

A Study of the Relationship between EFL Learners' Knowledge of Near Synonyms and their Collocational Behaviour

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Abstract This study attempts to investigate the relationship between EFL learners' knowledge of near synonyms and their performance on a corpus-driven test of collocational behaviour. Near synonyms are defined here as lexical pairs that have very similar cognitive or denotative meanings (e.g. powerful and strong), but may differ in collocational behavior (strong tea but powerful car). The study is based on a random sampling of subjects (N= 60) drawn from a pool of 200 EFL learners taking English classes at different language institutes in Khorramabad, Iran. To elicit the data, two types of tests: a Near Synonym Test (NST) and a Collocational Behavior Test (CBT), were constructed, validated, and used. The items for both tests were mainly selected from COBUILD Dictionary. Pearson-Product Correlation was applied to measure the relationship between the specified variables. The results showed that there is a significant relationship between EFL learners' knowledge of near synonyms and their Performance on the corpus-driven test of collocational behavior. The implications of the findings for language pedagogy are discussed.

Key words: Collocational Behavior, Collocational patterns, EFL Learners, Near Synonyms, Corpus-driven test.

1. Introduction

In the process of vocabulary learning, L2 learners often have lots of problems. Of these, the problems of appropriate lexical choice and the distinctions of near synonyms are especially daunting for learners. Even advanced language learners may have difficulty handling the choice of lexical items, among near synonyms, in the second language. Jaen (2007:127) contends that "lexis is at the heart of language acquisition". Sinclair (1991 realised that lexical meaning is closely related to its context and is sometimes collocational. So he paid special attention to the collocational research and pushed Firth's linguistic theories forward to form Neo-Firthianism with the help of other linguists.

Concerning collocational patterns, corpus linguists (Sinclair, 1991; Stubbs, 1995; and Hoey, 2003, to name but a few) have experienced some instances in which a single word may have different connotations compared with its near synonym (*cause death* but *bring about happiness*). It can, therefore, be said that near synonyms are not collocationally interchangeable (Partington, 2004). Greenbaum (1974: 81) states that near synonyms may be separated collocationally because of "restrictions to a language variety or style", as shown in his examples: *to cashier an army officer* vs. *to expel a school child*. In the same line, Halliday (1976: 73, in McEnery & Xiao, 2006) noted that *tea* is typically described as *strong* rather than *powerful*, whereas *car* is more likely to be described as *powerful* than *strong*, even though the two modifiers share similar denotative meanings. Near synonyms, in addition to different collocational behavior, can also differ in semantic prosodies, e.g. *fickle* is negative whereas *flexible* is positive (McEnery & Xiao, 2006).

Followed from the above, it can be inferred that researchers have recognized the significance as well as the function of collocational behavior and near synonyms in language communication (Louw, 1993; Partington, 1998; McEnery & Xiao, 2006). To date, contrary to well accepted and practiced vocabulary testing, no specific study has been devoted to see whether EFL learners' knowledge of near synonyms is related to their collocational behaviour based on a corpus-driven test. Hence, the study presented here aims to shed some light on this requirement. The results may hopefully have some implications for language education.

2. Literature Review

Generally, a dichotomy has traditionally been established in the field of vocabulary testing with respect to the nature of lexical competence: the distinction between breadth and depth of vocabulary knowledge (Anderson & Freebody, 1981). The former tries to cover the number of words the students know, i.e. the size of their lexicon (Jaen, 2007), while the latter refers to the degree to which students know words whether they possess a multidimensional qualitative knowledge including pronunciation, spelling, meaning, register, frequency, and grammatical and collocational patterns (Qian & Schedl, 2004).

