

THE IMPACT OF VOCABULARY KNOWLEDGE ON READING,
WRITING AND PROFICIENCY SCORES OF B2.2 LEVEL TURKISH
STUDENTS:

A study with Anadolu University English Prep-School Students

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(Yüksek Lisans Tezi)

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Dilek KARAKOÇ'un "The Impact of Vocabulary Knowledge on Reading, Writing and Proficiency Scores of B2.2 Level Turkish Students: A study with Anadolu University Prep-School Students " başlıklı tezi 25.01.2016 tarihinde, aşağıda belirtilen jüri üyeleri tarafından Anadolu Üniversitesi Lisansüstü Eğitim-Öğretim ve Sınav Yönetmeliğinin ilgili maddeleri uyarınca Yabancı Diller Eğitimi Anabilim Dalı İngilizce Öğretmenliği programı yüksek lisans tezi olarak değerlendirilerek kabul edilmiştir.

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ABSTRACT

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This study is an attempt to clarify the incremental and multidimensional nature of foreign language vocabulary development and its relation to the participants' reading and writing performance and general language ability of English as a foreign language (EFL). With this principle aim, the current study investigated the relationship between the receptive and productive vocabulary knowledge, the relationship between receptive vocabulary knowledge and reading performance and the relationship between productive vocabulary knowledge and writing performance using their scores on vocabulary knowledge tests, a reading exam and a writing exam. Additionally, the lexical level of the compositions written by the participants and its relation to their productive vocabulary knowledge and the impact of both receptive and productive vocabulary knowledge on the participants' general language ability of EFL were also examined. 175 B2.2 level prep-school students studying at Anadolu University School of Foreign Languages, Eskişehir, Turkey participated in the study. The results revealed

that the students' receptive vocabulary knowledge was larger than their productive vocabulary knowledge. It was also found that the contribution of vocabulary knowledge to the foreign language performances of reading, writing and proficiency was significant. Moreover, according to the Lexical Frequency Profile results, the lexical level of the student essays and the students' productive vocabulary knowledge were significantly related. Hence, by looking at the overall results of the present study, it might be suggested that vocabulary awareness should be created for foreign language students in their language learning process.

Keywords: receptive vocabulary knowledge, productive vocabulary knowledge, lexical level, lexical frequency profile, reading, writing, proficiency

ÖZET

B2.2 SEVİYESİ TÜRK ÖĞRENCİLERİNİN SÖZCÜK BİLGİSİNİN OKUMA,
YAZMA VE YETERLİK NOTLARINA ETKİSİ:
Anadolu Üniversitesi İngilizce Hazırlık Öğrencileriyle Çalışma

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Bu çalışma, yabancı dilde sözcük gelişiminin artımlı ve çok boyutlu yapısını ve bunun, katılımcıların okuma ve yazma performansları ile genel yabancı dil yetenekleriyle ilgisini açıklığa kavuşturma amacındadır. Bu esas amaç doğrultusunda katılımcıların sözcük bilgisi testleri ile okuma ve yazma sınavlarında aldıkları notlar kullanılarak; algısal ve üretimsel sözcük bilgisi arasındaki ilişki, algısal sözcük bilgisi ve okuma performansı arasındaki ilişki ve üretimsel sözcük bilgisi ile yazma performansı arasındaki ilişki incelenmiştir. Ayrıca, katılımcılar tarafından yazılan kompozisyonların sözcük seviyesi ve bunun katılımcıların üretimsel sözcük bilgisiyle ilgisi ile hem algısal hem de üretimsel sözcük bilgisinin genel yabancı dil yeteneği üzerinde etkisi de araştırılmıştır. Eskişehir Anadolu Üniversitesi Yabancı Diller Yüksek Okulu'nda öğrenim gören 175 B2.2 seviyesi İngilizce Hazırlık öğrencisi bu çalışmaya katılmıştır. Sonuçlar, öğrencilerin algısal sözcük bilgilerinin, üretimsel sözcük bilgilerinden daha fazla olduğunu ortaya çıkarmıştır. Sözcük bilgisinin; yabancı dil okuma, yazma ve

yeterlik performanslarına katkısının önemli olduđu da bulunmuştur. Ayrıca, sözcük sıklığı profili sonuçlarına göre, öğrenci kompozisyonlarının sözcük seviyesi ile öğrencilerin üretimsel sözcük bilgisi arasındaki ilişki de önemlidir. Bu çalışmanın tüm sonuçlarına bakarak, yabancı dil öğrencileri için dil öğrenme süreçlerinde sözcük dağarcığı farkındalığı yaratmak gerektiği önerilebilir.

Anahtar Sözcükler: algısal sözcük bilgisi, üretimsel sözcük bilgisi, sözcük seviyesi, sözcük sıklığı profili, okuma, yazma, yeterlik

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To my family

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LIST OF ABBREVIATIONS

| | |
|--------|--|
| EFL: | English as a foreign language |
| L2: | Second or foreign language |
| L1: | First language |
| ELT: | English language teaching |
| CL: | Cognitive linguistics |
| LFP: | Lexical frequency profile |
| AUSFL: | Anadolu University School of Foreign Languages |
| VLT: | Vocabulary level test |
| GSL: | General Service List |
| AWL: | Academic Word List |
| ESL: | English as a second language |
| BNC: | British National Corpus |
| CEFR: | Common European Framework of Reference for Languages |
| EMT: | End of Module Test |

CHAPTER 1

INTRODUCTION

Today, the fact that “vocabulary is central to language and of critical importance to the typical language learner” (Zimmerman, 1997, p. 5) is generally accepted in foreign language education. For a large majority of language learners, the ultimate goal of studying is to communicate with others based on reception and production through the main skills of reading, listening, speaking, and writing and the core of this communication is through vocabulary. In other words, as Richards & Rodgers (2001, p. 132) puts it forward, “the building blocks of language learning and communication are not grammar, function, notions, or some other unit of planning and teaching but lexis, that is, word and word combinations”. Also, Laufer (1997, p. 20) indicates that what makes text comprehension possible in one’s native language or in a foreign language is the text’s vocabulary.

Considering this close relationship between vocabulary knowledge and language learning, one cannot deny the importance of vocabulary knowledge in general language ability, which is to have the necessary competences in a language. