.

Instruments

The Adpositional Test

To conduct the present study, four general patterns of the collocations of prototypical adpositions including spatial, nominal, verbal, and adjectival adpositions as well as the metaphorical adpositions were considered by the researchers. Two separate fill-in-the -blanks tasks that deliberately included problems of Iranian students with prepositions were devised by the researchers to measure the knowledge of the above-mentioned adpositions. The first task which was allocated to the measurement of the spatial, non-spatial adpositions included 40 items divided into 4 parts (spatial, nominal, adjectival, and verbal). The researchers tried to select items with highest degree of interference between Farsi and English.

The second task, which consisted of 24 items, aimed to measure the metaphorical adpositions. The selected adpositions in this section exactly replicated those of the first section (with, to, of, by, at, for, about). The only difference was that they were used in their metaphorical sense at this section with no reference to the participants' first language. Three experts in TEFL (one professor and two Ph.D colleagues) were consulted for the validity and appropriateness of the completion tasks. The reliability of this test was estimated .87 by Kudur-Richardson formula 21 (KR-21).

TOEFL Test

TOEFL as a test of measuring English as a foreign language was used as an instrument for measuring the students' level of proficiency in English. To evaluate the participants' level of proficiency in this research project, the researchers utilized the 2004 version of the actual paper-test TOEFL, administered and

copyrighted by ETS. The test included three sections. Section I-listening comprehension—includes 50 items; section II- Structure and Written Expression – includes 40 items; and section III—Reading Comprehension and Vocabulary—includes 50 items. Due to the limitations of time as well as practical considerations, with the exclusion of the listening section, just the second and the third section of the test were administered to the participants. To estimate the reliability of the TOEFL test, the Kudar-Richardson Formula 21(KR-21) was utilized. The reliability of the scores obtained from the test was .85. The descriptive statistics and the reliability coefficient of the TOEFL test are presented in Table. 1.

Table 1.
Descriptive Statistics and Reliability Coefficients Related to TOEFL Test

Test	N Items	N	Range	Min	Max	Mean	S.D	Variance	Reliability
TOEFL	90	64	49	10	59	36	11.90	142	.85

Procedure

The tests were administered in two separate sessions. In order to measure the students' level of language proficiency, the TOEFL test was administered initially under the standard procedures. The students were expected to finish section 2 in 25 minutes and section three in 55 minutes.

The adposition test consisting of two major parts was the second test administered during the students' class hours. To conduct this study, five patterns of adpositions were recognized and scrutinized by the researchers. These patterns are as follows:

Spatial adposition: *sitting at a desk*
Noun+ preposition: *attitude to*
Verb + preposition; *arrive at/in*
Adjective + preposition: *jealous of*
Idiomatic adpositions: *on pins and needles*

The above-mentioned patterns were classified under the three subtests of spatial, non-spatial, and idiomatic adpositions.

Research Question 1.

Is the Iranian EFL learners' knowledge of collocation of adpositions affected by the structure of their L1, with regard to the fact that both English and Persian are satellite-framed languages?

In order to answer the first research question, the sum of the average number of errors for each distinct preposition at the two subtests of spatial and non-spatial adpositions was calculated. The results are shown in Table 2.

Table 2.
The Distribution of Adpositional Errors with the Distinction of Inter-lingual and Intra-lingual Ones for Spatial and Non-spatial Subtests among Iranian EFL Learners

Types of Errors		Spatial	Non-spatial	Total
Inter-lingual	N	199	382	581
	P	%70.81	% 57.44	% 64.12
Intra- lingual	N	82	283	365
	P	% 29.18	% 42.55	% 35.86

N= number of errors P = percentage of errors

As it is shown in Table 2, 946 errors were extracted from the tasks. Regarding the spatial adpositions, there is a higher degree of transfer (%70.81) compared with the non-spatial ones with % 57.44 percent of inter-lingual errors. The results could be justified in terms of the idea sparkled by Talmy (1989, as cited in Robinson & Ellis, 2008) who asserted the idea that in satellite-framed languages like English and Persian transfer does occur in reference to spatial adpositions. Ultimately, by reference to the obtained

percentage of the errors, we can conclude that the first language interference was statistically significant, since 64.12 percents of errors were caused as a result of interlingual transfer from the participants' L1.

Research question 2.