Since from a practical point of view it is easier to test lexical size, measures of vocabulary size are further developed than those of depth (Read, 2000). To investigate categories of lexical depth, measures of collocations have been developed. Collocational measures seem to fall into two categories: the ones which attempt to test productive knowledge and those assessing receptive knowledge. The former was the only aspect investigated during the 1990s, when Bahns and Eldaw (1993), Biskup (1992) and Farghal and Obiedat (1995) designed the first tests of collocations (see Jaen, 2007). In the current decade, however, most of the researchers' attention has been focused on the design of the receptive category of the collocation measures (Barfield, 2003; Bonk, 2001; Keshavarz & Salimi, 2007; Mochizuki, 2002). In the present study, near synonym is referred to as breadth or size of vocabulary, while collocational behavior is looked at as lexical depth. The former can also be called quantitative knowledge and the latter qualitative knowledge.

Research into analysis of collocations is not new, though during the last three decades the most promising results have been shown in the field of *collocation*. Kennedy (1998:108) argues that identifying the repeated co-occurrence of certain words in the Bible by Cruden goes to 250 years ago. In the 1930s, the British linguist, H.E. Palmer, went through a corpus-based research on repeated combination of English words (Kennedy, 1998:108). On the other hand, McEnery and Xiao (2006:82) argue that collocation has been studied for 50 years. They further pinpoint that collocation, as a technical term, was first used by Firth (1957) when he argued "I propose to bring forward as a technical term, meaning by collocation, and apply the test of collocability" (see McEnery & Xiao, 2006:82).

However, for the definition of collocation, different researchers and linguists have different ideas. There is no absolute, unanimous consensus over the definition and classification of collocation. Based on the literature, different researchers have set their own criterion to continue their collocation studies. Martynska (2004:5) argues that although collocation, only recently, has attracted linguistics study, there is no exhaustive and uniform definition or categorisation of collocation and it seems to be one of the most problematic and error-generating areas of vocabulary, especially for second language learning.

Firth (1968 in Walsh, 2005:2) defines collocation as "statements of the habitual or customary places of the word". Sinclair (1991) sees collocations as two or more words in a text within a short space of each other. For Halliday, collocations are examples of "word combinations" (Halliday, 1966 in Walsh, 2005:3). Stubbs (1995: 24) considers collocation as "a relationship of habitual co-occurrence between words". It should be mentioned that Sinclair (1991) and Stubbs (1995) are Firth's followers in their view on collocation. However, the most commonly shared definition of collocation is: "the tendency of one word to co-occur with one or more other words in a specific field" (Hsu, 2007:2). This common definition is not still comprehensive in that it does not tell us whether these words are habitual or how far these words are from each other to be considered as a collocation. If collocations are in a "habitual company" (coined by Firth, 1957), how about discontinuous collocations like: *the distinction I have made between these items* (Kennedy, 1998:112)

On the other hand, Kjølmer (1982, in Kennedy, 1998: 112) noted that one of the features of collocations was that they were combinations which co-occur more often than the frequencies in the corpus of the constituents of the combination would lead us to expect. Kennedy (1998: 112), further, states that this criterion would select not only combinations such as *another one* or *last week* but also non-grammatical combinations such as *although he* or *and he*. Considering this criterion as problematic, Kennedy (1998: 112), however, argues that in some corpora some sequences which occur only once (and therefore do not count as collocations) are nevertheless immediately recognisable as recurring in the language.

Furthermore, Sinclair (1991:80) pinpoints that a span of up to four words in each side of a word is an environment in which collocation is most likely to occur although, of course, computer software makes it possible to explore much larger spans, including the size of a whole text. This idea is also discredited by *discontinuous* collocation. Furthermore, insistence on go-togetherness of the words would also cause "patterning to be lost (Kennedy 1998: 118). Moreover, viewing that collocations are "fixed and often fossilised building blocks" (Kennedy 1998: 118) not only allows no place for discontinuous collocations but also would seem to minimise the possibility of lemmatisation.

On the other hand, Kennedy's (1998) idea of collocation as "lexicalised" (p.118) has been criticised by Almela (2007: 26) for the lack of empirical adequacy. McEnery and Xiao (2006: 106), further, criticise Greenbaum's (1974: 82)

definition of collocation as "a frequent co-occurrence of two lexical items in the language", as a notion which only refers to statistically significant collocation. They further pinpoint that Greenbaum's definition does not tell us how frequent the co-occurrence of two lexical items should be considered as a collocation (McEnery and Xiao, 2006).

