

Research on Foreign Languages
Journal of Faculty of
Letters and Humanities
Year 49 No. 200

Data-driven Learning and Teaching collocation of prepositions:^{*} The case of Iranian EFL Students

Dr. Ali Akbar Jafarpour^{**}

E-mail: aliakbar-jafarpour@yahoo.com

Mansour Koosha^{***}

E-mail: koosha@.fhn.uni.ac.ir

Abstract

The purpose of the present study is threefold. First, to see whether concordancing materials presented through data-driven learning (the DDL) approach have any effect on the teaching/learning collocation of prepositions or not. Second, to find out if knowledge of collocation of prepositions is differentiated among the different levels of EFL learners' proficiency. Third, to determine the extent to which EFL learners' knowledge of collocation of prepositions is affected by their L1. To this end, 200 English major students studying at three universities in Shahrekord (including Shahrekord University, Payame Noor University of Shahrekord and Islamic Azad University of Shahrekord) served as the participants of this study. At first, the Michigan Test of English Language Proficiency was given to determine the participants' levels of proficiency. Then they were randomly divided in two groups. A completion test on collocation of preposition was given as the pretest. In one group, the participants underwent a conventional-based treatment on prepositions and their collocational patterns. In the second group, they were taught through the DDL approach that was based on concordancing. A posttest was which was the same as the pretest was used to determine the effects of the treatments. Then the obtained data submitted to different statistical analyses including correlation, analysis of variance (one-way ANOVA) and post hoc comparison using the Scheffe test. The results of the study led to three conclusions about second language acquisition. First, the DDL approach showed to be highly effective in the teaching and learning collocation of prepositions. Second, learners' performance in collocation of prepositions showed to be positively correlated with their levels of proficiency. Third, the analysis of errors of collocations indicated that Iranian EFL learners tended to carry over their L1 collocational patterns into their L2 production.

Key words: Data-driven Learning, concordancing materials, collocation, prepositions, concordancer, KWIC, Corpus Linguistics

تاریخ وصول: ۸۴/۸/۱۵ تأیید نهایی: ۸۵/۹/۲۷ -*

**_ Assistant professor Shahrekord University

***_ Associate professor University of Isfahan

Concordancing materials and Teaching collocation of prepositions to Iranian EFL Students

1. Introduction

One problematic question that remains unresolved concerns whether or not having a large store of vocabulary and a basic knowledge of grammar are enough for fluent and successful communication in second language acquisition (Rudzka , Channell, Ostyn, and Putseys, 1985). Most of EFL learners, even at the more advanced levels,, have various problems in their oral or written productions (Taiwo, 2004; Farghl and Obeidat, 1995; Rudzka et al., 1985; Zarei and Koosha, 2002; Kjellmer, 1987; Bahns and Eldaw 1993). This is in spite of the fact that they apparently seem to have sufficient access to lexical or grammatical knowledge. Such erroneous utterances like '*the manager of the university*', '*heavy tea*'; '*to take fish*' and '*to be bad in something*' are not due to poor lexical or grammatical knowledge. These problems arise partly from the lack of knowledge about the companies that words keep, i.e., collocation.

Most, if not all EFL teachers and students are painfully aware of the fact that when it comes to mastering a foreign language one of the most troublesome areas to learn is the use of prepositions and their collocational patterns. Learning how to use prepositions correctly in a foreign language is a colossal task, one that many learners never manage to master thoroughly (Cheng, 1993). According to Celce-Murcia (2001), non-native speakers of English tend to have three types of problems with collocations of prepositions: choosing the wrong preposition, omitting a needed preposition, and using an extra preposition where one is not needed.

Hill (1999) states that lack of collocational competence of English prepositions can be a cause of EFL students' problems in learning English prepositions, and their collocational properties. It may also be suggested that one reason for the EFL students' problems in learning English prepositions is that they usually try to learn the meaning and use of prepositions individually without paying sufficient attention to their collocational properties (Flowerdew, 1999).

Zarei and Koosha (2002) who found that Iranian EFL learners have problems with the production of English collocations, classified these collocational patterns into ten categories of which the collocations of prepositions are among the most problematic, and 'adjective+adverbs' and 'fixed expressions' rank among the least problematic for Iranian EFL students. They concluded that knowledge of collocations was an essential part of achieving native-like competence in English.

Delshad (1980), too, found that Iranian EFL/ESL students have difficulty in the use of English prepositions. According to Delshad, Iranian EFL students usually misuse or omit the English prepositions.

Thus it can be safely concluded that EFL students, including Iranian EFL learners included have problems producing correct patterns of collocations (Cheng, 1993; Jin, 1982; Vriend, 1988; Cece-Murcia, 2001; Scott and Tucker, 1974; Delshad, 1980; Zarei and Koosha, 2002 among others).

Although knowledge of collocations are said to be an important aspect of achieving native-like competence in foreign language learning; it has been largely neglected by researchers and practitioners (Shei and Hellen, 2000). Neither in traditional methodologies nor in modern approaches to foreign language teaching, has sufficient attention been paid to teaching collocations. In spite of the fact that Firth introduced the idea of collocation for the first time in 1957, it was not taken seriously much later in 1993 when Lewis in his approach to language teaching, the Lexical Approach, moved collocation to the forefront of language teaching.

According to Lewis (1997), focus on collocations provides a more practical approach to language teaching than grammar, since grammar only provides the most general rules of the language. He further argues that collocational patterns account for some of the variability not captured in the rules of grammar since they are too general to provide guidance for acceptable word combinations or collocations.

Later, with the introduction of digital computers and corpus linguistics, new trends were fortunately introduced into the teaching of collocations. One of these trends that was called concordance began to

find its way in language teaching. Concordancing is a method of analyzing language by studying structures and lexical patterns found in digital databases. This program allows for the study of large bodies of text called corpus using a computer program. The concordancing program completes a number of tasks on the selected corpus. The concordancer can find a selected word and list sentences or portions of sentences containing that word, called the "Key-Word-In-Context" (KWIC) technique (see Appendix). In this format, the lexical or grammatical items that collocate with the key word are sorted to the left and right side of the key word. It can also identify collocations or words most often found together with the key word. This information can provide students with information on lexical or grammatical patterns in sample sentences of real language.