Is there any meaningful relationship between learners' EFL proficiency and their knowledge of adpositions in general as well as their knowledge of spatial, non-spatial, and idiomatic adpositions?

In order to answer the second research question, the descriptive statistics related to the different subtests (spatial, non-spatial, and idiomatic adpositions), the whole adpositional test, and the TOEFL proficiency test are shown in Table 3.

Table 3.
Descriptive Statistics of the Adpositional Test, Subtests and the TOEFL

Tests	N	Range	Minimum	Maximum	Mean	S.D	Variance
Adposition	64	30	8	38	17.69	6.69	44.82
Spatial	64	7	1	8	3.42	1.41	1.99
Non-spatial	64	17	3	20	8.61	3.98	15.86
Idiomatic	64	11	1	12	5.66	2.84	8.10
TOEFL	64	49	10	59	35.66	11.90	141.81

In order to detect if there is any meaningful relationship between the participants' language proficiency and the adpositional subtests as well as the whole adpositional test, the

Pearson correlation coefficients were calculated. The obtained results are presented in Table 4.

Table 4.
Correlations between the Adpositional Subtests, Whole Test and TOEFL

	TOEFL
Adposition test	.80**
Spatial adposition	.48**
Non-spatial adposition	.72**
Idiomatic adposition	.63**

**** Correlation is significant at the 0.01 level (2-tailed)**

As can be seen in Table 4, the obtained scores related to adposition test in general, non-spatial as well as the idiomatic subtests are strongly correlated with the scores obtained from the TOEFL test (r = .80, .72, .63), whereas a moderate correlation r = .48 was detected between the spatial subtest and the TOEFL one. The obtained correlational relationships are presented graphically in the following scatter plots.

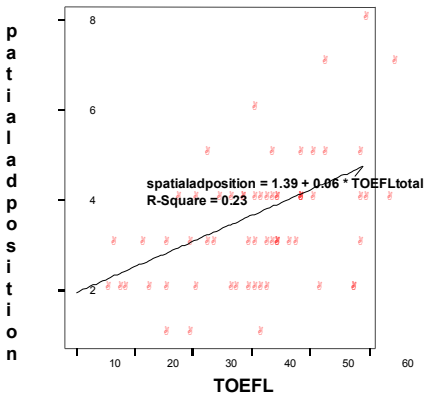

Figure1. Language proficiency & adpositional test

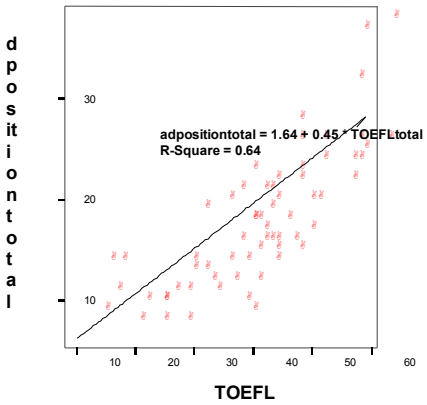

Figure 2. Language proficiency & spatial adposition

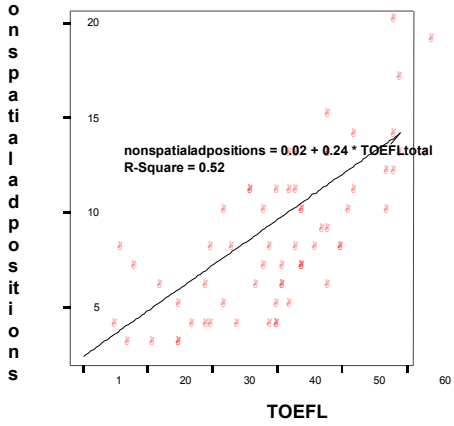

Figure 3. Language proficiency & idiomatic adposition

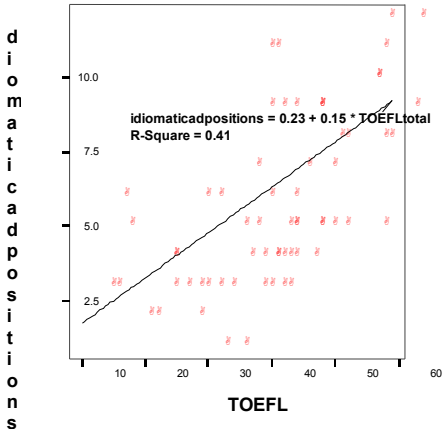

Figure 4. Language proficiency & non-spatial adposition

Research Question 3.

