

Measuring Receptive Vocabulary Knowledge of Young Learners of English

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Received: 11 June 2018 / Accepted: 22 October 2018

ISSN: 1697-7467

ABSTRACT: Vocabulary knowledge that constitutes the milestones of written and oral language is one of the essentials of foreign language learning. Despite its vital importance, vocabulary learning and teaching does not get the necessary attention in L2 learning. As possession of lexical knowledge is a *sine qua non* for communicative competence, it is essential to study learners' vocabulary levels in Turkey, where English is taught as a foreign language (EFL). Within this context, this study aims to examine the effect of grade level and gender variation in EFL receptive vocabulary size of a group of young learners. The New Vocabulary Levels Test (McLean & Kramer, 2015) was used to determine the receptive vocabulary sizes of young learners across four years of middle school. It was found that all the participating learners know the most frequent 2,000 words in English, which is a critical learning objective for low-level EFL learners. In addition, a developmental pattern, which shows incremental increase in vocabulary size as the grade levels increase, was observed. The findings obtained from this study add to our knowledge of the incremental patterns of vocabulary development, and of gender differences in vocabulary knowledge.

Keywords: Receptive vocabulary, English as a foreign language, gender differences, grade levels, young learners

La medición de los conocimientos léxicos de estudiantes jóvenes de inglés

RESUMEN: El conocimiento léxico constituye un hito en el lenguaje oral y escrito y es uno de los elementos esenciales en el aprendizaje de la lengua extranjera. A pesar de esta importancia, el proceso de la enseñanza y aprendizaje del vocabulario no recibe la debida atención en la didáctica de la L2. Dado que el conocimiento léxico es un componente esencial para la competencia comunicativa, es fundamental estudiar los niveles de adquisición de vocabulario en Turquía, donde se enseña el inglés como lengua extranjera (EFL). Dentro de este contexto, este estudio pretende examinar el efecto del nivel de curso y el factor de género en el tamaño receptivo entre un grupo de estudiantes jóvenes. EL *New Vocabulary Levels Test* (McLean & Kramer, 2015) se empleó para determinar el tamaño receptivo de vocabulario entre estudiantes jóvenes a lo largo de cuatro años de la enseñanza secundaria. Se descubrió que todos los participantes conocen las 2000 palabras más frecuentemente empleados en inglés, lo cual es una meta importante para el alumnado con un nivel más bajo de inglés. Por otra parte, se observó un patrón de desarrollo que mostraba un aumento incremental del tamaño de vocabulario conforme el alumnado avanzaba de curso. Los resultados obtenidos en este estudio se suman a nuestros conocimientos de los patrones incrementales del desarrollo léxico y de las diferencias en el conocimiento de vocabulario dependiendo del factor de género.

Palabras clave: Vocabulario receptivo, inglés como lengua extranjera, diferencias de género, niveles de curso, estudiantes jóvenes.

1. INTRODUCTION

Vocabulary knowledge refers to single items and phrases that a person knows to convey a particular meaning. According to Schmitt (2010), vocabulary knowledge ranges from perceiving a combination of letters as a word and being able to attach one or more meanings to this perceived form to understanding various meanings of a word changing based on the context. People need lexical knowledge to express themselves in every language along with grammatical competence. In foreign language learning contexts, word knowledge gains importance as there is a relationship between L2 proficiency and vocabulary knowledge and as lexical knowledge is necessary even for the basic-level communication. For instance, it was estimated that 98% text coverage (1 unknown word in 50) would be needed for majority of learners to acquire sufficient comprehension (Hu & Nation, 2000). If 98% is the ideal coverage; 8,000–9,000 word-family vocabulary is necessary for dealing with written text, and 6,000–7,000 families for coping with spoken text (Nation, 2006). Measuring the vocabulary sizes of learners in L2 educational settings is also important because vocabulary knowledge determines success in the use of language skills to a certain extent and “learners with big vocabularies are more proficient in a wide range of language skills than learners with smaller vocabularies” (Meara, 1996, p. 37). The more learners encounter target words and the more proficient they become, the greater the size of their vocabulary will be. In Turkey where English is learnt as a foreign language, substantial amounts of money and resources are invested in foreign language education, hence it is important to determine how far these investments have been successful. In primary or secondary school contexts, measuring the receptive and productive vocabulary sizes helps instructors to diagnose the gaps, observe progress, and take necessary measures. Therefore, this study attempts to address the effect of grade level and gender variation in EFL receptive vocabulary size of a group of young learners (YL) of English as a foreign language as well as their receptive vocabulary knowledge development.

2. LITERATURE REVIEW

According to Nation (2001), word knowledge includes three dimensions of lexical knowledge: form, meaning and use. Form refers to pronunciation and spelling of the words. Meaning denotes structure or meaning of words, ideas and preferences, a combination of words, and use involves knowledge of syntax, collocation, and constraints in use. In simpler terms, vocabulary knowledge is depicted as the ability to recognize the components of words and as the receptive and productive expertise and fluency (Schmitt, 2014). The construct of vocabulary is generally determined in the form of the entity of two major composing factors: receptive and productive vocabulary (Laufer & Goldstein 2004; Nation, 2011). Receptive vocabulary refers to the set of words a learner can recognize while reading and listening to texts. It can also be regarded as the ability to identify the meaning of a word when the form is given. Productive vocabulary, on the other hand, comprises the set of words a learner can use while speaking and writing. In other words, it is the ability to produce the

appropriate form to express a particular meaning (Laufer et al., 2004). With regard to the ratio of receptive and productive vocabulary, evidence suggests that while more frequent words are known both receptively and productively, less frequent words are mostly known receptively (Laufer & Paribakht, 1998). Šišková (2016) makes a similar claim that during free production learners of English use mostly high frequency words although they have the receptive knowledge of the low frequency words. Nizonkiza's (2016) study also puts forward the case that the receptive knowledge of academic words is larger than the productive knowledge for the freshman students at college. Schmitt (2000) acknowledges that vocabulary knowledge is multifaceted and incremental in terms of not only the number of vocabulary items in the mental lexicon but also the depth of word knowledge (e.g., collocations, connotations, hyponyms, antonyms, etc.). Depth of vocabulary knowledge contains phoneme, grapheme, morpheme, syntax, and semantics whereas breadth of vocabulary knowledge refers to the number of words known by an individual. Although word knowledge is not a purely quantitative issue, determining the vocabulary size of foreign language learners is still crucial, particularly because it highly correlates with reading comprehension as well as with the quality of written and spoken production (Laufer, 1998).

Words are distributed along the continuum of high to low frequency bands. High-frequency words are typically short and used in a variety of contexts as they are not constrained by connotative meanings or collocations. However, low-frequency words seldom recur in the language and they are usually proper nouns and technical words making up approximately 5% of an academic text (Nation, 2011). Frequency lists are prepared as 1,000 word lists, ranking from the first 1,000 most frequent words to the second 2,000 and above. Nation (2011) notes that it is essential for learners who want to pursue academic study to know the 2,000 most frequent words of English. To be able to speak and write in the foreign language, it is vital for learners to acquire the 2,000-3,000 most frequent words at the earliest possible time (Nation & Waring, 1997). In L1 learning, it was estimated that around 1,000 word families are learned per year up to the age of 20 or so which corresponds to an acquisition rate of approximately two to three words per day (Goulden, Nation & Read, 1990). It is therefore suggested that an educated adult native speaker of English has lexical knowledge of about 17,000 base words. For the case of highly educated non-native speakers of English who are taking advanced courses through the medium of English, they are estimated to have a vocabulary size of around 8,000 to 9,000 word-families (Nation, 2006). Past research has shown that while monolinguals' vocabulary acquisition depends on the amount of exposure at home (Hart & Risley, 1995) and exposure provided in their school environment (Vermeer, 2001), bilinguals rely on input for vocabulary development (Patterson, 2002).