One of the most inclusive approaches to the notion of collocation, taken by corpus linguists, is that of Renouf and Sinclair (1991, in Kennedy, 1998:119), who have suggested that collocational patterning can be usefully described in terms of a framework which consists of two function words with an intervening lexical word.

Research has shown that words with close meanings (near synonyms) not only differ in their semantic prosody but also vary in their collocational behavior (McEnery & Xiao, 2006). Near synonyms are defined as "lexical pairs that have very similar cognitive or denotative meanings, but may differ in collocational or prosodic behaviour" (McEnery & Xiao, 2006). Knowledge of collocational behaviour is useful in the process of lexical choice between near synonyms. Widdowson (2007: 79) calls this behaviour *lexical patterning*. He states that lexical patterning has been a common theme in the "corpus linguistics literature". He further adds that "it is not, however, only the simple frequency and range of single items that is revealed in the corpus analysis of text but also, more interestingly and significantly, the frequency and range of their patterns of co-occurrence with other items".

3. The Study

3.1. Research question and hypothesis

As mentioned before, the present study tries to investigate the relationship between EFL learners' knowledge of near synonyms and their performance on a corpus-driven test of collocational behaviour. To do this, the researchers intend to spell out the procedures taken for the study reported below. Hence, based on the aims of the study, the following question was raised: *Is there any significant relationship between EFL learners' knowledge of near synonyms and their performance on a corpus-driven test of collocational behaviour?*

To provide more objective answer to the aforementioned question, the following null hypothesis was formulated to be tested out:

There is no significant relationship between EFL learners' knowledge of near synonyms and their performance on a corpus-driven test of collocational behaviour.

3.1. Participants

The subjects participating in this study were 60 Persian speaking EFL learners (40 male and 20 female) who were randomly selected from the population of 200 candidates studying English at *five* English language institutes in Khoramabad, Iran. Their age ranged 18-23. They had passed the *Interchange* courses for two years and had just entered the *Passage* course. Sex was not considered as a variable in this study. The main reason for choosing these subjects was that they attend English classes eight terms per year, six weeks per term, and three 2-hour sessions per week. In other words, they take about 200 hours of English classes for one year, and therefore, they had great chances to develop their language proficiency.

3.2. Instrumentation

The materials which were constructed for the present study included: *Collins COBUILD Advanced Learner's English Dictionary (New Edition)* from which the researchers selected the vocabulary items for developing the *Collocational Behavior Test* (CBT) and the *Near Synonym Test* (NST), and a *Validated Criterion Collocation Test* (CCT) developed by Chen (2008) for the purpose of measuring the English collocation competence of college students in Taiwan. However, in this study, it was used as a criterion measure against which the concurrent validity of the CBT and NST was established.

3.3. The Pilot Study

One of the most important functions of a language test is to help decision-making during the trial or piloting of that test (Baker, 1989; Backman, 1990; Backman & Palmer, 1996; McNamara, 2000). This usually involves administering the test to a known population so that the analysis will throw light on the behavior of the test. Accordingly, in the present study, different steps were taken to collect information about the usefulness of the test itself, and for the improvement of testing procedures. The first step was item analysis. After a set of items for each sub-test was written, reviewed by experts, and

revised on the basis of their suggestions, the NST and the CBT were ready for experimentation tryout on a sample group (30 EFL learners). A thorough item analysis was conducted in order to obtain the index of item difficulty and item discrimination for both tests. The scores collected from these administrations were analysed using Brown's (2004) cut-off score.

The next step in the process of the pilot study was to establish the desired reliability of NST and CBT. To do this, Kuder-Richardson formula (KR-21) was used. This is generally assumed as the best technique to find out inter-item consistency of any test (Brown, 2004; Best & Khan, 2006). The reliability estimate for NST was .90 and for CBT was estimated to be .84.