Could the knowledge of collocations of adpositions shared between Farsi and English and based on interlingual transfer (spatial, Nominal, adjectival, and verbal adpositions) differentiate between freshmen and sophomores?

The descriptive statistics of the spatial, nominal, adjectival, and verbal adpositions related to freshmen are reported in Table 5.

Table 5.
Descriptive Statistics of Freshmen with Respect to Spatial, Nominal, Adjectival and Verbal Subtests

Test	No items	No (participants)	Range	Min	Max	Mean	S.D	Variance
Spatial	10	32	6	1	7	3.03	1.33	1.77
Nominal	10	32	5	0	5	2.09	1.40	1.95
Adjectival	10	32	6	1	6	2.03	1.69	2.87
verbal	10	32	7	0	8	3.16	1.56	2.45

The descriptive statistics of the spatial, nominal, adjectival, and verbal adpositions related to sophomores are presented in table 6.

The results displayed in Tables 5 and 6, revealed that compared with juniors, freshmen enjoyed a lower mean dealing with all adpositional subtests. In order to measure the significance of the differences between the two groups, a t-test analysis was carried out. The results of the t-tests analyses are presented in Table 7.

Table 6.
Descriptive Statistics of Sophomores with Respect to Spatial, Nominal, Adjectival and Verbal Subtests.

Test	No Items	No (participants)	Range	Min	Max	Mean	S.D	Variance
Spatial	10	32	6	2	8	3.81	1.40	1.96
Nominal	10	32	5	1	6	2.97	1.33	1.77
Adjectival	10	32	8	0	8	3.25	2.35	5.54
Verbal	10	32	7	0	7	3.72	1.74	3.04

As reported in Table 7, the independent sample T-test results concerning spatial, nominal, and adjectival subtests were significant (P = .02, .01, .02; df = 62). However, concerning verbal subtest, the difference between the two groups with the (df =62) and (P = .18) was not significant. The findings could be justified in terms of the fact that verbal adpositions are considered to be more complicated than the other types since they are usually treated like phrasal verbs or particles. To make the intended comparison more palpable, the differences between the two groups regarding their performance on different subtests of the adpositional task are depicted graphically in Figure 5.

Table 7.
Independent Sample T-test Analysis between Freshmen/ Sophomores and their Knowledge of Spatial, Nominal, Adjectival and Verbal Adpositions.

Subtests		Mean	S.D	t-value	d.f	Sig. (2-tailed)
Spatial	F	3.03	1.33	-2.28	62	.02
	S	3.81	1.40			
nominal	F	2.09	1.40	- 2.56	62	.01
	S	2.97	1.33			
adjectival	F	2.03	1.69	-2.37	62	.02
	S	3.25	2.35			
Verbal	F	3.16	1.56	-1.35	62	.18
	S	3.72	1.74			

F= freshmen S = sophomores

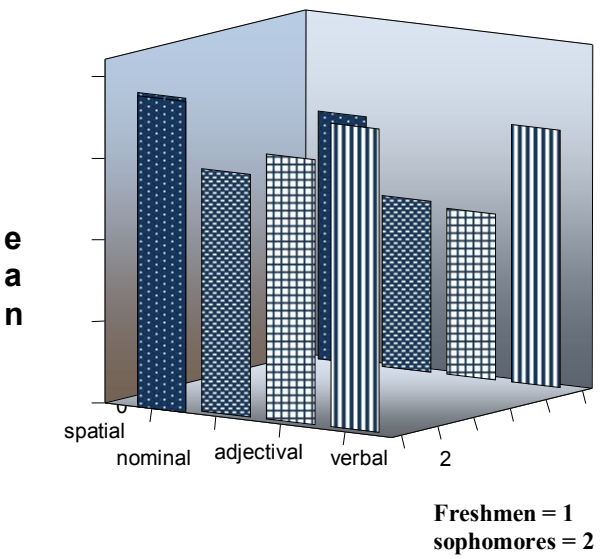

Figure 5. Freshmen/sophomores and spatial, nominal, adjectival, and verbal adpositions

Research Question 4.