To examine differences in the level and rate of vocabulary development among individuals as well as the gender effect, a number of studies were initiated. The study by Cameron (2002) investigated vocabulary size, as one aspect of the lexical development, of students who use English as an Additional Language (EAL) in a UK secondary school using the vocabulary test devised by Nation (1990) for word recognition. The scores showed that 36 per cent of 9th and 10th grade EAL students did not reach this standard at the 3K level while 64 per cent did not reach mastery at the 5K level. Despite receiving 10 years of education in the UK through the medium of English, the sample's vocabulary sizes were insufficient

even in the most frequently occurring words and some serious problems were observed at the 5K and 10K levels. Likewise, Staehr (2008) analysed the vocabulary knowledge of 88 Danish learners of English between 15 and 16 years of age who were about to finish lower secondary school with 570 hours of instruction. By using the Vocabulary Levels Test (VLT) devised by Schmitt, Schmitt and Clapham (2001) as a test of receptive vocabulary size, the researchers found that 77% of the learners did not have a command of the most frequent 2,000 words in English.

Receptive vocabulary skills of EFL learners increase during their education at school settings in an incremental manner. Gallego and Llach (2009) tracked the increase in the overall receptive vocabulary knowledge of 224 young learners of EFL across the 4th, 5th, 6th and 7th grades in Spain by using 2,000 band of the VLT. They found that there is an incremental development in the receptive vocabulary sizes of the participants and their vocabulary size was within the 1,000 frequency level. Uchikoshi (2006) also reached the same conclusion after assessing English receptive vocabulary of 150 (70 girls and 80 boys) Spanish-English bilingual kindergartners at three time points throughout the school year using the Peabody Picture Vocabulary Test. It was observed that students started with 40 points and then their scores went up to about 50 points after four months, and they finally scored in the high 50s at the end of the school term. A steady increase over the period of four years was observed. Upon comparing the ninth graders and second year upper-secondary school learners in Finland, Lahtikallio (2016) found that students from the upper grade levels have a larger receptive vocabulary size than the students from the lower grade levels, yet the learning pace slows down as the learners get more advanced in the language. Overall, these studies highlight receptive vocabulary development of learners in European contexts. Nevertheless, there is a need to look at the developmental pattern of foreign language learners in different contexts in order to be able to make universal comments on the acquisition of English lexical knowledge.

The role of gender is also another source of interest in current research on vocabulary learning. Literature concerning the gender differences in vocabulary learning is abundant although the results are inconclusive. One line of studies showed that males performed better than females in terms of vocabulary learning/knowledge (Edelenbos & Vinjé, 2000; Scarcella & Zimmerman, 1998). In Uchikoshi's (2006) study, for instance, boys were found to outperform the girls in the second and third tests. The researcher reached the conclusion that gender had a significant effect on the estimated average initial level of receptive vocabulary. Boys maintained higher scores than girls in both receptive and expressive English vocabulary. Similarly, Alonso (2013) investigated the receptive vocabulary sizes of 49 girls and 43 boys learning English at a secondary school in Spain in order to reveal the implications of these for the comprehension of written or oral discourse in English. The 2,000 band of Schmitt, Schmitt and Clapham's (2001) VLT was employed. The results showed that the girls' vocabulary sizes were lower than what the previous research had put forward whereas the boys were above this threshold level. The relatively lower receptive vocabulary sizes of students were found to cause difficulties for students to understand written or oral discourse. Other studies illustrated a superior performance of females than males (e.g. Jiménez & Moreno, 2004; Meara & Fitzpatrick, 2000). Still, in other studies no differences emerged between females and males (e.g., Catalan-Jiménez & Gallego, 2008). Llach and Gallego (2012), by

using the receptive version of the VLT aimed at finding the role of gender in the vocabulary knowledge development. One hundred seventy-six young Spanish learners of English participated in their study across the 4th, 5th, and 6th grades of primary education and from the 1st, 2nd, and 3rd years of secondary education. Their results showed a linear progression of vocabulary knowledge development across the grade levels. As the grades get higher, so do their scores on the receptive vocabulary test. No vocabulary size differences were observed between female and male students. Females demonstrated higher vocabulary gains than males for the primary school grades while in Grades 8 and 9, males were observed to possess more vocabulary knowledge compared to females.