Tim Johns (1991) believes that the second/foreign language-learner is essentially a research worker whose learning needs to be driven by access to linguistic data, hence he coined the term 'Data-driven Learning' (DDL) to describe his approach. The DDL studies huge databases of English text (corpora) with software programs called concordancers, which isolate, common patterns in authentic language samples. According to Rutherford (1987), the DDL approach is essentially a new form of grammatical consciousness-raising that attempts to help EFL learners to move along the pedagogic continuum from product to process. While still very much a new methodology, the DDL appears to utilize the strengths of both product and process approaches to the teaching of language in general.

In line with the above-mentioned problems and empirical studies reviewed, this study sets itself the goal of investigating the role of the DDL in the teaching and learning collocation of prepositions to Iranian EFL students majoring in English.

2. Research questions

The introduction of the DLL approach to the teaching of collocations is rather new and a number of questions and controversial issues are awaiting answers and clarification. Based on the review of the literature and the reported results of the previous studies done in

this area, this study aims at shedding light some light on the following research questions:

1. What is the role of the DDL approach in the development of collocational knowledge of prepositions among Iranian EFL students?
2. To what extent is the collocation of prepositions affected by Iranian EFL learners' L1?
3. Does collocation of prepositions exert the same degree of difficulty for different levels of language proficiency among Iranian EFL students?

3. Theoretical background

It has been argued that some word combinations are so tightly bound or lexicalized that they form units that behave as if they were single items (1997). Firth (1957) calls this property of language 'collocation'. Benson (1990) defines collocation as the occurrence of two or more words within a short span of each other. Pawley and Syder (1983) state that there are numerous examples of recurring word combinations at the phrase, clause and sentence levels in English. Wong-Fillmore (1976) concludes that the strategy of acquiring formulaic speech is central to the learning of language. Peters (1983) similarly suggests that unanalyzed sequences of words have a significant role among the units of language acquisition. Krishnamoorthy (cited in Sinclair's, 2004) suggest that collocation is the more frequent than the average co-occurrence of two lexical items within five words of text, and it is an important property of language patterning.

Words are co-selected not chosen one at a time (Sinclair, 2004). Nattinger and DeCarrio (1992) believe that since first, language learners use unanalyzed, prefabricated chunks of language, then second language teaching must similarly be concerned with the establishment of what they call 'lexical phrases'.

The concept of collocation includes the lexical items (lexical collocation) and grammatical items (colligation). Lexical collocation is the co-occurrence of lexical items such as 'heavy rain' 'rancid butter'. On the other hand, colligation is the co-occurrence of grammatical items, for example, the use of 'than' in the comparative

form of adjectives (Carter, 1998). McCarthy (1990) highlights the importance of collocation in language teaching and argues that collocation is a marriage contract between words and it forms an important organizing principle in the vocabulary of any language.

Baker (1992) remarks that some collocational combinations in a language may have a meaning different from its individual components. For instance, the adjective 'sharp' in the collocational combination 'sharp eyes' is rendered as observant or keen. He further states:

Patterns of collocation are largely arbitrary and independent of meaning. This is so within and across languages. The same degree of mismatch that can be observed when the collocational patterns of synonyms or near-synonyms within the same language are evident in the collocational patterning of equivalents or near equivalents in the two languages. (p. 48)

Brown (1997) asserts that collocations are important in learning vocabulary since they reinforce the fact that language is used in chunks rather than in isolated lexemes. Nattinger and DeCarrio (1992) **point out** that English is rich in terms of multi-word lexemes.

3.1. Typology of collocations

Benson, Benson and Ilson (1997) define collocation as specified, identifiable, non-idiomatic, recurrent combinations. They divide collocations into two groups: grammatical and lexical collocations. The first category consists of the main word (a noun, an adjective, and a verb) plus a preposition or 'to+ infinitive' or 'that-clause' and is characterized by eight basic types of collocations:

1. noun + preposition e.g. *blockade against, apathy towards*
2. noun + to-infinitive e.g. *He was a fool to do it., They felt a need to do it.*
3. noun + that-clause e.g. *We reached an agreement that she would represent us in court., He took an oath that he would do his duty.*
4. preposition + noun e.g. *by accident, in agony*

5. adjective + preposition e.g. *fond of children, hungry for news*
6. adjective + *to*-infinitive e.g. *it was necessary to work, it's nice to be here*
7. adjective + that-clause e.g. *she was afraid that she would fail, it was imperative that I be here.*
8. Different verb patterns in English e.g. verb + *to*-infinitive (*they began to speak*), verb + bare infinitive (*we must work*) and other.

According to Benson et al. (1997), grammatical collocations seem to be more difficult to learn than the lexical ones for the EFL learners.

Flowerdew (1999) and Viegas (1996) recognize four types of grammatical collocations (colligations) and five types of lexical collocations. They list these collocations as follows:

Grammatical collocations:

1. verb+ preposition/particle: '*run away*', '*put on*'
2. prepositions+ nouns: '*at work*', '*in London*'
3. adjectives+ prepositions: '*good at*', '*angry with*'
4. determiners+ nouns: '*a herd of cows*', '*a flock of sheep*'

Lexical collocations:

1. Free- combining words: '*a nice boy*', '*a wonderful man*'
2. Semantic collocations: '*a fast car*', '*a long book*'
3. Idiosyncratic lexical co-occurrence: '*strong tea*', '*thick soup*'
4. Idioms: '*kick the bucket*'; '*pull one's leg*' '*take somebody in*'

Sinclair (1991) believes that there are two types of collocations: upward collocation and downward collocation. Upward collocation is collocation with words that are more frequent than the node; downward collocation is with words less frequent than the node. If a word like 'very' (the collocater) collocates with 'confused' (the node), it adds very little to the meaning of 'confused' because it is so much more common. However, if 'utterly' collocates with 'confused', and 'confused' is more frequent than 'utterly', then 'utterly' influences the meaning or prosody of 'confused'. If 'very' collocates with almost any adjective that only tells us that 'very' comes with very few semantic restrictions.