Could the knowledge of collocations of idiomatic adpositions, specialized in English and based on intralingual transfer differentiate between freshmen and sophomores?

In order to answer the fourth research question, the descriptive statistics related to the idiomatic subtest with the division of the two groups of freshmen and sophomores are reported in Table 8.

Table 8.
Descriptive Statistics of Freshmen and Sophomores with Respect to Idiomatic Adposition Subtest.

Tests		N	Range	Minimum	Maximum	Mean	S.D	Variance
Idiomatic adpositions	F	32	10	1	11	5.13	2.53	6.43
	S	32	11	1	12	6.19	3.07	9.44

F= freshmen S = sophomores

A t-test analysis was conducted between the two groups of the study (freshmen and sophomores) in order to find out whether or not the difference between the two groups in reference to their performances on the adpositional subtest is significant.

Table 9.
Independent Sample T-Test Analysis between Freshmen/ Sophomores and Their Knowledge of Idiomatic Adpositions.

Subtests	Mean	S.D	t-value	d.f	Sig. (2-tailed)
Idiomatic	5.66	2.84	- 1.50	62	.13

The results obtained from the independent sample T-test presented no significant difference between freshmen and sophomores regarding their performances on idiomatic adpositions ($p = .13$; $df = 62$). The findings might be due to the fact that the idiomatic adpositions specific to the participants' L2 require a special instructional program. In other words, the absence of any

significant difference between the two groups regarding their performances on the idiomatic adpositions could be justified in terms of the idea that neither groups received any special instructions dealing with these types of adpositions. However, the result of the obtained correlation coefficient (r = .63) between the idiomatic subtest and the TOEFL test indicates a high positive relationship between the participants' performances on the idiomatic subtest and their EFL language proficiency with no distinction between freshmen and sophomores. The result of the T-test analysis is displayed graphically in Figure 6.

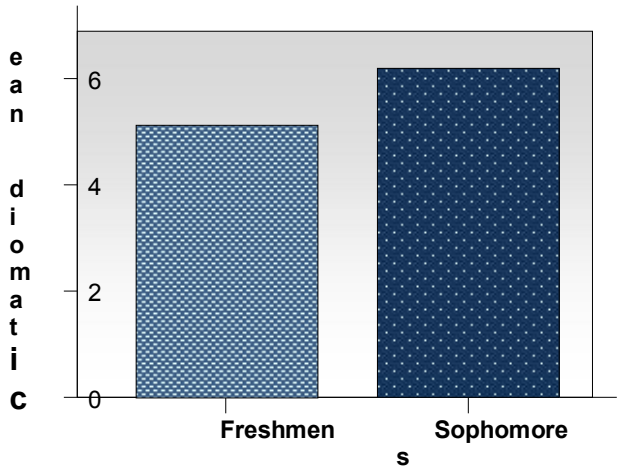

Figure 6. Freshmen/sophomores and idiomatic adpositions

Research Question 5

Does the subjects' performance differ significantly in dealing with the three types of adpositional subtests (spatial, non-spatial, and idiomatic) in the test?

In order to answer the fifth research question, the present researchers compared and contrasted the performances of the participants on the three sub-tests of the adpositional test with regard to the hierarchy of difficulty. The means are reported in percentages in Table 10.

Table 10.
Mean Scores of the Three Sub-Tests of Spatial, Non-Spatial & Idiomatic Adpositions

Subtests	Mean	
	Raw	%
Spatial	3.42	34.2
Non-spatial	8.61	28.7
Idiomatic	5.66	23.58

As it is shown in Table 10, the idiomatic adposition stands at the top of the hierarchy of difficulty because it has the lowest mean score of 23.58, whereas the non-spatial subtest falls in the middle with the mean score of 28.7, and finally, the spatial subtest is regarded as the easiest one with the highest mean score of 34.2. In order to find out whether or not the participants' performances differ significantly dealing with the three types of adpositional subtests, a series of correlational analyses were conducted among the three subtests as well as the adpositional test on the whole. The results of such an analysis are presented in Table 11.

The results of the correlational analyses present high correlation coefficients between the whole adpositional test and the three subtests of spatial, non-spatial, and idiomatic ones. Furthermore, there are high and moderate correlations among the three subtests with the highest correlation between the spatial and non-spatial subtests ($r = .55$), and the lowest between the idiomatic and spatial ones ($r = .28$). The results of the correlational analyses are presented in the following scatter plots.