In the aforementioned studies, a variety of vocabulary tests has been used to assess the receptive vocabulary size of foreign language learners. Among these, the most widely used test is the Vocabulary Levels Test ('Levels Test') originally developed by Nation (1983) as a diagnostic vocabulary test for use by teachers. Its validation test was conducted by Read (1988) and it was found to be reliable and that low-frequency words implied knowledge of high frequency ones. The test has been widely used since then. In 1993, Schmitt revised the Levels Test (Version A) and added three new versions (Versions B, C and D) without running a validation study on it (Schmitt, Schmitt, & Clapham, 2001). However, researchers have later extensively made use of this test in a number of vocabulary research studies (e.g., Beglar & Hunt, 1999; Laufer & Paribakht, 1998; Qian, 1999, 2008). The Vocabulary Levels Test assumes that if the test taker has 80% of the answers correct, he or she has mastered the word-frequency level. It has five sections representing five levels of word frequencies in English: 2,000; 3,000; 5,000; 10,000 and an academic word list consisting of 60 words and 30 definitions given for those words. It is in the form of a matching test in which test takers must choose the correct definition or synonym for three words from one of six options. An example item is given in Figure 1.

1. original		
2. private		
3. royal	<input type="checkbox"/>	complete
4. slow	<input type="checkbox"/>	first
5. sorry	<input type="checkbox"/>	not public
6. total		

Figure 1. Vocabulary Levels Test 2,000 band

Despite its extensive use, the VLT has certain limitations. Webb and Sasao (2013) list the lack of a 1,000 word level test as the first major limitation of the VLT. They claim that the most frequent 1,000 word families account for 84.3% of the words in oral discourse and 75.6% in newspapers (Nation, 2001). Therefore, it is important to test this band because

these words are encountered and used more frequently and thus they affect comprehension and productions greatly. A second limitation of the VLT is related to the out-dated nature of the test. In the creation of 2,000 word level, West's (1953) General Service List was used and 3,000, 5,000, and 10,000 word-frequency lists were constructed on the basis of the frequency criteria of Thorndike and Lorge (1944) and Kuèera and Francis (1967). The dynamic nature of language and the recent developments in technology that allow corpus construction require an update in the creation of frequency lists. Due to these stated limitations, we opted for an alternative and up-to-date measure of vocabulary levels assessment and used New Vocabulary Levels Test (NVLT) (McLean & Kramer, 2015).

The review of literature of receptive vocabulary size reveals that most research has been carried out with students at tertiary level. In addition, a few studies have dealt with understanding receptive vocabulary size of EFL learners in primary education. It has also been detected that grade and gender effect on receptive vocabulary size has not been extensively explored in Turkish context. Despite the usefulness of productive and receptive vocabulary tests for determining the relationship between them, there is a need to test each knowledge type separately (Schmitt, 2010). This type of testing will lead to a better understanding of the development of receptive vocabulary through exposure to target language with a specific focus on vocabulary instruction. It can also reveal how far the learners have reached the targeted level of vocabulary knowledge and the weaker areas that need further attention.

3. METHODOLOGY

Within this context, this study aims to address the effect of grade level and gender variation in EFL receptive vocabulary size of a group of young learners (YL). Particularly, two research questions were posed:

- 1) What is the receptive vocabulary knowledge development of YL of English as a foreign language?
- 2) What are the effects of gender and grade level on middle school students' EFL receptive vocabulary knowledge?

The New Vocabulary Levels Test (NVLT) (McLean & Kramer, 2015) was used as a diagnostic instrument for our research purpose. The test measures knowledge of English lexis from the first five 1,000-word frequency levels of the British National Corpus (BNC) and the Academic Word List (AWL) (McLean & Kramer, 2015). It is broken into 1,000 frequency bands, from the first 1,000 band to the 5,000. The test consists of five 24-item levels, all of which assess knowledge of the most frequent 5,000 word families and a thirty-item part measuring knowledge of the AWL. The NVLT uses the word family unit in the items because a) it was also used in the creation of the twenty-five 1,000 frequency lists of BNC/Corpus of Contemporary American English, b) even learners with low proficiency levels could manage to make form-meaning mapping between the frequently affixed members of a word family, c) it complies with the corresponding VLT and previous levels tests, and d) it was proven that the word family is a psychologically existing entity (McLean & Kramer, 2015). Written in the multiple-choice format, each item includes four answer choices, from which learners must choose the closest word or phrase to the target word. An example item from the NVLT is given in Figure 2.

