

EVALUATION OF FOREIGN LANGUAGE LEARNERS' LEXICAL COMPETENCE

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Abstract

Vocabulary is a crucial multi-dimensional component of language proficiency. This study aimed to describe these separate traits of vocabulary knowledge through the construct of lexical competence in a three-dimensional model. Thus, 40 Turkish EFL (English as Foreign Language) learners' size, depth and use of vocabulary were investigated with a set of tests. The findings of analyses indicated that they had limited vocabulary size and depth knowledge, considering their assumed proficiency levels. Additionally, the profiles of their productive vocabulary in their essays revealed that they mostly used high frequent words but low frequency and academic words least. So, it was concluded that learners had limited lexical competence. These results revealed that all dimensions of vocabulary knowledge are interrelated and it is crucial to handle all in together to understand learners' needs. In this study, Turkish EFL learners' productive vocabulary was found as essential to be developed in relation with size and depth.

Key words: *depth of vocabulary, lexical competence vocabulary, size of vocabulary, productive vocabulary.*

Introduction

Vocabulary knowledge is of great significance for language proficiency as it pervades all language skills (Nation, 2001). Considering such a key role, many vocabulary studies have been conducted to understand the nature of vocabulary knowledge and thus its effects and/or relationships with other language skills (Laufer, 1998; Nation, 1990; 2001; Schmitt, 2000; Webb, 2005). It has been agreed that vocabulary knowledge is a multi-faceted phenomenon that occurs along a continuum of development (Nation, 2001; Schmitt, 2000). Laufer (1998) defined this process as the learners' progress along the interlanguage continuum from a non-existent knowledge towards native-like competence. Thus, it could be posed that lexical knowledge is not an all-or-nothing phenomenon but it involves degrees of knowledge (Schmitt, 2000; Waring & Nation, 2004).

In second language research, for a long time, vocabulary size was primarily estimated to examine second language (L2) learners' vocabulary knowledge and language proficiency (e.g. Laufer & Nation, 1995). However, it has been realized that measuring size alone cannot provide a sufficient description of L2 learners' lexicon because vocabulary knowledge is multi-dimensional. In addition to size (how many words they know), their depth of vocabulary knowledge (how well they know words) and vocabulary use (productive vocabulary) should be taken into account to describe their vocabulary knowledge (Laufer & Nation, 1995; Laufer, 1998; Read, 2004). The concept of lexical competence has emerged as an umbrella term that describes all of these components together (Henriksen, 1999; Webb, 2005). These concepts enable the global description of separate traits of vocabulary knowledge.

Recently, there is a new trend to describe vocabulary knowledge from such global perspective, examining different components of vocabulary knowledge and discussing learners' lexical competence has received considerable interest (Henriksen, 1999; Zareva, 2005).

However, there is still paucity in the studies describing second language learners' competence, especially EFL learners' lexical competence has not been examined in detail. Considering this gap, the present study aimed to investigate Turkish EFL learners' lexical competence from larger perspective including different components of vocabulary knowledge (i.e. size, depth and use).

In literature, many lexical competence models containing different dimensions of vocabulary have been proposed (Henriksen, 1999; Zareva, 2005; Schmitt, 2000; Webb, 2005). One of them is separate trait model, which examines lexical knowledge in terms of separate components. According to this perspective, Nation (2001) proposed the different kinds of knowledge that a person must master in order to know a word as knowing the meaning(s) of the word, the written and spoken form of the word, the grammatical behavior, the collocations, register, association, and frequency of the word. Rather than individual properties of words, some researchers opted to examine the learners' general state of the lexicon completely. This global trait model covers the overall state of learners' vocabulary rather than 'sub-knowledge' of words such as collocations, semantics. Two dimensional models such as 'breadth' and 'depth' of vocabulary knowledge or receptive and productive vocabulary (Qian & Schedl, 2004; Webb, 2005; Laufer, 1998) or three dimensional models, like the one proposed by Henriksen (1999) were applied to examine the L2 learners' lexicon and its relationship with other skills or Zareva's (2005) model covering self-reported vocabulary knowledge, vocabulary size, number of associations, and native-like commonality of associations (i.e. how close to native speakers' association), word frequency effects, and number of associations.