3.2. Classification of collocation of prepositions

Prepositions pose a constant cause of difficulty to the EFL students because there are no rules to govern their usage. There is no way of knowing which preposition follows or precedes a word, unless the learner has already met its collocation, and has remembered it. It is stressed that the only profitable method of learning and mastering English prepositions is through their collocations with different language items. Six general patterns of collocation of prepositions are recognized and investigated in this study. These patterns are as follows:

1. adjective + preposition collocation
eg: *good at, bored with, superior to, tired of*
2. preposition + noun collocation
eg: *in astonishment, with embezzlement, on credit, with distress, by car*
3. noun + preposition collocation
eg: *motivation in, admiration for, argument about*
4. verb + preposition collocation
eg: *consist of, insist on, indulge in, resist in*
5. preposition + preposition collocation
eg: *out of, next to, in front of, in lieu of*
6. idiomatic expressions
eg: *to be at best, to be in the air*

The analysis of the errors made by the Iranian EFL students in the pre-test showed that they have serious problems in the use of collocation of prepositions. Since these patterns of collocation were found to be problematic to EFL students (Zarei and Koosha, 2002), and since the DDL approach highlights collocational aspects of language (Johns, 1991), the researchers intended to investigate if the DDL approach was effective in the teaching/learning collocation of prepositions.

3.3. Data Driven Learning

The idea of the DDL was proposed by Tim Johns (1991) to describe his approach to the implementation of concordancing

materials in the realm of SLA. In the DDL, a concordancer searches huge amounts of linguistic data (called Corpora). The concordancer is electronic software that depicts frequent lexical/grammatical patterns of language within authentic contexts. Johns (ibid) further maintains that language learner is basically a research worker whose learning needs to be driven by access to linguistic data. Leech (1994) calls this view of grammar teaching as 'fuzzy' that is based on prototype theory.

Bastone (1995) claims that the DDL is a pedagogic continuum from product to process. It has the advantage of product approach since the specific aspects of language are presented to the learners by multiple exposures within contexts. At the same time, it has a process approach towards learning because the DDL promotes creativity and self-discovery among learners.

The DDL approach suggests that grammar learning should consist largely of consciousness-raising activities rather than the teaching of rules. According to Rutherford and Smith (1988), consciousness-raising is defined as "the deliberate attempt to draw the learner's attention specifically to the formal properties of the target language" (p. 107). In the DDL approach, learners are not seen simply as recipients of knowledge, but as researchers studying the regularity of the language. Teachers encourage learners' search without knowing in advance what patterns they will discover. A DDL approach expects learners to get a "feel" for the language by personally experiencing a focused study of the target language's organic consistencies (Chalker 1994; Johns, ibid).

Though the learner's own discovery of grammar is central to the DDL, the approach draws from product teaching in that it provides authentic language material for study. A main shortcoming of earlier product approaches was that they used idealized and often contrived sentences to teach the language. Data-driven learning brings to the class abundant examples of authentic language samples that can be studied and exploited in many ways. Supporters of the DDL are writing an increasing amount of material showing how data from corpora and concordancers can be used in the classroom (Tribble 1996, Kettemann 1995, Johns 1994, Tribble and Jones 1990).

To Johns (1991), data-driven Learning is very much a "research-then-theory" method of studying grammar. Language learners start with a question, and then come to their conclusions after analyzing the corpora with a concordancer program. "What the concordancer does," according to Tribble and Jones (1990, p: 11), "is make the invisible visible." Concordancers isolate frequent patterns in the target language. According to Kennedy (1998), concordances can be produced in a number of formats. The most usual form is the key-Word-In Context (KWIC) concordance in which the collocates are sorted to the right or left of the key word. Figure one illustrates a sample fragment of concordance (KWIC) for the preposition 'of' from the Brown Corpus.

185	er interests is the social standing	<u>of</u>	Asian women and she has represented
186	dant. {para} She recalled two sets	<u>of</u>	assaults with an interval of 10 minu
187	ices and we are in the final stages	<u>of</u>	assessing that programme now." {pa
188	alorem fees on the aggregate amount	<u>of</u>	assets realised which is now at \$59
189	ty," Mr Yu said. ``He has a record	<u>of</u>	attempted suicide." Mr Banks inter
190	until he realised he was the centre	<u>of</u>	attention and wanted to get out aga
191	ngri-La and would leave at the end	<u>of</u>	August to pursue unspecified interes
192	c area will not open until the end	<u>of</u>	August". {para} But don't expect to
193	Rupert Spicer, had raised a defence	<u>of</u>	automatism at the trial. {para} Aut
194	ot conclusive and that the defence	<u>of</u>	automatism should have been left to
195	fficient evidence for the question	<u>of</u>	automatism to have been left to the
196	they were worried about the growth	<u>of</u>	bacteria and contamination of marin
197	whole of last year. {para} A group	<u>of</u>	Bank of Credit and Commerce deposito
198	terday. Deputy Commissioner	<u>of</u>	Banking, Mr Albert Cheok, said he e
199	has been a realisation on the part	<u>of</u>	banks that spreads are too narrow an
200	ment yesterday and the Association	<u>of</u>	anks was consulting its legal advi
201	have been as affected by the death	<u>of</u>	Barker as his weighing room colleg
202	r husband's ashes. {para} The news	<u>of</u>	Barker's death was relayed almost i
203	faecal wastes. {para} The majority	<u>of</u>	beaches in Tuen Mun remained poor at
204	ons by the inmate and former inmate	<u>of</u>	beatings by officers as exaggeratio

Figure 2.1: A fragment of twenty concordance lines in KWIC format for the preposition 'of' adopted from the Brown Corpus concordanced by the SARA CLIENT

Using KWIC format, language learners can easily focus on the main item of study, which will be situated in the center of the page. Often during the process of study, learners will become aware of other

language items that collocate with the item they are researching. As the figure shows, the preposition *on* collocate with the words *average*, *behalf of* more frequently than with other lexical items in the above concordancing lines.