20. handle: I can't handle it.

- a. open
 - b. remember
 - c. deal with
 - d. believe
-

Figure 2. Sample item from the 1,000 band

Because our sample consisted of young learners who have not yet started their advanced academic studies, the thirty-item AWL section was omitted and students were asked to take the 5,000 levels test made up of 120 items.

3.1. Participants and Setting

In Turkey, English instruction is implemented from the 2nd grade onward in public schools. However, English language studies start as early as pre-school and first year of elementary education in private schools. This study was carried out in a private school. Learners involved in this study have had English language learning experience since the first grade. All the grade levels have English classes 12 hours a week shared by two teachers. The native English speaking teacher is mostly responsible for the four language skills as well as vocabulary instruction. On the other hand, the non-native English speaking teacher is focused on helping learners develop their knowledge about grammar.

The sample comprises 5th, 6th, 7th, and 8th graders between the ages of 11 and 14 who have been taking the same type of instruction and shared the same L1. Sticking to the definition by Nikolov and Djigunovič (2006), who state that learners can be considered young up to the age of fourteen, we accepted our participants as young learners. The distribution of participants across genders is shown in Table 1.

Table 1. Distribution of students across genders

Gender	N	Percentage (%)
Female	138	53.4
Male	111	46.6
Total	249	100

A total of 249 learners participated in the study. The number of female and male students was almost equal. The distribution of students across grade levels is displayed in Table 2.

Table 2. Distribution of students across grade levels

Grade-Levels	N	Percentage (%)
5	43	17,3
6	77	30,9
7	75	30,1
8	54	21,7
Total	249	100

Data were collected from the participants during their class time. As the test sampled 24 words from each of the most frequent 1,000-word frequency bands up to the 5th band, the students answered a total of 120 items. The time allotted to complete the test was 40 minutes. At the beginning of the test, the researchers gave clear instructions orally in the students' mother tongue to make sure they understood what they were expected to do. To eliminate the possibility of guessing, the students were asked to skip the question for which they are not sure of the answer (McLean & Kramer, 2015). Each test was scored independently by the researchers. Students' scores out of 24 for each band level were written separately. In order to calculate their estimated vocabulary sizes, we multiplied the number of correct answers by the band level and divided it by the number of items concerned. For example, if students had a total score of say 28 out of three parts, 28 was multiplied with 3000 and then divided by 72. Instead of depending on the scores at each level for each student, an overall figure for vocabulary size was also computed by the researchers in order to be able to compare with figures given for native speakers' word knowledge.

Descriptive and inferential statistical analyses were carried out using SPSS program version 21.0. Before conducting the main data analyses, the data were screened for distribution of normality and outliers. After six obvious outliers were omitted, normality was assured through kurtosis and skewness tests, which enabled us to conduct parametric tests for analyses.

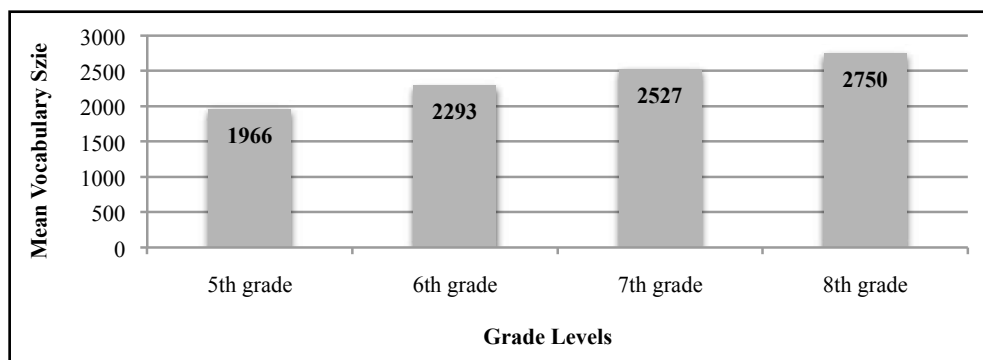
4. RESULTS

In order to answer the first research question on the receptive vocabulary knowledge development of YL of English as a foreign language, descriptive statistical analyses were conducted to obtain the mean values across the groups (see Table 3).

