

# Foreign Language Learners' Evaluation of Lexical Competence and Performance

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## Abstract

Academic and general vocabulary knowledge and use are critically crucial for foreign language learners' language proficiency and academic attainment. Through the aspects of lexical competence and performance, multidimensional facet of vocabulary knowledge and its interrelated constituents might be identified in detail thus vocabulary teaching process within the language education could be revealed efficiently. Keeping this in mind, the main purpose of the current study is to investigate foreign language learners' academic and general lexical competence and performance overarching all dimensions, namely receptive (i.e. the number and quality of vocabulary knowledge gained) and productive (i.e. use) aspects. Within this scope, via a multiple test approach, 371 Turkish preparatory school students in a state university were examined in terms of their multidimensional general and academic vocabulary knowledge. The findings revealed that language proficiency has had a critical impact on lexical competence and performance. Additionally, exposure to the vocabulary is of capital importance especially in terms of production. Regarding the academic vocabulary, as the participants were familiar with the words thanks to their academic reading and writing courses, the results indicated a tendency towards preference of academic vocabulary use.

**Keywords:** Academic vocabulary, general vocabulary, lexical competence, lexical performance, multidimensional vocabulary knowledge

## 1. Introduction

Vocabulary is among the widely acclaimed prevailing aspects of language competence (Nation, 1990; Schmitt, 1997). Therefore, learning vocabulary is generally assumed to underlie and provide the basis for second language acquisition (Read, 2000). The growing interest on vocabulary has led to an increase in the number of theoretical and empirical studies carried out especially since 2000s (Fan, 2000; Laufer & Goldstein, 2004; Laufer, Elder, Hill, & Congdon, 2004; Webb, 2005; Chen & Ge, 2007; Vongpumivitch, Huang & Chang, 2009; Meara & Olmos, 2010; Rashidi & Khosravi, 2010; Schmitt, Ching & Garras, 2010; Zhou, 2010; Aziez, 2011; Hellman, 2011; Ho & Lien, 2011; Mehrpour, Razmjoo & Kian, 2011; Ehsanzadeh, 2012). These studies have focused on the structure of vocabulary and most of them have proposed that vocabulary knowledge is composed of different aspects as receptive and productive (Nation, 2001; Webb, 2005; Zhou, 2010). In other words, vocabulary knowledge is conceived not only as how many words learners know (i.e. vocabulary size) but also how well learners are specialized in these words (i.e. depth of vocabulary) and utilize that knowledge (i.e. productive vocabulary) (Read, 2000; Schmitt et. al., 2010). Under these umbrella terms, vocabulary knowledge has been defined from a universal viewpoint, investigating various aspects (Zareva, 2005). However, general vocabulary, especially high frequent words which are more prevalent in discourse with 2000th frequency band, has mostly been the main focus (Laufer et. al., 2004; Webb, 2005; Zareva, 2005).

### 1.1. Theoretical and empirical background

In the light of different perspectives, Henriksen (1999) states that lexical competence is mainly clarified as the number of words in general word knowledge because the lexicon composed of a large number of vocabulary across a range of frequency bands has been commonly acknowledged as a benchmark of good lexical knowledge (p.g 34). On the other hand, Meara (2005) identified lexical competence as vocabulary size, depth of vocabulary knowledge and the possibility to access the basic lexical terms.

According to Yuksel and Durmusoglu (2013), whereas lexical competence involves the use of vocabulary or vocabulary size (i.e. receptive word knowledge), lexical performance includes the cognitive processes and dynamics of productive aspect (i.e. productive word knowledge) (p.g. 34). These two key elements are considered to constitute the complicated features of vocabulary knowledge (Zareva, 2005; Webb, 2005).

#### 1.1.1. Receptive and Productive Vocabulary Knowledge

##### Receptive Dimensions: Vocabulary Size (Breadth) and Depth

In vocabulary research, whereas vocabulary size (breadth) is identified as the number of words a learner knows, vocabulary depth is clarified as learner's knowledge of different aspects of a target word (Yuksel & Durmusoglu, 2013). To exemplify some studies focusing on size dimension; Aziez (2011) designed a study to evaluate the corpus of junior and senior high school English National Examination (NE) texts used in Indonesia throughout

four years of administration. This is a corpus based study utilizing Web VocabProfilers program developed by Cobb (2009). Within the predetermined frequency bands, the researcher investigated how many words a reader needs to know to attain roughly 95% comprehension of the target text. At the end of the research, findings demonstrated that, as different exams were evaluated, there was no systematicity in test construction, which suggests that exams administered require revising.

Another study investigating learners' vocabulary knowledge with respect to progress in vocabulary size is Laufer and Goldstein (2004). In the light of four strength categorization model, researchers investigated validity of these modalities and discussed the association between each mode and academic success. The results revealed that differences in growth of vocabulary size may be caused by either active/passive recall mode or active/passive recognition mode.

In a similar vein, Laufer et. al. (2004) carried out another research with the same purpose but different participants and setting. Items chosen from Vocabulary Level Test by Schmitt et. al. (2001) were administered to the subjects to evaluate vocabulary size dimension whereas four – way categorization model was employed to examine vocabulary strength. According to the findings, as these researchers developed a test to measure the number of vocabulary a learner acquired, the gains in vocabulary size may change according to the strength mode implemented.

As another crucial aspect of lexical competence, depth of vocabulary knowledge was evaluated by Ho and Lien (2011). The researchers' main purpose was to investigate subjects' scores on the depth of vocabulary knowledge measure and a reading comprehension test to evaluate the relationship between students' depth of vocabulary knowledge and their reading comprehension, the correlation between learner's reading speed and their reading comprehension, and the comparison of the high and low achievers' performance. The results suggested that the depth of vocabulary knowledge (taken from Qian's (2004) study) was a good predictor of reading comprehension test performance. Additionally, comparisons between the subjects with high and low scores revealed that participants' proficiency scores of vocabulary depth significantly affected their reading performance and speed.

On the other hand, concerning the roles of both vocabulary size (breadth) and depth dimensions in vocabulary knowledge, Ehsanzadeh (2012) designed a study to examine the aforementioned aspects of lexical repertoire in L2 lexical inferencing performance and incidental vocabulary acquisition through reading tasks. As the instruments, first, Vocabulary Level Test by Schmitt et. al. (2001) and Word Associate Tests by Read (2000) were applied together. Two weeks later, three sessions of Vocabulary Knowledge Scale by Paribakht and Wesche (1996, 1997) were administered sequentially. This study yielded productive results in that the depth of vocabulary knowledge was more highly correlated with incidental learning of words, which strengthens the views on lexical learning behavior that puts emphasis on the efficiency of the learners' conceptual system. Additionally, when the depth and breadth of vocabulary knowledge were correlated with second language lexical inferencing performance, the findings revealed that the correlation between the depth of vocabulary knowledge and L2 lexical inferencing success was higher than that between the breadth of word knowledge and L2 lexical inferencing success. What is more, if both breadth and depth were to be compared about which one was a better predictor of L2 inferential success, the results proposed that the depth dimension as a predictor variable clarified a significant amount of the second language success with regard to lexical inferencing while the breadth aspect did not predict much more significantly than the former.

Furthermore, to undergird the relationship between the size and depth of word knowledge and native like second language lexical attainment, Hellman (2011) carried out a study to investigate the limits of final L2 vocabulary success of adult English language learners. Main purpose of the researcher was to analyze the characteristics that have an impact on L2 lexical attainment. The overall findings demonstrated that eventual lexical attainment was detected among adult-onset L2 learners irrespective of the age of onset of immersion in the target language, which proposes that most of the adult-onset L2 participants in the present study could be accepted to have reached native level of second language vocabulary. As for the distinctive features affecting the native-like lexical success, "intellectual and verbal giftedness, educated caregivers, childhood foreign language learning experience, graduate studies, and lifelong intellectual curiosity" were explained as the shared characteristics of adult-onset L2 learners having achieved native like lexical accomplishment (p. g. 174).

Mehrpour et. al. (2011) ran another study focusing on the relationship between breadth and depth of vocabulary knowledge and reading comprehension of Iranian EFL learners. As usual, Vocabulary Level Test (Schmitt et. al., 2001), Word Associate Test (Read, 2000) and another reading comprehension test taken from a version of TOEFL were utilized. The correlation analysis pointed out that larger vocabulary leads to better understanding of a reading text. Similarly, how well a learner knows about the vocabulary of the target language is crucial as it increases reading comprehension, as well. Regarding the correlation between size and depth of word knowledge, it was clear that vocabulary size and depth were interrelated, which suggests that as the number of words a student knows increases, his/her vocabulary knowledge gets deeply rooted.

In a similar vein, to probe the relationship between two dimensions of vocabulary knowledge, depth and

breadth, and reading performance, Rashidi and Khosravi (2010) conducted a study with 71 Persian participants in Iran context. The results complied with the outcomes of Mehrpour et. al.'s (2011) study in that the current study yielded significant correlations between aforementioned two aspects and reading comprehension. Likewise, depth of vocabulary knowledge proved to be a possible indicator of better reading comprehension compared to size aspect as demonstrated by the previous study.

As an important point to mention, in most of the studies in literature the instruments utilized and administered to scrutinize size and depth of vocabulary knowledge were standardized tests such as Vocabulary Level Test by Schmitt et. al. (2001) and Word Associate Test by Read (2000). Therefore, the present study is based on these two instruments.

#### Productive Dimension

Majority of the vocabulary research has been carried out on receptive dimensions of vocabulary knowledge since receptive knowledge precedes productive knowledge (Zhou, 2010). Although it is easier to investigate the receptive word knowledge according to the vocabulary research literature, productive aspects are of capital importance as they give learners opportunities to prove their vocabulary knowledge by being actively involved in the production process. Hence, Fan (2000) carried out a study to investigate the gap between active and passive vocabulary. Prior to explaining the details on Fan's (2000) study, the terms "active" and "passive" should be defined. Laufer and Paribakht (1998) identify these terms as passive vocabulary meaning comprehending the senses of common words in the target language and active vocabulary referring to usage of a word in a specific context, generally as a response to a writing skill task.

Within this scope, Fan (2000) designed a study to evaluate 103 first-year students' active and passive vocabulary. The researcher's main purpose was to identify vocabulary learning strategies that help to close the gap between these two types. He employed two tests and a questionnaire. For the passive vocabulary test, Nation's (1990) "Word Levels Test" was administered with some changes while for the active vocabulary test, another instrument was designed and participants were supposed to provide a word to complete a sentence. The researcher paid attention to the fact that the meanings of the words in active vocabulary test corresponded to the ones in Word Levels Test. However, the current study did not yield consistent results in terms of relationship between language proficiency and the two types of vocabulary knowledge. That is to say, some of the participants with high language proficiency resulted in smaller amounts of active vocabulary whereas some other did quite well in the test. It was the same for passive vocabulary test, as well. On the other hand, as for the vocabulary learning strategies, the present research identified seven strategies which are positively related to active vocabulary knowledge. Looking up dictionaries for the meaning of words, guessing their meanings from context, grouping words together to commit them to memory, repeatedly saying the words, learning words subconsciously through playing games were among the examples. According to Fan (2000), unless learners know what the exact meanings of the target words are, they tend to not to keep them in their working memory (p. 118). Furthermore, results of the qualitative inferences, i.e. the questionnaires, showed that students do not often use the aforementioned strategies although they regard them as beneficial.

#### 1.2. Research questions

Based on a need for a structurally principled comprehensive vocabulary research on both receptive and productive constructs with undergraduate students, the current study is designed to describe Turkish preparatory school students' overall profile of general and academic lexical competence and performance from a larger perspective.

Keeping these in mind, the main aim of this study is to investigate the general and academic lexical competence and performance of Turkish EFL learners. With these purposes, this study is going to address the following research questions:

1. What are Turkish EFL learners' general/academic lexical competence?
  - a. What is Turkish EFL learners' size of general/academic vocabulary knowledge?
  - b. What is Turkish EFL learners' depth of general vocabulary knowledge?
2. What are Turkish EFL learners' general/academic lexical performance?
3. Do the dimensions of the participants' lexical competence and performance correlate with each other?

## 2. Method

### 2.1. Participants

This study was conducted at Kütahya Dumlupınar University, School of Foreign Languages (DPU – SFL). The study started with 95 students in total and data collection instruments were distributed to four classes, two classes of Elementary level (A2) students and two classes of Intermediate level (B1+) students. Since general and academic vocabulary knowledge of the subjects are examined in terms of a specific dimensional framework, it is necessary to collect all instruments measuring each of the determined dimensions from each participant. However, as the instruments were not administered at the same time, some students who did not complete all the

tests had to be excluded from the analysis. Accordingly, the eventual number of participants was determined as 86, 41 Elementary (A2) and 45 Intermediate (B1+) level students.

## 2.2. Instruments

In accordance with the aim of the study, “Multiple Test Approach” has been adopted to fulfill the requirements of measuring interconnected dimensions of lexical knowledge. Within this perspective, different instruments were administered order to provide an extensive insight into learners’ vocabulary profile at different levels of language development.

Concordantly, two different instruments were utilized to measure each construct of lexical competence and performance. Firstly, to evaluate the receptive aspect of academic lexical competence, namely the size, the latest version of Vocabulary Level Test developed by Schmitt et al. (2001) was administered. This test is composed of all five-word frequency levels as 2000<sup>th</sup>, 3000<sup>th</sup>, 5000<sup>th</sup>, 10000<sup>th</sup> in addition to academic vocabulary. For scoring the VLT, participants get one point for each correct response. 2000<sup>th</sup>, 3000<sup>th</sup> and 5000<sup>th</sup> level sections consist of 30, 10000<sup>th</sup> level section contains 24 and academic vocabulary section includes 36 target items, which means that the maximum score for the whole test is 150. Secondly, to investigate the depth aspect of lexical competence, Word Association Test by Read (2000) was applied. For grading WAT, subjects’ responses were entered on “<http://www.lex tutor.ca/tests/associates/>” website individually. According to this scoring procedure, the maximum score for WAT is 160.

On the other hand, to scrutinize the participants’ academic lexical performance, a writing task was assigned and lexical frequency profile (LFP) analysis was carried out. To determine the subjects’ lexical use, Vocabprofile, which is available on “[www.lex tutor.ca/](http://www.lex tutor.ca/)” was utilized. To run the LFP test, Vocabprofile, a text is typed into the program and text analysis, composed of the percentages of type/token ratio and word families, are provided in terms of four frequency levels, according to 1k (1 to 1000), 2k (1001 to 2000), off-list and AWL words. Within the limits of the study, the analysis was operated with the findings of 1k + 2k and off-list categories to elaborate on academic vocabulary use.

## 2.3. Data collection procedures

The instruments were passed out to the participants during their regular class hour with the permission of the class teacher by the researcher. First, subjects completed the VLT and then WAT at the same class hour. A few weeks later, they wrote the opinion essays on the reasons why people should learn a foreign language. This topic was chosen because they were familiar with the topic and had worked on a similar task beforehand. According to Ellis (2003), topic familiarity influences learners’ tendency to negotiate meaning. That is, language learners’ world knowledge may enable them to understand and thus produce comprehensible texts. With the time interval between the tests and essay, it was aimed to hinder students from using the same words they saw in the instruments in their essays.

## 2.4. Data preparation and analysis

After the data was collected, they were separated into two groups according to the level of participants. Then, all three instruments were matched together for each participant. For grading the, VLT was scored according to the five frequency bands in addition to the total score whereas WAT was graded by entering the responses on “<http://www.lex tutor.ca/tests/associates/>” website individually. As for the analysis of the essays, all texts were typed into the computer. Each essay from each subject was saved as a separate text file to analyze.