Within the framework these models, different components of vocabulary knowledge were examined either together or one by one. For instance; Qian (1999) put forth that the components of size and depth of vocabulary knowledge are structurally and functionally interrelated. He confirmed his argument in the study with 77 Korean and Chinese speakers. It was obtained that the scores of vocabulary level tests and word associate test were close, and knowledge of primary word meaning could often include knowledge of synonym, polysemy, and collocations, especially if the words share these elements in the learners' first language. Regarding productive vocabulary, some studies comparing the receptive (i.e. recognized words; size) and productive vocabulary (i.e. used words) were conducted (e.g. Laufer, 1998; Webb, 2005). The results of these studies concluded that learners' receptive knowledge, that is, their ability to recognize words is larger than their productive vocabulary.

The common point emphasized in vocabulary research so far is that the components of vocabulary knowledge either receptive (i.e. size, depth) or productive (i.e. use) are interconnected (Zareva, 2005; Webb, 2005) and to gain insight about learners' lexical competence, it is essential to take into account of all these components (Henriksen, 1999; Nation, 2001).

Considering this, this paper aims to describe Turkish EFL learners' second language lexical competence in terms of different dimensions; namely size, depth and use of vocabulary. In line with this aim, the following research questions were addressed:

1. What is Turkish EFL learners' second language lexical competence?
 - a. What is the participants' size of vocabulary knowledge?
 - b. What is the participants' depth of vocabulary knowledge?
 - c. How do they use vocabulary in their writing tasks?

Methodology of Research

For this study, the quantitative research design was used. In this design, the researcher decides what to study, asks specific, narrow questions, collects numeric data from participants, analyzes these numbers using statistics, and conducts the inquiry in an unbiased, objective manner (Creswell, 2005).

Sample of Research

The participants of the study consisted of 40 Turkish EFL (English as a Foreign Language) learners enrolled at the Department of English Language Teaching at Education Faculty of Anadolu University. The participants were selected from second year of the department, of own voluntary.

In order to investigate the lexical competence of the participants, it was essential to collect all three vocabulary measurements from the same participants so 40 learners that completed all instruments participated to the study. Moreover, it should be emphasized that the results of the analysis on lexical competence with these participants could lead to further studies covering all learners at the same departments as this paper could be the first step of further study on lexical competence.

Instrument and Procedures

Since vocabulary knowledge is not an all-or-nothing phenomenon and since no single test combining both vocabulary size and depth is available, 'multiple test approach', which was proposed by Laufer (1998) as well, was used in this study. The instruments were adopted from the web site of lextutor.

The first instrument is the Vocabulary Level Test (Schmitt et al, 2001), which measures how many words learners know/recognize. In this test, the learner is required to match groups of three words out of six with their paraphrases as in the example; this test consists of items from the 2.000 most frequent vocabulary, the 3rd thousand, the 5th, the 10th thousand and Academic Vocabulary (AWL). The target words are tested in isolation so that no contextual clues are provided. Each frequency level consists of 30 items at 5 sections. The answers are scored as correct and incorrect, each correct answer is given one-point, and thus the maximum score is 150.

The second test is Word Associate Test, which was designed by Read (2004) to assess how well the learners know the word. This test includes adjectives commonly used in English. There are 40 items and 8 distracters for each item. The distracters were arranged in two boxes; left and right. The words on the left are the other adjectives that could help students explain the target item. In the right box, there are nouns that may come after the target item in a phrase or sentence. For two boxes, the students are asked to select four words that they think relevant to the stimulus word. The distribution of the correct answers through boxes can change as two in the right and two in the left or one in the right and three in the right. There are different combinations to decrease the guessing and chance factor.

To determine the learners' lexical use (i.e. productive vocabulary) in writing, vocabulary profiler, LFP (Lexical Frequency Profile), which is available on www.lextutor.ca/ was used. LFP has been applied by many studies in different context with different proficiency groups. (Laufer & Nation, 1995; Morris & Cobb, 2004) and defined as reliable and valid instrument. To operate the LFP analysis, a text is typed into the computer program and text analysis, consisting the percentages of type/token ratio and word families, are supplied according to four frequency levels, according to 1k (1 to 1000), 2k (1001 to 2000), off-list and AWL words.