Table 3. Mean distribution of receptive word knowledge across the grades

Grade-Levels	Min.	Max.	Mean	SD
5	1250	3333	1966	510.78
6	1208	4500	2293	649.08
7	583	4375	2527	904.27
8	1167	4458	2750	926.99
Total	583	4500	2406	817.77

Based on the descriptive statistics, a developmental pattern from the fifth to the eighth grades can be observed (see Figure 3).

*Figure 3. Evolution of receptive word knowledge across grade-levels*

The figure reveals that there is a linear progression in learners' receptive vocabulary knowledge development. As learners move from the 5th grade up to the 8th, their receptive vocabulary knowledge shows evidence of development.

The second research question focused on the effects of gender and grade level on the middle school students' EFL receptive vocabulary knowledge. To this end, a two-way between groups ANOVA with grade-level (Grades 5, 6, 7 and 8) and gender (female versus male) as between group factors was conducted on the receptive vocabulary scores for the separate parts in the test. The results for the main effects of gender and grade are summarized in Table 4.

Table 4. ANOVA summary table for effects of grade-level and gender on receptive vocabulary scores

Dependent Variable	Gender Main Effect (df= 1)	Grade Main Effect (df=3)
1,000	1.53	8.1**
2,000	7.4**	11.4**
3,000	6.84**	6.96**
4,000	.69	6.48**
5,000	5.81*	4.91**

No interaction emerged between grade level and gender ($p>.05$). However, the main effects of gender and grade were significant for the various parts of the test. Further analyses were conducted to investigate these significant main effects on both the total scores and individual parts of the test.

4.1. The effect of grade on the receptive vocabulary knowledge

The distribution of means across the grade levels and the parts of the NVLT is provided in Table 5.

Table 5. Means for the receptive vocabulary size across the grades

	Grade 5		Grade 6		Grade 7		Grade 8	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1,000	673	157.6	718	186.2	779	194.3	829	155.9
2,000	1012	258.5	1133	313.8	1274	408.1	1386	402.2
3,000	1314	351.7	1485	425.1	1696	572.9	1822	577.3
4,000	1594	406.9	1835	518.7	2073	734.9	2247	754.6
5,000	1966	510.7	2293	649.1	2527	904.2	2750	926.9

A one-way ANOVA was conducted on the total number of receptive words known by the learners to probe the main effect of grade. The results showed that there is a significant difference across the groups, $F(3,248) = 9.216$, $p = .000$. Post hoc tests using Tukey's HSD (honestly significant difference) were used to probe the comparisons across the grades. Regarding 1,000 band, the differences between Grade 5 and Grade 7, Grade 5 and Grade 8, and Grade 6 and Grade 8 are significant. In 2,000 band, the differences between Grade 5 and Grade 7, Grade 5 and Grade 8, Grade 6 and Grade 8 are significant. In terms of the 3,000, between Grade 5 and Grade 7, Grade 5 and Grade 8, Grade 6 and Grade 7 and Grade 6

and Grade 8 differences are significant. For 4,000 and 5000 bands, the differences between Grade 5 and Grade 7, Grade 5 and Grade 8 and Grade 6 and Grade 8 are significant. (All the differences are significant at $p < .05$ level).

4.2. The effect of gender on the receptive vocabulary knowledge

The results of descriptive statistical analyses regarding the receptive vocabulary knowledge of female and male learners for the total number of receptive vocabulary are provided in Table 6.