The collected data was analyzed via 20.0 version of Statistical Package of Social Science (SPSS). With the help of descriptive statistics, a general view of participants’ vocabulary size (VLT), depth (WAT) and lexical use were determined, then independent samples t-test analyses were carried out for the comparison of two groups. As for the correlation analysis among the instruments, Pearson correlation test was run and the significance level was determined as ,05.

## 3. Results

### 3.1. Findings on Lexical Competence

To probe the first research question of the study, which is “What are Turkish EFL learners’ general/academic lexical competence?”, initially, the participants’ lexical competence was scrutinized through the analysis of size and depth of vocabulary knowledge.

#### 3.1.1. Size of Vocabulary Knowledge

Based on the mean scores and standard deviation values of the participants, firstly the subjects’ overall scores from the VLT are discussed with regard to proficiency levels as presented in Table 1.

The findings imply that the participants’ vocabulary knowledge increased as they got more proficient. They tend to acquire new vocabulary thanks to the exposure and/or instruction as their language proficiency levels rise.

To justify this interpretation and to check whether the difference in the participants’ size of vocabulary

knowledge are statistically significant, independent samples t-test analysis was run on the overall mean scores of VLT as the dependent variable and the two proficiency level groups as the independent variable. The results of the independent t-test indicated that there is a statistically significant difference between the mean scores of A2 level participants ( $X = 27, 27, SD = 11, 77$ ) and B1+ level participants ( $X = 73, 16, SD = 15, 09$ ),  $t(84) = -15, 79$ ,  $p < .05$ . Therefore, it could be claimed that the participants' vocabulary knowledge differed with regard to their proficiency levels. In other words, Table 2 implies that as learners' language proficiency levels increase, their vocabulary knowledge differs.

In addition to the overall vocabulary size, subjects' size of general and academic vocabulary was evaluated in terms of frequency bands. In that way, it was attempted to address the sub-research questions of "What is Turkish EFL learners' size of general/academic vocabulary knowledge?". The findings of the frequency band analyses are presented in Table 2.

As revealed in the table, participants' size of vocabulary was different in terms of the frequency bands posed in the VLT. Higher level participants did better on the test and outperformed lower level subjects. Apart from that, within each level learners' size of vocabulary knowledge seems to have decreased as a result of low frequency of words in daily language (Nation, 2001).

To further investigate whether the differences at the five word levels are statistically significant, five independent samples t-tests were carried out. The findings of independent t-test analyses, as presented in Table 4 above, illustrate that there are significant differences between the two groups of participants in terms of the mean scores on the three word levels. Specifically, for 3000th frequency level,  $p = ,002 < ,05$ , for academic word band,  $p = ,026 < ,05$  and 10000th,  $p = ,017 < ,05$ . These results suggested that the participants' vocabulary size differed significantly at the 3000th, Academic vocabulary and 10000th frequency bands with regard to the language proficiency levels. On the other hand, for 10000th band, it was found that the differences at the mean values of the participant groups were not statistically significant,  $t(84) = -6, 33$ ,  $p = ,017 > ,05$ . Therefore, it could be argued that size of vocabulary knowledge of both groups at 10000th level was the same and it did not differ concerning the proficiency levels. Likewise, the mean scores of both groups at 2000th frequency band did not prove statistically significant results, as well;  $t(84) = -18, 87$ ,  $p = ,831 > ,05$ . Hence, it may be asserted that B1+ level learners' size of vocabulary knowledge at 2000th frequency band was similar to A2 level learners'.

All in all, the analyses on the scores of the VLT concerning frequency bands demonstrated that the participants recognized most of the vocabulary in the high frequency and academic word bands; however, they were not able to be successful with the lower frequency words (3000th, 5000th and 10000th). The statistical analyses also indicated that the subjects' vocabulary knowledge differed significantly in terms of language proficiency levels. The participants knew most of the words that they came across constantly; yet, the less frequent the words became the less number of vocabulary participants recognized.

### 3.1.2. Depth of Vocabulary Knowledge

Depth of vocabulary knowledge, which refers to how well learners know the words, was evaluated via Word Association Test (Read, 2000a) in the current study. The value of vocabulary knowledge was analyzed in terms of subject' language proficiency levels. The results acquired from the analysis of this test are presented in the following Table 3.

The descriptive data in Table 3 presented that B1+ level students got a much higher mean score than A2 level students. These findings implied that the subjects' quality of vocabulary knowledge slowly developed as they got more proficient.

Similar to the findings of the VLT, the findings of the WAT illustrated continuous increase as subjects' proficiency levels rise, which means that the participants' quality of vocabulary knowledge improved as they progress from lower proficiency levels to higher ones. Nonetheless, it should be underlined that the development of the subjects' depth of vocabulary knowledge was not so high; it ranged between 17 (as the minimum score) and 116 (as the maximum score) and concerning the maximum score of the test (160), this situation might be explicated as the above average but not so high. Within this scope, it could be asserted that in spite of the outperformance of higher level participants in terms of the test scores, their quality of vocabulary knowledge evaluated through the WAT seems to have remained limited.

To investigate the difference between two groups, mean scores of WAT were compared via independent t-test analysis in terms of language proficiency levels. The results of independent samples t-test explained that there is not any statistically significant difference between the mean scores of B1+ level learners ( $X = 72, 78, SD = 18, 65$ ) and A2 level learners ( $X = 48, 46, SD = 20, 19$ ),  $t(84) = -5, 80$ ,  $p > .05$ . This finding demonstrated that level of proficiency does not have any effect on the quality of vocabulary knowledge according to WAT scores. This result might be interpreted as the result of individual differences and interests.