3.4. Collocation and transfer

One of the important factors that shape learners' inter-language (IL) is transfer, and it has been a controversial issue in second language acquisition (SLA) research. Its importance as a property of second language has been evaluated differently throughout the history of SLA. Although its origin goes back to behaviorism, it remains one of the most fundamental aspects of second language acquisition (Johnson and Johnson, 1999). Oldin (1989) asserts that transfer has been documented to occur at all the levels of linguistic analysis such as phonology, syntax, lexis, and grammar. Although phonological transfer is most common in SLA, lexical and collocational transfer seems to be the major cause of poor proficiency.

Towel and Hawkins (1994) enumerate five observable phenomena about SLA of which transfer of L1 patterns into L2 is of prime significance. He says, "Transfer seems to affect all linguistic levels: pronunciation, syntax, morphology, lexicon and discourse, (p. 7)." Ellis (1986) remarks that SLA is strongly affected by the learners' first language, and the best support for such a claim is the 'foreign accent' in the second language learners' speech. Marton (1981) cited in Ellis (1986) points out

There is never a peaceful coexistence between two language systems in the learner, but rather a constant warfare, and that warfare is not limited to the moment of cognition, but continues during the period of storing newly learnt ideas in memory (P. 150).

Ellis (1986) also remarks, "There is a source of knowledge which learners will use both consciously and unconsciously to help them sift the L2 data in the input." Gass and Selinker (1983) believe that two interrelated processes are affecting SLA: first, the learner's built-up body of knowledge formed on the available second language data, and second, the learner's utilization of the knowledge of the first language (L1) and other languages known to him or her. Johnson and Johnson (1999) state that there is more transfer in foreign – than second

language learning situation, and adults tend to rely on their prior knowledge more than children, which results in transfer of first language experience into second language settings. They further point out:

Inter-language speakers resort to transfer in communication: L2 production and reception, as well as in L2 learning. Transfer in production is a procedure of activating L1 (or indeed prior knowledge) to accomplish a communicative goal. In reception, this procedure leads to the reliance on the L1 patterns in interpreting the incoming utterances. (P. 355)

Douglas Brown (2001) believes that lexis is the building blocks of a language. For L2 lexical learning, Kellerman (1983) comments that “there are enormous quantities of evidence for the influence of L1 on IL when it comes to lexis” (P: 42). He reports that the acquisition of lexis appears to be facilitated if L1 and L2 are related languages, while Ringbom (1987) finds that the majority of lexical errors can be attributed to transfer of partial translation equivalents, and when EFL learners acquire English lexis, they make a wide range of errors.

One of the binding forces in SLA that organizes the lexis in terms of which words typically occur together, and showing network of word associations is collocation. EFL learners have trouble where collocations are language specific. Thus, in such a case, they tend to carry over the collocational patterns of their L1 into L2 settings (Johnson and Johnson, 1999). Some researchers such as Meara (1984) and Ringbom (1987) assert that transfer is associated with lexical borrowing. Gabrys-Biskup (1992) contends that lexical transfer occurs in the learners’ use of collocations.

Consequently, the question of transferability of collocational patterns from L1 into L2 setting is an indication of cross-linguistic effect in the context of inter-language acquisition. There is now abundant empirical evidence that first language transfer is a real and central phenomenon that must be fully taken into account in SLA (Ellis, 1986; Gass and Selinker, 1983; Kellerman, 1983; among others) . And one of the areas of SLA that is strongly influenced by L1 is the transfer of collocational patterns (Johnson and Johnson, 1999; Meara, 1984; Ringbom, 1987; Gabrys- Biskup, 1992) .

We mentioned that a large number of wrong collocations are

directly related to native language transfer. The following examples illustrate the point:

[1] I was extremely annoyed *from* him. Instead of *with*

[2] He was very kind *with* me. Instead of *to*

[3] He was known *of* his generosity. Instead of *for*

When the wrong collocations exemplified in sentences [1], [2] and [3] are analyzed, there is some trace that transfer from the native language to the target language arises in the learners' mental activities.

The combination of words in a language is not at random at all. For instance, *road* can be *clear*, but not *free*, whereas a person can be a *heavy* drinker but not a *strong* drinker. Therefore, a second language learner should know a word by the company it keeps, that is, "the strong patterning in the co-occurrence of words" (Schmitt, 1997:42). When a new lexical item is learned the learner should pick up the most common collocations into which the word enters.

4. Research Methodology

4.1. Participants

Two hundred English majors served as the participants of this study. They were selected through cluster random sampling from among 450 EFL majors (2005) studying at different universities in Shahrekord.¹ These participants were all junior students. At first, the Michigan Test of English Language proficiency (MTELP) was administered to determine their level of English proficiency. The possible scores range from zero to one hundred. Then according to the mean score and the standard deviation of the test, they were assigned to high, mid and low groups.

The mean score and the standard deviation were 54 and 21 respectively. Those students whose scores fell one standard deviation below and above the mean were assigned as the mid group. Those subjects whose scores were two standard deviations below and above the mean were classified as the low and high groups respectively. In the next step, the participants in each low, mid and high group were divided into experimental and control groups. The schematic representation of the participants at different levels in this study was as follows.

Table 1. The schematic representation of the subjects in the control and experimental groups

Group	Level	No	Level	No	Level	No	Total
Control	high	30	mid	40	low	30	100
Experimental	high	30	mid	40	low	30	100

4.2. Materials

The materials that were used in this study were:

1. As it was already mentioned, in the first phase of this study, the Michigan English Language Assessment Battery (MELAB) was given to the participants to determine their levels of proficiency.

2. To determine the collocational knowledge of the participants, a completion test on collocations of prepositions was given to the students as the pretest. This test comprised 60 items, and its reliability was estimated to be 0.86 using Kr-21 formula. This test was given to 200 participants who had been selected through cluster random sampling. After the specific treatments were given to the participants in each group, this test was administered again as the posttest in order to determine the impact of specific instructions the participants received.

3. Data on concordance (with a focus on collocation of prepositions) was produced using the concordancing software (Mini-concordancer) developed by the Oxford University Press, and the database selected from the British National Corpus (BNC) available on CD-Rom.

4. Teaching materials on the prepositions were selected from different grammar books such as **The Comprehensive English Grammar** by Quirk et. al, (1998); **Modern English Part (I)** by Marcella Frank (1993) and **Oxford Idiomatic Expressions** by McMordie (1987).