In this study, the learners were asked to write an argumentative essay about the student and teacher relationship, which was chosen among TOEFL writing prompts. The collected essays were typed into computer for the LFP analysis.

Data Analysis

To answer the research questions, the descriptive statistics including mean, standard deviation were obtained on the scores of vocabulary tests.

Results of Research

In this study, through three-dimensional model of lexical knowledge, the participants' lexical competence were defined with the combination of scores of vocabulary size, word association and productive vocabulary, which included the ratios of 1k+2k and AWL.

After scoring all vocabulary tests and analyzing the productive vocabulary through LFP, the descriptive statistics probing the learners' lexical competence are obtained. Firstly, the findings of the Vocabulary Level Test and Word Associate Test are presented in Table 1 below as describing as the first two dimensions of lexical competence, that is, how many words the participants' know and how well they know them, respectively.

Table 1. The Descriptive Statistics of Vocabulary Size and Word Association.

	N	Minimum	Maximum	Mean	SD
Vocabulary Size	40	47.78	88.89	75.42	7.58
Word Association	40	41.88	76.88	66	9.97

The mean value of the participants' vocabulary size was 75.41 with the minimum score of 47.78 and maximum score of 88.89. When the different frequency levels of the words in the test of vocabulary level, which was administered to find out the vocabulary size of the participants, were analyzed, it was obtained that;

Table 2. The Distribution of the Scores of Vocabulary Level Test.

	N	Minimum	Maximum	Mean	SD
2000 Level	40	13.00	18.00	16.25	1.42775
3000 Level	40	11.00	18.00	16.58	1.53402
5000 Level	40	8.00	18.00	15.03	2.20125
AWL	40	9.00	18.00	14.20	2.05314
10.000 Level	40	0.00	14.00	7.65	3.17482

The participants did better in the 3000 Level words with the mean value of 16.57 as well as in the 2000 Level words with the mean value of 16.25, while the participants did worst in the 10.000 Level words since it had the mean value of 7.65. Thus, it could be suggested the participants was good at the high frequent words while they failed to recognize the least frequent words at the AWL and 10.000 Level. Considering the proficiency levels of the participants, assumed to be advanced as university students at the ELT department, the results of vocabulary sizes were striking.

The other component of the lexical competence taken into account in this study was the depth of vocabulary knowledge. This was measured by a word association test, and the results, shown in the table above, indicated that the mean of success of all participants was 66.00 with minimum score, 42 and 77 out of 100. Considering these values, it could be interpreted that the students were not so good at word association test. Their depth of vocabulary knowledge seemed not as developed as their size of vocabulary.

The last dimension or component of lexical competence was the productive vocabulary, which refers to the vocabulary that the participants used while writing their essays. As explained before, to find out the participants' productive vocabulary, their argumentative essays were analyzed with Vocabprofile/LFP and the ratios of 1k+2k, AWL words and the percentage of function and content word uses were determined. The two high frequency categories (words in the 1-1000 and 1001-2000 most frequent bands) were taken together to describe the use of high frequent words. Furthermore, to have the equal analysis, 250 words of their essays for each participant were entered into the program of Vocabprofile.

For all participants, the descriptive statistics were obtained to give the profile of the participants' productive vocabulary.

Table 3. The Productive Vocabulary Profiles for All Participants.

	N	Min	Max	Mean	SD
1k+2k	40	88.14	96.85	92.68	7.6700
AWL	40	1.56	9.60	5.42	1.7600
Function Words	40	45.82	60.40	53.40	3.77884
Content Words	40	29.60	43.03	35.56	3.33888

The percentage of the use of 1k, which refers to 1.000 level words, and of 2k, for 2.000 level words was higher than AWL words. 92.67% of the words in all participants' essays belonged to the 2.000 and 3.000 word levels, which are high frequent words. On the other hand, only 5.42% of the words in the essays were from academic word list. Thus, it could be interpreted that the productive vocabulary of the participants mostly consisted of high frequent words, and their levels of academic word use was limited.

The general picture emerging from this analysis was that L2 learners in this study had limited vocabulary size and depth knowledge, considering their assumed proficiency levels. Additionally, the profiles of their productive vocabulary in their essays indicated that they mostly used high frequent words at 1.000 and 2.000 frequency levels and more function words than content word.