The third phase of test standardisation through the pilot study was establishing the validity of both NST and CBT. For this purpose, Concurrent validity was run. It was believed that if the newly developed test is a valid measure of a particular construct, it will significantly correlate with the outside criterion measure of the same language ability (Chen, 2008). To achieve this objective and to establish concurrent validity, the researchers first administered both tests to a group of 30 subjects. Then, within two weeks interval, the Criterion Collocation Test (CCT) was administered to the same group. The results showed that the tests fulfill the criterion of concurrent validity (table 1).

Table 1: Correlation between SPT and CCT in the pilot study

		SPT	CCT
SPT	Pearson correlation	1	.289(**)
	Sig. (2- tailed)	.	.093
	N	30	30
CCT	Pearson correlation	.289(**)	1
	Sig. (2- tailed)	.093	.
	N	30	30

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

3.4. Procedures

3.4.1. Item Selection and Test Construction

The items selected for the intended tests of CBT and NST were extracted from *Collins Cobuild English Dictionary (2006)*. For example, the word *task* was once underlined in a context to test whether learners know its near synonym (*job*). In CBT, however, learners' knowledge of collocational behavior was tested (e.g. *substantial meal*). Once the items on both tests were constructed, they were given to two lecturers of applied linguistics and language teaching at Arak University, Iran, for their expert opinion and advice. They were requested to analyse each item on the basis of their perceptual complexity and face validity.

Based on these procedures, two types of tests were developed: a 70-item test of collocational behaviour and a 40-item test of near synonymy. The item format for both tests was multiple-choice. For the CBT tasks, the subjects were presented to the definitions of the concepts expressed by the target collocations as provided by the *Collins Cobuild English Dictionary (2006)*. The following is an example of the item for CBT (ex. 1).

(ex.1) I have always enjoyed eating a substantial..... in a northern restaurant
 a. food b. meal c. cake d. none of these

As it can be observed, the fourth choice in this example is "none of these"; this was done for every item, too. This alternative, which was the correct answer in 10% of the items, was introduced to minimise the effect of guessing (López-Mezquita, 2005, in Jaen, 2007), and thus to improve test discrimination and reliability (Jaen, 2007). As for the NST, the stem was underlined and the subjects were required to choose the appropriate response among the four choices. As an example, consider the following NST item (ex. 2).

(ex.2) A daunting task is the one in which people feel nervous and less confident to do it.
 a. job b. food c. book d. none of these

3.4.2. Data Collection and Data Analysis

After fulfilling the requirements of the test construction mentioned above, the main study was launched. In the first phase of launching this project, the near synonymy test (NST) was given to 60 EFL learners. As mentioned before, the aim of administering this test was to determine the participants' quantitative knowledge of near synonyms. However, to measure learners' knowledge of collocational behaviour, the validated CBT was administered to the same target group. To this end, two sets of scores were collected for each individual: The scores on the NST and those on the CBT. In terms of administration and timing for both the CBT and the NST, the subjects were allowed 70 and 40 minutes, respectively, to complete the tests, although most of the subjects were able to finish them before the allocated time, indicating that the measures were correctly designed or chosen from a practical point of view. Finally, each correct answer was scored one point and each incorrect answer was scored zero.

As for data analysis procedures, different statistical measurements were employed. To establish the reliability of tests, Kuder and Richardson (KR-20) formula was used. To fulfill the requirement of concurrent validity and to determine the degree of correlation between the specified variables (Near Synonymy and Collocational Behavior), *Pearson-Product Correlation* was applied.

4. Results

The research question addressed in this study concerned whether EFL learners' knowledge of collocational behaviour related to their knowledge of near synonyms. The analysis of the data (see Table 2) shows that the mean of correct answers in the whole test is 29.63%, a considerably low score. Furthermore, the standard deviation (SD) is 9.36, which is relatively low showing that the group is fairly homogeneous in their level of collocation knowledge.