5. A translation task that deliberately included problems of Iranian students with prepositions and their collocations was assigned to the students in order to determine the possible effects that students' first language might have on their development of collocational knowledge

of prepositions. Two experts in TEFL were consulted for the accuracy and appropriacy of the translations. Since there was not a systematic approach to the classification of collocational errors, the researchers used Jack C. Richards' taxonomy of errors. In his taxonomy, Richards (1974) classifies L2 errors into two major categories, i.e., interlingual and intralingual. While interlingual errors are due to the interference of L1 collocational patterns into L2 settings, intralingual errors reflect the arbitrary and unpredictable nature of the English collocations, as well as the learners' lack of adequate knowledge of L2 collocations. Tests of blank items were excluded in this study.

6. Teaching materials on collocations of prepositions were taken from the British National Corpus (BNC). These texts were concordanced by the concordancer version 3.2 (2004).

4.3. Procedures

At first the participants were randomly divided in control and experimental groups. At the second stage, the Michigan English Language Assessment Battery (MELAB) was used to determine the overall proficiency of the participants. Then the mean score and the standard deviations of were used MELAB as criteria for dividing the participants into low, mid and high levels of proficiency. Altogether six groups participated in this study, i.e. three experimental and three control groups. In the next step, they were pre-tested by a completion test on collocation of prepositions. The reliability coefficient of this test was 0.86 using the Kr-21 formula. At the third stage, the participants attended English classes one hour per week in a fifteen-week semester. The structures taught to the students were prepositions and their collocational properties. The rational behind such a decision was that most of the EFL students showed to have problems with the selection and use of English prepositions and their collocational properties. During a fifteen-session treatment, the control groups underwent a traditional-based instruction whereby prepositions and

their collocational patterns were explicitly taught to the participants in English or Farsi.

On the other hand, the experimental groups took a data driven-based instruction that was based on collocation of prepositions. In the DDL instruction, prepositions and their collocations were presented through concordancing lines that were given to the participants in printouts. The materials used for the conventional-based instruction were taken from grammar books such as *Modern English Part (I)* by Frank (1993), *Comprehensive English Grammar* by Quirk et al.(1998); *Oxford Idiomatic Expressions* by McMordie (1987). However, the participants in the experimental groups were introduced to collocation of prepositions through the DDL. Finally, the posttest was given in order to compare the mean scores of the groups.

In the first research question, the researchers intended to investigate whether the effect of the DDL instruction on the development of collocational knowledge of prepositions among Iranian EFL students is significant. To test this question, the researchers proposed the first null hypothesis:

Ho.1. The DDL approach has no role in the development of collocational knowledge of prepositions among Iranian EFL students.

To statistically verify the first research hypothesis, the collected data were subjected to statistical analysis of variance (one-way ANOVA). The results of this analysis showed that there was a significant difference between the performance of the participants in the the DDL group and conventional group. Table 1 displays the results ANOVA for the first research hypothesis.

Table 2. The results of ANOVA (one-way) for the first research hypothesis (The comparison between conventional approach and the DDL approach)

Source of variation	Sum of Squares	D.f.	Mean Square	Sig.
Between Groups	949.125	2	474.563	.001
Within Groups	1484.875	97	15.308	
Total	2434.000	99		

As Table 2 indicates, the observed p-value was estimated to be .001. This level of significance was less than the expected p-value ($p=.05$) which was set to test the first research hypothesis; as a result, the first hypothesis is rejected. In other words, concerning the use of collocations of prepositions, the participants who took Data Driven instruction showed to be superior in the use of collocation of prepositions to those who received instruction in conventional instruction.

The second research question dealt with the effect of Iranian EFL learners' L1 on the collocational knowledge of prepositions. In order to test this research question, the researchers suggested the second null hypothesis:

Ho.2. Iranian EFL learners' L1 has no significant effect on their knowledge of collocation of prepositions.

To test this research hypothesis, a translation task comprising sixty fill- in- the blanks items on the collocation of prepositions was given to the subjects. Then the total numbers of errors were counted. Altogether, 4365 errors were extracted from the learners' productions. Then, from the percentages of errors presented in Table 3, it was concluded that first language interference in the production of collocation of prepositions was rather great. The results of this analysis are summarized in table 3.

Table 3. The distribution of collocational errors among Iranian EFL Learners

Types of errors	Number of errors	Percentage
-----------------	------------------	------------

Interlingua	2987	%68.4
Intralingual	1378	%31.6

As Table 3 shows, the influence of L1 on the use of collocations is considerable. About 68.5 percents of errors are due to interference from L1. This result showed that the impact of L1 on the use of prepositions seemed to be highly significant.

In the third research question, the researchers' aim was to check out whether collocation of prepositions exerts the same degree of difficulty for different levels of language proficiency among Iranian EFL students or not. To test this research question, the following null hypothesis was formed:

H.3. There is no significant difference in the collocation of prepositions in terms of difficulty for different levels of language proficiency among Iranian EFL learners.

To test this research hypothesis, the statistical analysis of post hoc comparison using the Scheffe test was conducted. The results of this analysis are represented in Table 4.

Table 4: The results of the Scheffe test for differences among EFL learners' levels of proficiency (Multiple Comparisons)

		Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
(I)	(J)				Lower Bound	Upper Bound
high	mid.	6.8750	.9450	.002	4.5258	9.2242
	low	6.5000	1.0102	.001	3.9886	9.0114
mid.	high	-6.8750	.9450	.005	-9.2242	-4.5258
	low	-.3750	.9450	.004	-2.7242	1.9742
low	high	-6.5000	1.0102	.003	-9.0114	-3.9886

						6
	mid.	.3750	.9450	.006	-1.9742	2.7242

* The mean difference is significant at the .05 level.

As the results in Table 4 show, all the observed p-value estimated for the six groups of the study were much less than the level of significance ($p=.05$) set for testing the third hypothesis. Consequently, the third research hypothesis that claimed that knowledge of collocation of prepositions does not differentiate significantly among the participants in the three levels of proficiency was rejected.