Discussion

In order to probe Turkish EFL learners' lexical competence in terms of size, depth and use of vocabulary, firstly, all participants' performance at the vocabulary level test was analyzed, it was found that the mean rating of the vocabulary size was 75, 41% (out of 100). Among the frequency bands in this test, the participants did better with the words in 2.000 and 3.000 word levels. Considering these results, it could be suggested that the participants had a limited vocabulary size and their vocabulary knowledge mostly consisted of high frequent words. As Nation (2001) underlined for the learners who are in academic studies like university students should have a repertoire with more low frequent words. In addition, in literature, it was stated that the first 1.000 and 2.000 words are acquired at the early stages and the students should have vocabulary knowledge including 5.000 and academic words at the advanced levels due to the exposure to the words in different contexts (Schmitt, 2000; Read, 2004). However, the results of this study revealed that the participants' receptive knowledge, referring to the vocabulary size, was not as developed as expected.

The results of the word association test lead similar results; the participants' depth of vocabulary knowledge was again limited. This result could be explained due to limited deeper processing abilities of the participants. The participants seemed to have a limited capacity to process the word with its associations and connectivity with other words in their lexicon. Thus,

considering Zareva's (2005) claim about the relationship between size and depth knowledge, it could be assumed that due to limited vocabulary size, the associative patterns of meaning connections seemed weak for the participants of the study.

Furthermore, the participants' essays were analyzed through Vocabprofile to determine how the participants transferred their breadth and depth of vocabulary knowledge into productive vocabulary, the results of LFP ratios for the productive vocabulary of the participants indicated that the participants used the 1k+2k words (92.67%) more than academic words (5.42%). In other words, the participants used the high frequent words more than academic words while writing argumentative essays. One of its reasons could be the participants' limited vocabulary size that was determined by the vocabulary level test. Due to limited vocabulary size, the participants could not access to academic words easily so they preferred to express their ideas with most frequent words and as a result, the lexical density of their essays was also low as obtained %0,46, which means the participants used the same words and they could not vary their vocabulary using different patterns. The higher ratio of the function word use could be the reason of the low lexical density, the learners did not vary their content words in their essays. This could be interpreted again due to limited vocabulary size.

These results were consistent with the assumptions about the 'incremental nature of vocabulary knowledge', which posits that not all aspects of the vocabulary knowledge develops at the same pace and the increase in the vocabulary size does not mean that learners will necessarily choose to use these words in their writing. (Laufer, 2005; Schmitt, 2000) The incremental nature of vocabulary knowledge underlines the fact that the vocabulary knowledge has degrees of knowledge so the lexical knowledge is not an all-or-nothing phenomenon. The one's competence at one dimension of lexical knowledge does not ensure his performance in other dimensions. Thus, it could be suggested that the participants did not transfer their vocabulary size to their productive vocabulary knowledge in their essays in this study. In other words, it could be assumed that the participants' vocabulary size was not directly related to productive vocabulary in their essays since it was possible that the participants might not demonstrate their knowledge of the 5.000 and AWL words, which were found as (mean=15.05) and (mean=14.02) respectively in the analysis of vocabulary level test, in their writing or they were not competent enough with these words to use them appropriately while writing.

In this respect, as the results of this study emphasized, learners' vocabulary knowledge has different dimensions and these dimensions are interconnected and due to incremental nature of vocabulary acquisition, they could get developed at different paces. Thus, to make generalization considering the findings on only one dimension can be misleading, to examine vocabulary knowledge as lexical competence covering different dimensions is essential for reliable conclusions.

Conclusions

To gain more insights about second language vocabulary knowledge, the present study attempted to conduct a description of vocabulary knowledge through the construct of lexical competence. Within a three-dimensional model, the size, depth and use of vocabulary knowledge were examined together and Turkish EFL learners' lexical competence was described accordingly. The results confirmed the assumptions on the multi-dimensional nature of vocabulary that all dimensions of vocabulary knowledge are interrelated and it is crucial to handle all in together to understand learners' needs. In this study, Turkish EFL learners' productive vocabulary was found as essential to be developed in relation with size and depth as due to limited size of vocabulary. Their associational links for depth of vocabulary remained limited and they could not use different and/or low frequent words. These results also pointed out the need for vocabulary teaching either integrated in the content courses or explicitly presented.

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