These word association findings in addition to the results related to the vocabulary size have shed light on the participants' lexical competence. In the current study, as both size and depth of vocabulary knowledge were considered to be the sub-dimensions of lexical competence, they may together, qua the receptive aspects, provide deeper insight into the issue of learners' competence in vocabulary. Therefore, participants' overall lexical

competences were reanalyzed in terms of the compilation of both scores taken from VLT and WAT in the following section.

### 3.1.3. Overall Lexical Competence

To scrutinize the participants' overall general lexical competence, the findings related to the size and depth of vocabulary knowledge were examined again by adding up the total scores of the VLT and WAT. The distribution of these statistics with reference to language proficiency levels is demonstrated in Table 4.

The increase among the scores of both groups confirmed that the participants' competence developed as they progressed toward higher levels of proficiency since A2 level students got a lower mean score than B1+ students. When *SD* values were investigated to gain further insight into participant' lexical competence, individual differences were observed among the groups. As presented in Table 4, less proficient learners had a lower *SD* value while it increased with more proficient learners, which implies that individual differences at lexical competence increases as learners make progress.

To investigate whether the differences at the mean values of lexical competence were significant or not, again independent t-test analysis was run. According to the findings, both of the groups were found not to differ from each other in terms of lexical competence ( $t(84) = -11, 132, p > .05$ ). This finding demonstrated that participants' lexical competence was similar in terms of language proficiencies. Therefore, it can be asserted that learners' lexical competence does not change as they get advanced within the language learning process.

## 3.2. Findings on Lexical Performance

To refer to the research questions of "What are Turkish EFL learners' general/academic lexical performance?", the capacity of vocabulary use was taken into examination. Keeping this in mind, it was aimed to investigate the subjects' performance and to probe the differences, if any, between two levels of proficiencies. At this point, the proportions of lexical use were identified via the students' lexical frequency profiles.

### 3.2.1. Use of General and Academic Vocabulary

The proportions of the first 2000 high frequent vocabulary, academic vocabulary and off-list vocabulary use, were investigated through Vocabprofile, from <http://www.lex Tutor.ca/vp/eng/>. In data analysis, after all essays were typed and submitted to the Vocabprofile program, the mean values for lexical frequency profile of each subject were taken into account and an overall mean value for each proficiency level were calculated. The findings attained are presented in Table 5.

From Table 5, it can be inferred that there was a slight increase in the use of high frequent words between A2 ( $X = 93, 587$ ) and B1+ level participants ( $X = 94, 254$ ). These results can be interpreted that as the participants got more proficient within the process of language courses, they started to use the vocabulary more productively. In other words, it could be argued that since they had a course on academic paragraph writing in each semester and the units include more comprehensive topics as they progress, the participants learned how to write and they might become eager to write with reference to their fresh knowledge, hence they produced vocabulary more easily.

To investigate another focus of the study, subjects' academic lexical frequency profiles were evaluated. Based on the results on Table 5, similar to the findings of use of highly frequent words, there is a slight increase in the mean scores of both groups. As illustrated, A2 level students ( $X = 2, 034$ ) represented slightly lower scores than B1+ level students ( $X = 2, 923$ ). These findings imply that participants are likely to increase their use of academic vocabulary as they get more and more proficient.

As the last focus of the study - off list words - in terms of vocabulary use, a totally different picture is illustrated in Table 5, an obvious decrease is observed between target participant groups.

To make sense of these findings, Laufer and Nation (1995) suggests that the off-list category at the Vocabprofile is composed of the low frequent vocabulary in addition to jargons which are specifically disciplined in the language. Concordantly, with the big gap between the mean scores shown in both Table 9, it could be put forward that A2 level students outperformed B1+ level students. The reason of this finding may be that as lower level learners write whatever comes to their minds, they may not have stopped and think about the vocabulary they use. Additionally, because their language levels were not high enough to analyze their word choice, their essays resulted in such a high score in terms of off-list words. On the other hand, higher level learners appeared to mostly rely on highly frequent words that they encounter during their writing courses, thus seldom used low frequency vocabulary.

The analyses on the proportions of the use of different vocabulary categories illustrated small differences among proficiency groups. To determine whether these differences at the mean values for each vocabulary category are statistically significant or not, independent t-test analysis was run. The results of t-tests indicated that whereas there were significant differences between two groups in terms of highly frequent words ( $t(84) = -1, 166, p < .05$ ) and off-list words ( $t(84) = 2,966, p < .05$ ), the analysis did not yield significant findings with regard to academic vocabulary ( $t(84) = -3, 251, p > .05$ ). These findings confirm that, concerning the low frequency and high frequency words, the proficiency levels proved to have a significant impact. On the other hand, as for

academic vocabulary, A2 and B1+ level students did not differ significantly from each other. This finding could be interpreted that since both of these groups were taking academic writing courses, they might have felt under pressure to use the words that they learnt during these courses.

Consequently, regarding the general and academic lexical competence and performance analyses, it could be asserted that preparatory school students' recognition and production of academic and general vocabulary both at sentence level and essays demonstrated changes with regard to their language proficiency levels.