Table 2: Descriptive statistics for CBT scores

N	valid	60
	Missing	0
Mean		29.63
Std. Deviation		9.36
Variance		87.62
Minimum		9
Maximum		49

To explore the relationship between the subjects' scores on CBT and NST, the statistical analysis of Pearson-Product correlation was conducted (see table 3). The correlation coefficient was reported to be .291, which is significant at 0.05 level, and enough to reject the null hypothesis of no relationship between the specified variables. To determine how much of the variation of the subjects' scores on the NST can be accounted for by their scores on CBT, the simple regression was used.

Table 3: Correlation between NST and CBT

		SPT	NST
SPT	Pearson Correlation	1	.291(**)
	Sig. (2- tailed)	.	.024
	N	60	60

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

The results of regression analyses (Table 4) show that about 8 percent of variation of NST scores can be predicted on the basis of CBT scores. In other words, the amount of variance overlaps between X and Y represented by R square is shown to be .085. Put it another way, 92 percent of the variance of NST scores is due to factors other than the CBT scores.

Table 4: Model Summary of Regressing NST against CBT

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.291	.085	.069	7.04273

a Predictors: (Constant), CBT

Table 5 shows the ANOVA of regression. In this table, regression is one source of variation similar to between-group variance in ANOVA (explained variance). Equally important is the residual variable, which is another source of variance similar to within-group variation in ANOVA (error variance or leftover variance). Based on information on this table (table 5), the F-value is 5.35, which is significant at .024. The interpretation of the ANOVA table is exactly the same as a normal ANOVA with different names for the sources of variance. It determines the significance of the independent variable to the dependent variable. Thus, in the present study, the CBT is the independent variable and the NST is the dependent variable.

Table 5: ANOVA of Regressing NST against CBT

ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Regression					
Residual					
Total					
	265.596	1	265.596	5.355	.024
	2876.804	58	49.600		
	3142.400	59			

a Predictors: (Constant), CBT

b Dependent variable: NST

Based on information presented in Table 6, Beta value of SD unit changes of variables is also significant. Beta is the standardised regression coefficient, which is the number of standard deviation changes in Y for a unit standard deviation change in X. Based on this table, standard error Beta which is an index of variability of standardised BETA is shown to be 0.098. Furthermore, the predicted change in Y for a unit of change in X is represented in B which has the value of 17.68 (see Table 6).

Table 6: Beta Values for the Regression of NST against CBT

Coefficients					
Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	17.683	3.042		5.814	0.000
Semantic prosody	0.227	0.098	0.291	2.314	0.024

a Dependent Variable: NST

5. Discussion

In the present study, knowledge of collocational patterns is considered to be undermined by EFL learners. L2 learners' poor achievement on the test of collocational behavior verifies Nesselhau's (2003) contentions that collocations have been largely neglected by researchers, course designers and EFL practitioners. Researchers like Zughoul & Hussein (2001),

and Keshavarz & Salimi, (2007) found that EFL learners have insufficient knowledge of English collocations; otherwise, in their studies, more proficient learners might perform better than less proficient learners using their collocational knowledge. This finding is in line with the results of the present study.

The Pearson correlation was employed to describe the relationship between CBT and NST scores. The estimated correlation between these two variables was reported to be .29 at .05 level of significance. This means that the more EFL learners know the range of near synonyms, the better they can handle patterns and behaviours of collocations. In other words, it can be said that quantitative knowledge (knowledge of near synonyms) is related to qualitative knowledge (Knowledge of collocational behavior).

Zhang's (2008) reported a similar finding: a strong correlation was observed between his EFL learners' use of lexical collocations and their writing fluency as measured by a paper-and-pencil TOEFL-like writing test. In fact, Zhang differentiated between *quantity* of collocations, i.e. "the collocations found in the subjects' writing samples" (p.165) and *quality* of collocations, i.e. the "variety and accuracy of collocations used in the writing" (p. 165). His grouping of quantity and quality of collocations is to some extent similar to that of NST and CBT used in the present study as well as to that of Hosseini & Akbarian's (2007) study in which they found significant relationship between depth and breadth of words.

However, it should be mentioned that the estimated correlation between NST and CBT scores, though significant, was low ($r=.29$, $P<.05$). This low estimation may be possibly due to the discrepancy of purposes between the CBT and NST. It can also be said that the SPT and the NST do not measure the same general area of behaviour. These explanations are supported by what Bachman (1990) purports. According to him, some correlations, if moderately high, can be cited as evidence that the new test measures approximately the same general area of behavior as other tests designed by the same name as the new test. This idea can also be supported by what Oller (1979:56 in Miao, 2006:9) states: "a low correlation may result from the fact that one of the tests may be too easy or too difficult".

According to Oller (1979, cited in Miao, 2006:9), low correlations between different tests or measures are sometimes too simply taken to mean that they are measuring different skills. Other possible reasons for low correlation may be found in Oller's explanation:

... It may mean that one of the tests is unreliable. Or that both of them are unreliable or a low correlation may result from the fact that one or both tests do not measure what they are supposed to measure (i.e., are not valid), or merely that one of them (or both) has (or have) a low degree of validity (Oller, 1979:56 in Miao, 2006:9).

Not contrary to the above justifications, Hatch & Farhady (1982) pinpoint that in interpreting a variable we should depend more on logical reasoning than on figures. "A correlation coefficient may be very high but meaningless, or it may be fairly low and still meaningful" (p 208). It is important to note here that any interpretation depends on what variables are being compared and what kind of decisions must be made on the basis of the discovered relation.

By and large, we have to rely on corpus evidence which suggests that the demand for an ever larger and larger vocabulary reflects a rather one-dimensional (quantitative) view of advanced level achievement (see Qian, 2002). What needs to happen alongside the increase in breadth is an increase in depth of knowledge, i.e. the knowledge of the various aspects of use of a word, including, beyond its formal properties, its collocations, its sub-senses, and its semantic prosody.

6. Conclusion and Implications

From the findings reported above, it can be concluded that L2 learners misuse near synonyms in their appropriate context. This is because they are unaware of the subtle pragmatic distinctions among near synonyms. Thus, it is fruitful for learners to make pragmatic meanings out of near synonyms. If they do so, then we can claim that L2 learners are collocationally competent. It can also be concluded that knowledge of near synonymy is to some extent related to L2 learners' knowledge of collocational behaviour.

The findings of this study can have some implications, too. First, taking benefit from the findings of the present study, teachers can realise the problems learners may have in the development of their language competence. These problems are supposed to be attributed to lack of collocational knowledge in ESL/EFL learning (Partington, 1998; Hoey, 2000; Nesselhauf, 2003; McEnery & Xiao, 2006). Second, teachers should integrate practice on collocational patterns into ESL/EFL vocabulary teaching to help language learners develop their vocabulary knowledge.

Moreover, in this study, learners showed insufficient knowledge of collocational behaviour based on the corpus-based test. This insufficiency can be like a warning for learners that for vocabulary learning they need to master not only

a lexical item's spelling, meanings, and grammatical features, but also its collocational behaviour. Without a command of its collocational knowledge, learners may have difficulty in using a given lexical item for effective communication (McEnery & Xiao, 2006). Thus, being aware of collocations is of great importance to language learners. One of the things that distinguishes an advanced learner's language from that of a native speaker is that advanced learners often manifest "grammatical correctness but collocational inappropriateness" (Hoey 2003:8). It means that advanced learners may not be able to apply and use the appropriate rules of collocation restrictions of words which might greatly relate to the cultural issues.

Furthermore, by considering the findings of this study, ESL/EFL textbook writers should exercise more care and be meticulous in their choice of vocabulary for classroom instructions and educational purposes. Their textbook glossaries, further to including near synonyms, may also present appropriate collocational patterns of lexical items.

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