Table 11.
Inter-correlations among the Three Adpositional Subtests (Spatial, Non-Spatial and Idiomatic) and the Whole Adpositional Test

	Adpositional test (total)	Spatial adposition	Non-spatial adposition	Idiomatic adpositional types
Spatial adposition	.66**		.55**	.28*
Non-spatial adposition	.90**	.55**		.45**
Idiomatic adposition	.75**	.28*	.45**	

**** Correlation is significant at the 0.01 level (2-tailed)**
***Correlation is significant at the 0.05 level (2-tailed)**

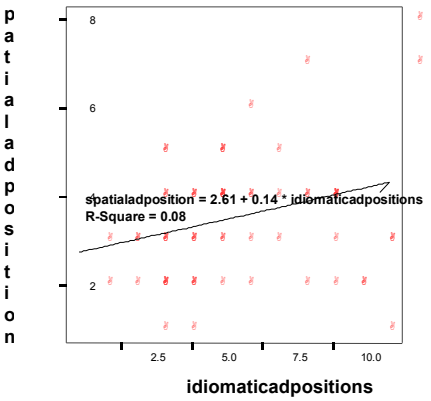

Figure 7. Spatial & Idiomatic adpositions

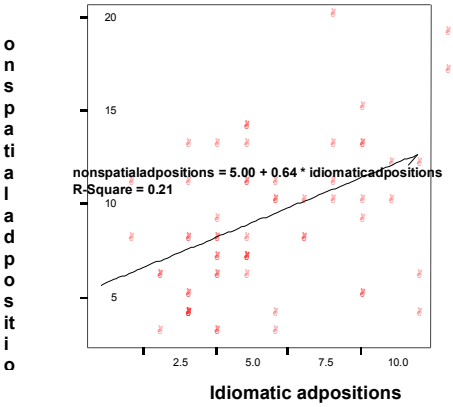

Figure 8. Non-spatial & idiomatic adposition

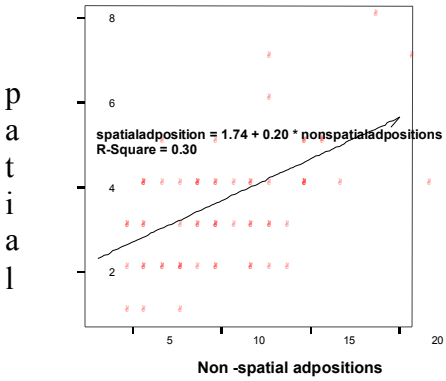

Figure 9. Spatial & non-spatial adpositions

Pedagogical Implication and Suggestions for Further Research

The first pedagogical implication of this research project could be transparently crystallized in terms of the idea sparkled by Kellerman 1979 (cited in Gass & Selinker, 2008) which is referred to as psychotypology. By grasping exactly what a second language learner transfers and does not transfer from his/her native language, we can learn about the organizational structure that

humans impose on their NL. In other words, the practical as well as theoretical utilization of second language data would well equip researchers with the ability to view human beings as inherently dynamic and active in a situation of language use.

Generally speaking, careful consideration of the results obtained from alternative research projects with the willingness to risk our preconceptions about the way different complex structures like adpositions could be taught and learned can strengthen the epistemological moorings of our pedagogical profession as well as our ability to be beneficial to others. A further hope is that this study will serve to an interest in the nature of the materials related to complex issues like adpositions with respect to the learners' first language and their level of L2 proficiency.

Throughout the research process several questions came to the mind of the researchers which were considered to be worthy of further investigation:

1) Is there any relationship between the learners' depth and breadth of vocabulary knowledge and learning of collocations of adpositions?
2) Can the learners' cultural background affect the learning of different adpositional patterns?