6. Discussion and conclusion

In this study, the researchers compared two approaches to the teaching of prepositions and their collocational properties. The three research questions addressed in this study intended to investigate the role of the DDL and concordancing materials in the production of collocation of prepositions. The researchers have shown that the DDL instruction had an advantage over the conventional one, since students in the the DDL groups outperformed those in the conventional groups. This finding showed that the DDL seemed to have a greater explanatory power and led to highly significant results in the use of collocation of prepositions. Thus, the researchers concluded that it is possible to develop a new approach (such as the DDL) towards the teaching of collocations using concordancing materials.

The results of the first research hypothesis of this study are in line with Bahns and Eldaw's argument (1993) that a part of EFL teaching should be based on ready-made chunks (collocations) which enhance accuracy of the EFL learners. Language instruction, therefore, should focus on collocations, and the way they are pieced together, along with the way they vary, and the situations they are used. Moreover, poor achievements of the learners in the production of collocation of prepositions in conventional groups in comparison with those in the DDL groups verify Shei and Helen's contention (2000) that collocations have been largely neglected by researchers, course designers and EFL practitioners.

Moreover, the results obtained for the second hypothesis confirm Bahns' argument that EFL/ESL learners sometimes transfer

collocations in their first language inappropriately to the second language.

The results obtained for the second research question also show that first language interference is the major cause of learners' errors in L2 production. However, this finding is in contrast with Gabrys-Biskup's (op cit) claim that interference is not the prime cause of L2 learners' errors. This may be due to coordinate or compound bilingual setting of L2 learning.

Moreover, the results for the second hypothesis confirm Ellis's (1999) contention that there should be a reappraisal of the role of L1 into the L2 setting. This outcome also ran counter to the claims made by some researchers who hypothesized that L1 influence on errors of collocations is not very significant (Dechert and Lennon, 1989). Based on these results, it might also be concluded that not only should collocations be selected for teaching with reference to L1, but they also should actually be taught with reference to L1. As a result, contrasting L1 and L2 collocations might help EFL learners to attain a higher proficiency.

Concerning the findings for the third research hypothesis, it may be concluded that knowledge of collocations can be used as a factor to determine the general proficiency of the EFL learners. As William (2000) pints out, collocational knowledge was found to correlate strongly with general proficiency of the EFL learners.

As Kennedy (1991) points out, concordancing materials can be used to facilitate second language learning. It is quite natural that EFL learners prefer to pick up words through ready-made chunks rather than isolated lexis.

All that needs to be said here is that this research and its findings will whet the appetites of the growing body of teachers and students with access to concordance data to discover more about how languages work in terms of their collocational properties.

As Bahns (1993) suggests, excessive exposures to huge amounts of linguistic data can enhance learners' sense of discovery learning and problem solving activities. The use of concordancing materials as a basis for developing models and descriptions of language showed to be among the most far-reaching achievements made in the realm of second/ foreign language instruction

Evaluation of learning will therefore be crucial for deciding the future of corpus-based approaches to language learning. As Kennedy (1991) remarks; concordancers and corpus studies have begun to provide new opportunities for second language teaching methodologies.

The recurrent and pervasive multi-word combinations in English, often consisting of prefabricated word sequences, suggest that an important task for language learners and teachers is to focus on such sequences. The collocational property of the English language, where grammar and lexis meet in the phrase, is now taken seriously in language pedagogy because they help EFL learners to acquire accuracy in language production. Consequently, in order to obtain native-like competence, EFL learners need to be aware that certain prepositions regularly co-occur to form particular expressions. In this sense, an important part of foreign/second language acquisition is the ability to comprehend and produce appropriate collocational patterns which are used as 'wholes' or unanalyzed chunks.

It is also worth observing at this point that like all language teaching techniques and methodologies, corpus-based concordancing in general and the DDL in particular have ultimately to be judged on their results. The main advantage of the DDL is that learners of a language can get access to authentic text from a corpus and interact with a corpus database that provides comprehensible input to the second or foreign language learners.

Based on the findings of this study, some suggestions can also be made about how to teach collocations. First, it is not sufficient merely to teach lexical combinations, including collocations of prepositions in isolation. Rather, they should be taught within context. Second, not only should the selection of collocations but also their teaching should be with reference to L1, because L1 showed to be highly influential in the production of collocations. Third, since the use of collocations was highly correlated with EFL learners' language proficiency, collocations should be considered as an important factor in determining their overall proficiency.

7. Implications of the study

The findings of the present study are of theoretical importance to the EFL practitioners in the teaching of pedagogic grammar to the EFL students. It seems that collocational competence can influence EFL learners' overall language ability. Collocations have an effective role in the successful and native-like performance of EFL learners. Since teaching prepositions is of utmost importance to the EFL students, a conscious knowledge of those prepositions will help them in their struggle towards the acquisition, manipulation and production of English as a foreign language.

There will be an ongoing challenge on the part of the educators, researchers and teachers working in the EFL paradigm to find better methodologies to teach collocations to the EFL learners. The findings of the present study will give teachers some hints and guidelines as to overcome EFL students' problems in collocations of prepositions. Concordancing materials can even help the material developers to write suitable materials for the students through concordancing programs. Moreover, the findings of the present study would shed some light on the teaching and learning of grammar in our country,

and they further provide pedagogical solutions for teaching prepositions to the Iranian EFL students.

What is important is the fact that concordancers can be used with any textual source. Therefore, it opens language classes to the use and integration of up-to-date and often authentic language even at lower levels. EFL learners can take advantage of the results of this study if they become aware of their problems in the use of collocations of prepositions. Furthermore, the DDL provides numerous contexts for collocations of prepositions, thus enhances students' sense of discovery learning and problem-solving activities. The students can draw their own conclusions about the use of the given words by focusing on certain points in the context these words appear.

References

- Bahns, J. and Eldaw, M. (1993). Should we teach EFL students collocations? *System*, 21, 101-114.
- Bahns, J. (1993). Lexical collocations: a contrastive view. *ELT Journal*, 44, 56-63.
- Baker, M. (1992). *In Other words. A course book on translation*. London: Routledge.