As the investigations yielded consistent results in terms of the receptive and productive tests, to probe whether there is an interrelationship among all dimensions for general and academic vocabulary, a correlation analysis was carried out.

### *3.3. Interrelationship between Lexical Competence and Performance*

In order to evaluate the relationship among the dimensions of lexical competence and performance, the research question of "Do the dimensions of the participants' lexical competence and performance correlate with each other?" was addressed in the present study. To scrutinize this question, Pearson Correlation analysis was run on the findings of all instruments across both participant groups.

Based on Table 6, mean scores of VLT and other instruments except ESSAY K1\_K2 were correlated at .01 (2-tailed) significance level. Whereas VLT was correlated with WAT and ESSAY\_AW positively, the relationship between VLT and OFF\_LIST was found to be negative. Similarly, the mean scores of ESSAY K1\_K2 proved to be negatively correlated with ESSAY\_AW and OFF\_LIST. Within this perspective, the significant positive correlations implied that participants' scores from one test might predict their scores in the other one. Conversely, the negative relationship between the instruments could be interpreted as the fact that high scores in one test might lead to low scores in the other.

Specifically, there is a moderate positive relationship between VLT and WAT [ $r=0.697$ ,  $p<.01$ ] and weak positive correlation between VLT and ESSAY\_AW [ $r=0.319$ ,  $p<.01$ ], which suggests that the more vocabulary the learners know the more they use. On the other hand, weak negative relationship between VLT and OFF\_LIST [ $r=-0.289$ ,  $p<.01$ ] demonstrated that as the number of participants' vocabulary increased, their use of low frequency words decreased. Likewise, negative moderate correlation between ESSAY\_K1\_K1 and ESSAY\_AW [ $r=-0.335$ ,  $p<.01$ ] suggested that the more productively participants used the high frequency words, the less competent they were in producing the academic vocabulary. In a similar vein, the results yielded a significant strong negative relationship between ESSAY\_K1\_K2 and OFF\_LIST [ $r=-0.863$ ,  $p<.01$ ], which implies that as participants' use of highly frequent words increases, their use of low frequency vocabulary decreased.

## **4. Discussion**

In this section, the results of the present study will be discussed with reference to the previous related literature. This discussion will be held by tracing the same route with the design of the study. Therefore, firstly the findings of lexical competence will be negotiated in relation to previous studies. It will continue with the discussion of participants' lexical production in terms of vocabulary use. Finally, the relationship between receptive and productive (academic and general) vocabulary knowledge will be evaluated by highlighting the factors behind the current findings.

To examine participants' lexical competence, two aspects, namely size and depth of vocabulary knowledge were evaluated. The examination yielded expected results in that as the participants got more and more qualified in the language, the number of general and academic vocabulary they knew increased. This growth in vocabulary size complies with the results of Fan's (2000) study in that increasing language proficiency leads to a rise in the number of words known.

As the participants in the current study did not have any vocabulary course during the semester, it seems obvious that subjects acquire the vocabulary through exposure to language-focused courses such as reading and/or speaking sessions. According to Yuksel and Durmusoglu (2013), these results imply the importance of comprehensible input provided within the language lessons via the learning materials. Therefore, they believe that language learners may increase their size of receptive vocabulary without explicit vocabulary teaching.

As for the subjects' score from each frequency level in the VLT, students' competencies were different with regard to word frequency levels. More specifically, it was pointed out that participants were much more successful at the levels of 2000<sup>th</sup>, 3000<sup>th</sup> and AWL; however, not at 5000<sup>th</sup> and 10000<sup>th</sup> levels. These findings are in accordance with the results of Yuksel and Durmusoglu's (2013) study. They found that language learners are competent at recognizing the high frequent words more than low frequent ones. Furthermore, the aforementioned results also conform to the findings of Vermeer (2001) as she clarifies that less proficiency learners tend to be familiar with more frequent vocabulary; yet, with better insight into the target language, their lexicon gain access to less frequent words.

Concerning the other aspect of lexical competence, subjects' depth of vocabulary was investigated, as well.

The results demonstrated an increase alongside with the participants' language proficiencies. The reason for this increase may result from the requirements of the preparatory division courses. Students are expected to acquire proper collocations and during their discussion in either writing or reading tasks, they are supposed to use those target words productively in an appropriate context.

Zareva (2010) suggests that as the number of vocabulary that learners are familiar with increases, they become much more likely to present a well-established and interrelated lexicon. He also proposes that with the increasing levels of lexical competence, learners are able to build a crucial network within their lexicon. These associational links strengthen the awareness process, which leads learners to be able to recognize and use more words in an efficient way.

Regarding the relationship between vocabulary size and depth, in the current study participants' vocabulary size and depth increased approximately at the same level. Through the correlation analysis, it became evident that, although not strong, there was a positive correlation between these two aspects, which confirms that without any special vocabulary course learners may become competent at gaining general and academic vocabulary just by being exposed to contextualized reading and listening texts within their courses like Main Course, Core Skills and Academic Reading/Writing. Moreover, these findings comply with the results of Mehrpour et. al.'s (2011), Rashidi and Khosravi's (2010) and Zhou' (2010) studies. They all carried out correlation analyses in different contexts between size and depth aspects and their findings were in accordance with each other and the present study in that with the increase in the number of words learners are familiar with, their vocabulary knowledge, either general or academic, gets deeply rooted.