Conclusion and Discussion

The primary concern of this experimental research project was to find out the extent to which Iranian EFL learners' knowledge of different types of adpositional structures is influenced by the transfer of their L1 knowledge as a result of interlingual transfer. Furthermore, it was attempted to detect any noticeable relationship between the learners' scores related to the TOEFL language proficiency test and their performance on different adpositional subtests including spatial, non-spatial, and idiomatic adpositional tests. The third area of this research project was allocated to see whether or not the knowledge of collocations of adpositions shared between Farsi and English and based on interlingual transfer (spatial, nominal, adjectival, and verbal subtests) differentiates between freshmen and sophomores. In

addition, the area of distinction between freshmen and sophomores was analyzed in reference to their knowledge of collocations of adpositions specific to English and based on intralingual transfer (idiomatic adpositions). The fifth and the final area of this study was to find out the degree to which participants' performances differ dealing with the three types of adpositions (spatial, non-spatial, and idiomatic) with no distinction between freshmen and sophomores.

The results obtained for the first research question were regarded as a positive answer to the hypothesis proposed by the question, since interlingual errors were considered to be the major problematic areas. It is worth mentioning that the obtained results are in line with the idea put forward by Bahn (1993) who referred to the process of transferring knowledge of collocations of prepositions as a serious problem encountered by EFL learners. In the same way, Gabrys- Biskup (1992) regarded interference as the primary reason responsible for the propagation of learners' errors in the field of second language acquisition. Furthermore, the results obtained for the first research question particularly with regard to transfer from Persian to English in reference to spatial adpositions were consistent with the idea expressed by Talmy (1985, as cited in Robinson & Ellis, 2008) who stated that transfer did occur in case of spatial adpositions in satellite-framed languages.

The scores related to adpositional test in general, non-spatial as well as the idiomatic subtests were strongly correlated with the scores obtained from the TOEFL test, whereas a moderate correlation was detected between the spatial subtest and the TOEFL one. In this way, the results achieved for the second research question stand in conformity with the results reported by William (2000, as cited in Koosha & Jafarpoor, 2006) who found strong correlation between learners' knowledge of collocational prepositions and their EFL general proficiency.

The independent sample t-test results, concerning the spatial, nominal, and adjectival subtests were significant. However, in reference to the verbal subtest, the difference between the two groups was not significant. Moreover, the results obtained from the

independent sample t-test represented no significant difference between freshmen and sophomores regarding their performance on idiomatic adpositions. Finally, the results of the correlation coefficients showed high correlation coefficients between the whole adpositional test and the three subtests of spatial, non-spatial, and idiomatic ones. Besides, high and moderate correlations were reported among the three subtests with the highest correlation between the spatial and non-spatial subtests and the lowest between the idiomatic and spatial ones.

Ultimately, it should be mentioned that this paper is just a small contribution to the study of English adpositions. Further research is needed to provide a much deeper understanding of English adpositions in order to provide elaborations regarding the complex nature of these baffling constituents in common speech.

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References

Al-Arishi, A. Y. (1994). Language attrition of Saudi ESL-and EFL-trained teachers: Articles and prepositions. *Education, Science & Islamic Study,* 6 (2), 1-19.

Bahns, J. (1993). Lexical collocations: A contrastive view. *ELT Journal, 44,* 56-63.

Brugman, C. M. (1983). *Story of OVER*. Indiana University Linguistics Club.

Doughty, J. C., & Long, H. L. (2003). *The handbook of second language acquisition*. Blackwell Publishing.

Ellis, R. (1998). *The study of second language acquisition*. Oxford University Press.

Robinson, P., & Ellis, C. N. (2008). *Handbook of cognitive linguistics and second language acquisition*. Taylor & Francis Publication.

Gabyrs- Biskup, D. (1992). L1 influence on learners' renderings of English collocation. A Polish/German empirical study. *Vocabulary and applied linguistics (pp. 85-93).* London Macmillan.

Gass, M. S., & Selinker, L. (2008). *Second language acquisition*. Routledge Publication.

Geeraerts, D. (1989). Introduction: Prospects and problems of prototype theory. *Linguistics,* 27, (4), 587-612.

Hu, G. (2002). Psychological constraints on the utility of metalinguistic knowledge in second language production. *SSLA, 24,* 347-386.

Kellerman, E., & Smith, S. M. (1986). *Cross linguistic influence in second language acquisition.* Pergamon Press Ltd.

Koosha, M., Jafarpoor, A. A. (2006). Data-driven learning and teaching collocation of prepositions: The case of Iranian EFL adult learners. *Asian EFL Journal, 8* (8).

Leung, M. W. (1987). Prototype theory and English prepositions. Retrieved from http://sunzi.lib.hku.hk/hkjo.