- Benson, M. (1990). Collocations and general purpose dictionaries, *International Journal of Lexicography*, 3, 23-35.
- Benson, M.; Benson E.; and Ilson, R. (1997). *Lexicographic description of English* (studies in language comparison series, No 14), John Benjamins Publishing Company.
- Brown, D. (2001). *Teaching by principles: 2nd ed. An interactive approach to language pedagogy*. New Jersey: Longman
- Brown, D. F. (1997). *Advance vocabulary teaching: The problem of collocations*. *RELC Journal*, 5(2), 1-11.
- Carter, R. (1998). *Vocabulary. Applied linguistics perspectives* (second edition). London: Longman.
- Celce-Murcia, M. (2001). *Teaching English as a second or foreign language*: Heinle & Heinle.
- Chalker, S. (1994). Pedagogical grammar: Principles and problems in M. Bygate, A. Tonkyn, and E. Williams, (Eds.), *Grammar and the Language Teacher*. (pp. 31-44). London: Prentice Hall.
- Cheng, T. Y. (1993). The syntactical problems Chinese college students meet in reading English technical textbooks, *ERIC Document Reproduction Service* No. ED 364 096.
- Cook, V.(2001).*Second language learning and language teaching*. London: Arnold.
- Gough, C. (1996). Words and words: Helping learners with collocations. *MET*, 5, 32-36
- Dechert, H. W., P. Lennon (1989). Collocational blends of advanced second language learners. A preliminary analysis in Wieslaw Olesky (ed): *Contrastive Pragmatic*, (pp. 131-168). Amsterdam: Benjamins.

- Delshad, S. (1980). *Persian and English prepositions compared and contrasted from a pedagogical point of view*. Unpublished Ph.D. dissertation, University of Texas.
- Ellis, R. (1986). *The study of second language acquisition*. Oxford: OUP.
- Ellis, R. (1999). The empirical evaluation of language teaching materials. *ELTJ*, 51/1, 36-42.
- Farghl, M. & Obiedat, H. (1995). Collocations: a neglected variable in EFL writings, *IRAL*, 33, 315-333.
- Firth, J. R. (1957) Modes of Meaning, in Firth, J. R. (ed.) (1957) *Papers in Linguistics*, Oxford University Press
- Flowerdew, L. (1999). *A corpus based-analysis of referential and pragmatic errors in student' writing*. Hong Kong University of Science and Technology.
- Frank, M. (1993). *Modern English: Part two*. New York: Prentice Hall.
- Gabyrs-Biskup, D. (1992). L1 influence on learners' renderings of English collocation. A Polish /German empirical study in P.J. I. Arnauld and H. Benjoint (eds) : *Vocabulary and Applied Linguistics* (pp. 85-93). London: McMillan.
- Gass, S. M. and Selinker, L. (eds) (1983). *Language transfer in language learning*. Rowley, MA: Newbury House.
- Hill, J. (1999). Collocational competence. *English teaching professional*. 2/4, 42-51.
- Jin, Z. (1982). Difficulties in learning English for Chinese students. *TESL Talk*, 133, 87-91.
- Johns, T.F. (1994). Should you be persuaded: Two examples of data-driven learning'. in Johns, T.F. and King, P. (Eds.) *Classroom Concordancing*. (Pp. 1-13). Birmingham: ELR.

- Johns, T.F. (1991). 'From printout to handout: Grammar and vocabulary teaching in the context of data-driven learning'. In Johns, T.F. and King, P. (Eds.) *Classroom Concordancing*. (pp. 27-45). Birmingham: ELR.
- Johnson, K. and Helen Johnson (1999). *Encyclopedic dictionary of applied linguistics*. Oxford: Blackwell.
- Kjellmer, G.(1987). Aspects of English collocations, in Mejis, W (ed) *Corpus linguistics and beyond*, Rodopi.
- Kellerman, E. (1983). Now you see it, now you don't. In Gass and Selinker (eds), *Language transfer in language learning*. Rowley, MA: Newbury House.
- Kennedy, G. (1991). Between and Through: The Company They Keep and the Functions They Serve. *Corpus Linguistics*. London: Longman.
- Kennedy, G. (1998). *An introduction to corpus linguistics*. London: Longman.
- Kettemann, B.(1995). On the use of concordancing in ELT. *JALT*, 17/2, 215-216.
- Langacker, R. W. (1991). *Cognitive basis of grammar*. Stanford CA: Stanford University Press.
- Leech, G. (1994). 'Students' grammar, teachers' grammar, learners' grammar'. in M. Bygate, A. Tonkyn, and E. Williams, (Eds.) *Grammar and the Language Teacher*. (pp. 17-30). London: Prentice Hall.
- Lewis, M. (1993). *The lexical approach: The state of ELT and a way forward*. Hove, England: Language Teaching Publications.
- Lewis, M. (1997). *Implementing the lexical approach*. Hove, England: Language Teaching Publications.

- McCarthy, M.(1990). *Vocabulary*. London: Oxford University Press..
- McMordie, P. (1987). *Oxford Idiomatic expressions*. Londonn: OUP.
- Meara, P. (1984). The study of lexis in inter-language. In A. Davies, C Criper andA. P. R. Howat. *Inter-language: Papers in honor of S. Pit Corder*. Edingburg University, (225-235).
- Nattinger, J. R. and Decarrio, J. C. (1992). *Lexical phrases and language teaching*. Oxford: OUP.
- Oldin, T. (1989). *Language Transfer: Cross-linguistic influence in language learning*. Cambridge: Cambridge University Press.
- Pawley, A. and Syder, F. (1983). Two puzzles for linguistic theory: Native-like selection and native-like fluency, in Richards, J. and Schmidt, R. (eds) *Language and communication* (pp.191-226). London: Longman.
- Peters, A. (1983). *The units of language acquisition*. Cambridge: Cambridge University Press.
- Quirk, R., Greenbaum, Leech and Svartvik (1998). *A comprehensive grammar of the English language*. London: Longman.
- Richards, J. C. (1974). *Error analysis: perspectives on second language acquisition* (ed). London: Longman
- Ringbom, H. (1987).*The role of the first language in Foreign Language Learning*. Clevedon: Multilingual Matters.
- Rudzka, B.; Channell, J.; Ostin, P. and Putsey, Y. (1985). *Words you need*. London: McMillan Publishers.
- Rutherford, W. (1987). *Second Language Grammar: Learning and Teaching*. New York: Longman.