Table 6. Gender differences in the receptive word knowledge development

Gender	N	Min.	Max.	Mean	SD
Female	138	917	4500	2321	840.48
Male	111	583	4375	2512	779.51
Total	249	583	4500	2406	817.77

Independent samples t-tests were conducted to see if females and males differ from each other on a general scale. Although there appears a slight difference between female and male learners (see Figure 4), t-test results revealed no significant differences in terms of the total number of receptive vocabulary knowledge ($p > .05$).

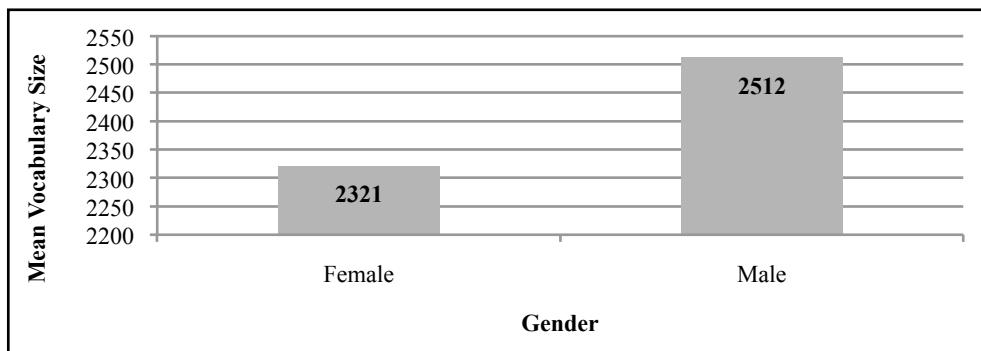


Figure 4. Mean distribution of receptive word knowledge between genders

One-way ANOVA was performed to ascertain the main effect of gender on the parts. Partwise no differences emerged between male and female students in Part 1 and Part 4. However, ANOVA results for vocabulary scores yielded a significant main effect for gender in parts 2, 3 and 5 ($p < .05$) as it can be observed in the mean differences in Table 7.

Table 7. Part-wise distribution of means across genders

PARTS	Gender	Mean	SD
1,000	Female	743	191.1
	Male	764	177.5
2,000	Female	1172	385.1
	Male	1256	363.7
3,000	Female	1533	542.8
	Male	1665	498.1
4,000	Female	1891	688.3
	Male	2034	630.8
5,000	Female	2321	840.4
	Male	2512	779.5

In order to further analyze gender differences across grades in terms of vocabulary development, total vocabulary sizes of male and female students were compared according to grade levels.

Table 8. Descriptive statics for gender differences across grades

Grade	Gender	N	Mean	SD	Min.	Max.
5	Female	22	1869	521.2	1250	3333
	Male	21	2067	491.4	1292	3125
6	Female	41	2198	606.5	1250	4500
	Male	36	2401	686.7	1208	3958
7	Female	42	2461	948.3	917	4292
	Male	33	2611	851.8	583	4375
8	Female	33	2598	984.3	1167	4458
	Male	21	2990	792.7	1625	4375

ANOVA results revealed significant differences across grades for both females and males ($p=.006$ and $p=.001$ respectively). Post-hoc analysis using Tukey's range test showed that for female students, there are significant differences between grades 5 and 7, and grades 5 and 8. Male students differed in grades 5 and 7, 5 and 8, and 6 and 8.

5. DISCUSSION AND CONCLUSION

In this study, we attempted to assess young learners' receptive vocabulary development by taking into account their grade levels, which is an indication of their exposure to L2 as well as to understand if gender has an effect on their vocabulary development. To this end, we used the NVLT developed by McLean and Kramer (2015) and conducted data analysis on participants' scores, which enabled us to gain insights into estimating learners' vocabulary size and to predict the amount of vocabulary learned across a course of instruction in a Turkish educational setting. With the help of grade levels, we were also able to compare the number of words learned across different levels of a middle school.