Overall, the examination on Turkish preparatory school student revealed that lexical competence is composed of different dimensions like size and depth, which approves, according to Zareva (2005), the competency of word knowledge. Additionally, thorough investigation explained that subjects' receptive vocabulary knowledge differed with regard to the word frequencies, proved by the studies on impacts of language proficiency and vocabulary frequency (i.e. Vermeer, 2001).

On the other hand, to scrutinize whether participants' lexical competence predicts their performance, the findings on subjects' productive word knowledge is discussed.

According to Yuksel and Durmusoglu (2013), one of the reasons to investigate lexical performance in addition to lexical competence is that it proves to be difficult for language learners to make transfers between vocabulary knowledge and productive knowledge. Therefore, in the current study, lexical use of participants was attempted to be evaluated in a Turkish preparatory school context.

Participants' lexical use was investigated through Lexical Frequency Profiles that show high frequent words, academic words and off-list words. The findings demonstrated a high proportion of high frequent vocabulary use and academic vocabulary use for both participant groups; however, as for the off-list words, whereas low proficiency group achieved a success, high proficiency group did not prove to have such high scores. To analyze whether these results are high or low, it would be useful to compare them with the findings of other studies, especially in Turkish context. For example, Yuksel and Durmusoglu (2013) proposed that their participants mostly rely on high frequent words while clarifying their arguments. On the other hand, since they compared the subjects in terms of years of study, it became evident that the participants taking active courses on academic reading and writing resulted in higher levels of high frequent words whereas the other' scores on high frequent vocabulary use were relatively low. As can be understood, these results comply with the present study's findings in terms of subjects' taking active courses on academic reading and writing. Similarly, Crossley et. al (2010) supported these findings with the following; students' exposure to frequent words leads them to use those words effectively and productively in a task.

On the other hand, a problem faced during collecting the written data was that participants were not eager to write. According to the informal dialogues between the subjects and the researcher, the reason behind this reluctance might be their limited language proficiency, lack of necessary vocabulary and motivation and/or anxiety. Yuksel and Durmusoglu (2013) acknowledged encountering the same problem and they believe no matter how you handle the language course, their opportunities to produce what they receive seem to be limited because they are not in a language speaking context. Out of classrooms, they are not exposed to the target language, which poses this problem. Additional, Read (2000) confirms that language learners frequently refer to avoidance strategies for not using low frequency words, as proved in the current study.

Concerning the off-list words, there was a salient difference between the findings of other productive vocabulary scores and off-list vocabulary scores. Whereas in the other tests, B1+ level students outperformed A2 level students, for off-list words, the results were exact opposite. The reason underlying this finding may be that as lower level subjects have a limited vocabulary, they tend to utilize the prompts given in the writing tasks. On the other hand, higher level participants must have felt much freer in word selection. This result was discussed in Yuksel and Durmusoglu (2013), as well. They propose that it was an expected finding in that the writing cue provided for collecting data triggered some vocabulary specific to a discipline. However, as it was a topic they had worked on before, it helped subjects to feel safe. Additionally, with the selection of such a topic, being lack



of knowledge about the background concern was eliminated.

All in all, regarding the lexical performance of participants, the present study yielded expected results when the receptive vocabulary they own and productive one were compared. Also, as presented in previous studies, the subjects relied mostly on high frequency words and academic words (Crossley et. al, 2010; Laufer & Goldstein, 2004). Reliance on high frequency words may result from the fact that they often encounter these during their courses as they had a language focused schedule. Similarly, their dependence on academic words stems from the fact that they had an academic reading and writing course (Crossley et. al, 2010; Laufer & Goldstein, 2004).

As can be understood from all this discussion, there is a mutual interaction between lexical competence and performance. To investigate this interaction, correlation analysis was run. Within the scope of several other studies as well as the present one (Zareva, 2005; Vermeer, 2001), the correlation studies demonstrate that there are various dimensions interrelated to measure vocabulary knowledge. For assessing each dimension, an instrument was administered in the current study and the findings were in accordance with Zhou's (2010) and Yuksel and Durmusoglu's (2013) studies in that large amounts of vocabulary size predicts proper levels of vocabulary production.

Together with the correlation between overall aspects, sub-dimensions were correlated to investigate each interrelation among them. According to the findings, the relationship between VLT and WAT, which evaluates the sub-dimension of receptive word knowledge, was statistically significant. It can be interpreted that a larger vocabulary size leads to more associational links between words. This result complies with the findings of Vermeer (2001). She validated the relationship between size and depth of vocabulary knowledge through her investigation and demonstrated that as the number of known words increases, the quality of that word knowledge improves, as well. Likewise, Yuksel and Durmusoglu's (2013) study established a similar viewpoint by their analysis of correlation between size and depth of vocabulary knowledge. According to these researchers, these two dimensions "could be overarched with the construct of lexical competence" (p. g 172).

Altogether, the current study attempted to evaluate the general and academic lexical competence and performance of Turkish preparatory school students in a state university and it was evident that vocabulary knowledge is a steady and complex process that requires detailed investigation. Therefore, the present study has taken the initiative to employ multiple measurements and present a general image.