McLaughlin, B. (1987). *Theories of second language learning*. Edward Arnold Publication.

Morgenstern, A. & Sekali, M. (2009). What can child language tell us about prepositions? *Studies in Language & Cognition. pp. 261-275.*

Mukattash, L. (1976). A Pilot Project in Common Grammatical Errors in Jordanian English. Amman: The University of Jordan.

Saric, L. (2001). Prepositional categories and prototypes: Contrasting some Russian, Slovenian, Croatian, and Polish Examples. *Glosses, the Slavic and East European language center, Issue 1.*

Saville-Troike, M. (2006). *Introducing second language acquisition*. Cambridge University Press.

Talmy, L. (2000). *Towards a cognitive semantics: Concept structuring systems*. Cambridge, MA: MIT Press.

یادگیری حروف اضافه زبان انگلیسی در فضای (غیر بومی) زبان خارجه در ایران: حروف اضافه مکانی، غیر مکانی و اصطلاحی و نظریه نمونه

نسیم گل آقائی
فیروز صدیقی
دانشگاه آزاد اسلامی واحد شیراز

مطالعات بسیاری در زمینه زبان واسطه زبان آموزان خارجی، حاکی از پیچیدگی سیستم حروف اضافه انگلیسی می باشد که دشواری فوق به دلائل متفاوتی چون انتقال از زبان اول، فقدان دانش کافی در زبان دوم و روابط پیچیده حروف اضافه با دیگر عناصر زبان دوم می باشد. هدف اصلی پژوهش فوق سنجش توانائی زبان آموزان ایرانی در رابطه با سه نوع حروف اضافه انگلیسی اعم از حروف اضافه مربوط به مفاهیم مکانی و غیر مکانی و حروف اضافه مربوط به ساختارهای اصطلاحی است. به عبارتی دیگر تحقیق فوق بر پنج هدف زیر متمرکز می باشد. اول: بررسی میزان تاثیر زبان اول دانشجویان بر دانش حروف اضافه آنها. دوم: بررسی رابطه بین دانش حروف اضافه دانشجویان در زبان انگلیسی و دانش زبان عمومی آنها که با یک تست تافل مورد بررسی قرار گرفته است. سوم: بررسی تفاوتهای موجود بین زبان آموزان در مورد چهار نوع حروف اضافه مکانی، اسمی، فعلی، و صفتی.چهارم: بررسی رابطه بین دانش حروف اضافه اصطلاحی دانشجویان که مختص به زبان انگلیسی می باشند و دیگر حروف اضافه مشترک بین فارسی و انگلیسی. پنجم: بررسی این امر که آیا دانش حروف اضافه اصطلاحی می تواند بین دانشجویان سال اول و دوم تمایز قائل شود. به منظور دستیابی به اهداف فوق شصت نفر از دانشجویان دانشگاه آزاد اسلامی رودهن در رشته مترجمی به عنوان نمونه انتخاب شدند. یک تست تافل برای سنجش دانش زبان عمومی دانشجویان مورد استفاده قرار گرفت. سه تست کتبی دیگر مربوط به گروه حروف اضافه مکانی، غیر مکانی و اصطلاحی اجرا گردید. نتایج به دست آمده حاکی از این بود که دانشجویان ایرانی به اندازه قابل توجهی دانش حروف اضافه زبان اول خود را به زبان انگلیسی منتقل می کنند. به علاوه ضریب همبستگی به دست آمده نشانگر رابطه معنا داری بین نمرات بدست آمده از تست کلی حروف اضافه و نمرات حاصله از آزمون تافل زبان انگلیسی بود. نتایج حاصله از آزمون t بین تست های مربوط به حروف اضافه مکانی، اسمی و صفتی در مورد زبان آموزان سال اول و دوم معنا دار بودند. در صورتی که نتایج حاصله از آزمون t نشانگر تفاوت معناداری بین دو گروه دانشجویان سال اول و دوم در حیطه دانش حروف اضافه

اصطلاحی آنها نبودند. در نهایت نتایج حاصله از ضریب همبستگی آزمون حروف اضافه و سه زیر مجموعه آن نشانگر همبستگی قوی بین نمرات بدست آمده از این آزمونها بود.

وازگان کلیدی:حروف اضافه مکانی،غیر مکانی واصطلاحی،انتقال بین زبانی