The first research question of the study involved understanding the receptive vocabulary knowledge development of middle school students of English as a foreign language. Our results suggest that this group of young learners has reached the cut-off point for high frequency vocabulary by almost reaching the most frequent 2000 words (Grade 5, $M= 1966$) (Schmitt & Schmitt, 2014; Stæhr, 2008). Alderson and Huhta (2005) report that there is a critical lexical threshold of 1,650 words below which young learners are posed with extreme difficulties in comprehending and in comprehensible interaction. The most commonly used list of high frequency words, the 2,000 word families represent about 80% of the running words in academic texts. When our results are considered, we can say that even the lowest grade level (Grade 5) integrated in our study has obtained the critical number of receptive vocabulary knowledge to be able to meet the minimum requirements of functioning in a foreign language. That being said, our learners, on the other hand, have not reached the critical size of 3,000 word families for 'minimal comprehension' (Grade 8, $M= 2750$) as suggested by Laufer (1992). A large receptive vocabulary size is a prerequisite for developing productive knowledge (Milton, 2009). Our students, especially 8th graders have seemingly reached above 2,000 level fulfilling the criteria of possessing 2,000 words for academic study put forward by Nation (2011). Still, they need more exposure to the language in order to reach 95 % text coverage for which knowledge of at least 3,000 high-frequency words is needed (Nation & Waring, 1997). These relatively low scores are striking because the students have been studying English since the 1st grade at primary school in a school environment, which offers continuous exposure to the target language. In this sense, the findings coincide with the results of past research demonstrating that the vocabulary sizes of L2 learners are rather low in comparison to native speakers who are estimated to learn approximately 1,000 words per year (Nation, 2006).

As an answer to the second research question that entailed finding out the effects of grade level and gender on young learners' receptive vocabulary knowledge, we examined the differences in the number of words known by the participants at each grade and by each gender. Our findings demonstrated that there is an incremental development of vocabulary growth as students go through grade five to grade eight. Yet, this process happens to be at a slower rate corroborating Nikolov and Djigunovic's (2006) statement that younger learners' foreign language proficiency development is slower compared to older learners. On the other hand, our findings do not corroborate Laufer and Ravenhorst-Kalovski's (2010) assertion that receptive vocabulary size of (L2) learners is around 2,000–4,000 word families by the end of graduation from high school despite being exposed to more than 1,000 hours of instruction. In a different context, Stæhr (2008) suggested that Danish EFL learners are expected

to have mastered the first 2,000 word families in English as a minimum upon leaving lower secondary school. Similarly, in Turkish context students are expected to leave middle school with A2 level proficiency, which suggests around 2,000 words. The participants in this study have accomplished this goal. These results also confirmed that the most frequent words are learned before the less frequent words (Pignot-Shahov, 2012). Regarding the gender effect, even though no significant differences appeared between male and female students, the number of receptive words known by male students was higher than that of their female counterparts suggesting that male students' receptive vocabulary size was slightly larger than female learners. Male students' achievement of higher scores in receptive vocabulary knowledge test is in agreement with the findings of the previous studies (Alonso, 2013; Edelenbos & Vinjé, 2000; Scarcella & Zimmerman, 1998; Uchikoshi, 2006).

Since the practices in foreign language teaching at school level determine the success or failure of primary education programs in non-English speaking countries, these findings may suggest implications for the foreign language educational policies. Our results confirm that being exposed to English is vital for the development of vocabulary sizes. As pupils generally acquire more vocabulary items and far better productive knowledge in the productive learning condition than in the receptive learning condition (Ma & Sin, 2015), the more learners are required to produce output throughout their education, the more vocabularies they will gain on the way. The results of this study can also inform the instructors about the learners' level in terms of reaching the critical threshold levels determined by their curriculum. It can act diagnostically in terms of demonstrating the specific vocabulary sizes across the grades and how much the learners have approached the expected levels.

This study focused only on the breadth of vocabulary development rather than the depth. That being so, further studies might look into the qualitative features of vocabulary instead of the number of words known by the learners. In terms of generalizability, we attempted to estimate and compare the vocabulary size of students at a private middle school. The findings do not reflect all the EFL learners in Turkey. Large-scale studies are needed to reflect the receptive vocabulary profile of learners in this age group. Moreover, investigating the relationship between the receptive vocabulary size and achievement in the use of four language skills both receptively and productively might be a suitable idea for further research to be able to see how the receptive lexicon of learners is reflected in their ability to use the language.

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