- Rutherford, W. and Smith, M. (1988). (Eds.) *Grammar and Second Language Teacher: A Book of Readings*. In Sinclair, John (ed.), 1987, *Looking Up; An account of the COBUILD project* (pp. 107-116). Boston: Heinle and Heinle.
- Schmitt, R. (1997). Input, interaction, attention and awareness. The case for consciousness raising in second language teaching. Paper prepared for presentation at *Enpuli Encontro Nacional Professores Universitarios de lingua Inglesa*, Rio de Janario.
- Scott, M.S. and G.R. Tucker (1974). Error analysis and English-language strategies of Arab students, *Language Learning*, 24, 69-97.
- Shei, C.C. and Helen, P. (2000). An ESL writer's collocational aid. *Computer Assisted Language Learning*, 13, 167-183.
- Sinclair, J (ed.) (2004). *How to use corpora in language teaching*. Amsterdam: John Bejamins.
- Sinclair, J. M. (1991). *Corpus Concordance Collocation*. London: Oxford University Press.
- Sinclair, J. and Renouf, A. (1988). *A lexical syllabus for language learning*, in Carter and McCarthy : p. 140-160.
- Taiwo, R. (2004). Helping ESL learners to minimize collocational errors. *The Internet TESL Journal*, 10/4, 32-42.
- Towel, R. and R., Hawkins (1994). *Approaches to second language acquisition*. Cleveland: Multilingual matters.
- Tribble, H. C. and Johns (1990). 'Corpora, concordances and ELT', in IATEFL Newsletter no. 130, 25-26.
- Tribble, C. (1996). *Concordances in the Classroom*. London: Longman
- Viegas, E. (1996). *The treatment of collocations*. Word collocation. Treatment of collocations.

www.google.com.<http://colocation.org/>

Vriend, D.L. (1988). Chinese speakers and English prepositions: problems and solutions, ERIC Document Reproduction Service No. ED 316, Young, R.(1983). The negotiation of meaning in acquisition, *ELT Journal* 37, 197-206.

William, J. (2000). Testing ESL learners' knowledge of collocations. *ELT Journal*, 35, 115-122.

Wong-Fillmore, L. (1976). *The second time around: Cognition and social strategies in second language acquisition*. Unpublished Ph.D. thesis. Stanford University.

Zarei, A.A. and Koosha, M. (2002). Patterns of Iranian advanced learners problems with English collocations. *Iranian Journal of Applied Linguistics*, 6/1, 137-169.

Appendix

Samples of concordances from the Brown Corpus for the preposition 'after' concordanced by the Web Concordancer (2005)

1 ng Ding-pong. The suggestion comes [after](#) a declaration by the Chief Secretar
2 caused by alcohol. When asked if, [after](#) a drink or two, he would hit someon
3 minibus on a joyride with a friend [after](#) a drinking session was fined \$2,000
4 ioner at her home on the 22nd floor [after](#) a family row yesterday. Leung Ka-y
5 ations to divert refuse elsewhere. [After](#) a four-hour meeting with contractor
6 services and new ships, just months [after](#) a government-approved increase. HK
7 Justice Ryan on Chiao Wing-kin, 24, [after](#) a jury found him guilty of the murd
8 entre in Tsim Sha Tsui. Meanwhile, [after](#) a marathon working week, Mr Patten
9 old to return on Monday, August 17, [after](#) a medical check showed she was runn
10 . Mr Illig and Mr Ng were speaking [after](#) a meeting discussing environment po
11 Lap Kok airport project. Speaking [after](#) a meeting with the authority's fina
12 e group of people. He was speaking [after](#) a meeting with the Director of the
13 a Hang Lung employee, Liu Yan-wai, [after](#) a nine-week trial before Mr Justice
14 82, was certified dead. It was only [after](#) a pathologist discovered a ligature
15 to sponsor human rights test cases [after](#) a preliminary study. Instead, the
16 decision to stand down was revealed [after](#) a regular board meeting yesterday.
17 star to return to play in Hongkong [after](#) a sell-out tour in 1984, told the c
18 n Wei Po newspaper, only three days [after](#) a senior Chinese source called on t
19 their owners) rolled back into town [after](#) a six-day trip to Guilin last week,
20 h their money. Mr Hui was speaking [after](#) a spate of complaints from the publ
21 ents for the new airport. Speaking [after](#) a spring reception by the Heung Yee
22 f unlawful killing in February 1990 [after](#) a week-long inquest. Constable Lee
23 ockey who died in Sydney yesterday [after](#) a 12- day battle to survive a horri
24 Hongkong at about 8 pm on Saturday [after](#) a 12-hour voyage. They said they we
25 r, quit the Foreign Office in 1985 [after](#) a 13- year career to join a Hongkong
26 ed. There was no sign of Mr Chung [after](#) a 15-minute search. A dredger was
27 February as the Commanding Officer [after](#) a 16- year absence. ``I've been am
28 some loopholes in the existing law [after](#) a 1990 Appeals Court ruling called
29 al action scheduled for tomorrow. [After](#) a 45-minute discussion with leading
30 g, in Beijing yesterday. Speaking [after](#) a 60-minute closed-door meeting in t
31 scue two window cleaners yesterday [after](#) a bar supporting the wires on their
32 -year-old Barker, who died 12 days [after](#) a barrier trial accident in Australi
33 rd accepted a \$4.35 million payout [after](#) a battle with teachers and parents
34 moved about 200 logs from the area [after](#) a blockade begun by merchants on Tue
35 k by the Lloyds announcement, made [after](#) a board meeting. ``I was surprised
36 s liver problems to his poor health [after](#) a bone marrow transplant in April i
37 ack in the territory later today. [After](#) a breakfast with Mr Major and talks
38 from various disciplinary forces. [After](#) a brief Buddhist ceremony, the cort
39 returning to the mainland recently [after](#) a brief sojourn here. In his bag w
40 arsh roads. The pair were subdued [after](#) a brief struggle with the officers,
41 wner could claim compensation only [after](#) a building had already been declare