## 5. Conclusion

The present research examined the general and academic lexical competence and performance of Turkish EFL learners. A multiple test approach was adopted in order to investigate both receptive and productive vocabulary knowledge of language learners. With this purpose, VLT by Schmitt et. al. (2001), WAT by Read (2000) were administered to the target participant groups with two different proficiency level; namely A2 and B1+. Moreover, so as to scrutinize the productive aspect of word knowledge, subjects were assigned a writing topic and these students writings were analyzed via Vocabprofile available on [www.lextutor.ca/](http://www.lextutor.ca/).

The results revealed that receptive and productive vocabulary knowledge differs with reference to language proficiency levels. As the learners get more and more qualified in the target language, not only the number of vocabulary they know increases but also the quality of their word knowledge improves. However, the results proved that while participants' general and academic lexical competence significantly progress on a level with their language proficiencies, their development of productive word knowledge is found to be much slower.

Assuredly, the study is not without limitations. Putting the small sample size aside, the findings were constrained with only Turkish preparatory students in a state school. Therefore, it may be difficult to generalize the results to various contexts. For further studies, a similar research design might be applied to various language learning contexts and learners with different proficiency levels.

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## Notes

Note 1. This paper was presented at the 2<sup>nd</sup> International Symposium on Language Education and Teaching in Rome, Italy on 20-23 April, 2017.

Table 1. Descriptive statistics of VLT scores in terms of proficiency levels

| VLT   | N  | Mean*  | SD      | Min. | Max. |
|-------|----|--------|---------|------|------|
| A2    | 41 | 27, 27 | 11, 773 | 6    | 71   |
| B1+   | 45 | 73, 16 | 15, 095 | 45   | 108  |
| TOTAL | 86 | 51, 28 | 26, 733 | 6    | 108  |

\* The values are taken out of 150, which is the maximum score that can be obtained from the test.

Table 2. Descriptive statistics of the five frequency bands for both groups

|       | A2 Level Ss<br>(n = 41) |        | B1+ Level Ss<br>(n = 45) |        |
|-------|-------------------------|--------|--------------------------|--------|
|       | Mean                    | SD     | Mean                     | SD     |
| 2000  | 9, 95                   | 3, 478 | 23, 98                   | 3, 401 |
| 3000  | 6, 83                   | 2, 897 | 15, 56                   | 4, 256 |
| AW    | 6, 83                   | 3, 872 | 20, 69                   | 5, 103 |
| 5000  | 3, 07                   | 2, 544 | 10, 24                   | 3, 365 |
| 10000 | 0, 59                   | 1, 245 | 2, 69                    | 1, 807 |

Table 3. Means and SDs of WAT

| WAT   | N  | Mean*  | SD      | Min. | Max. |
|-------|----|--------|---------|------|------|
| A2    | 41 | 48, 46 | 20, 190 | 17   | 97   |
| B1+   | 45 | 72, 78 | 18, 655 | 37   | 116  |
| TOTAL | 86 | 61, 19 | 22, 830 | 17   | 116  |

\* The mean values were taken out of 160 that is the maximum score of WAT

Table 4. Descriptive Statistics on the Participants' Lexical Competence

| Lexical Com. | N  | Mean*   | SD      |
|--------------|----|---------|---------|
| A2           | 41 | 75, 73  | 26, 009 |
| B1+          | 45 | 145, 93 | 31, 841 |
| TOTAL        | 86 | 112, 47 | 45, 684 |

\* Mean values were calculated out of 310 which is the maximum value of the addition of VLT (150) and WAT (160)

Table 5. Descriptive Statistics for Lexical Use of Both Groups

|          | A2 Level Ss<br>(n = 41) |        | B1+ Level Ss<br>(n = 45) |        |
|----------|-------------------------|--------|--------------------------|--------|
|          | Mean                    | SD     | Mean                     | SD     |
| K1_K2    | 93, 587                 | 3, 145 | 94, 254                  | 1, 959 |
| ESSAY_AW | 2, 034                  | 1, 255 | 2, 923                   | 1, 276 |
| OFF_LIST | 4, 377                  | 2, 860 | 2, 822                   | 1, 840 |

Table 6. Correlation between the Measures of All Sub-dimensions of General and Academic Lexical Competence and Performance

|              |                     | VLT | WAT    | K1_K2 | ESSAY_A<br>W | OFF_LIS<br>T |
|--------------|---------------------|-----|--------|-------|--------------|--------------|
| VLT          | Pearson Correlation | --- | ,697** | ,114  | ,319**       | -,289**      |
|              | Sig. (2-tailed)     |     | ,000   | ,297  | ,003         | ,007         |
|              | N                   |     | 86     | 86    | 86           | 86           |
| WAT          | Pearson Correlation | --- | ---    | -,059 | ,208         | -,050        |
|              | Sig. (2-tailed)     |     |        | ,589  | ,055         | ,649         |
|              | N                   |     |        | 86    | 86           | 86           |
| K1_K2        | Pearson Correlation | --- | ---    | ---   | -,335**      | -,863**      |
|              | Sig. (2-tailed)     |     |        |       | ,002         | ,000         |
|              | N                   |     |        |       | 86           | 86           |
| ESSAY_A<br>W | Pearson Correlation | --- | ---    | ---   | ---          | -,187        |
|              | Sig. (2-tailed)     |     |        |       |              | ,085         |
|              | N                   |     |        |       |              | 86           |
| OFF_LIST     | Pearson Correlation | --- | ---    | ---   | ---          | ---          |
|              | Sig. (2-tailed)     |     |        |       |              |              |
|              | N                   |     |        |       |              |              |

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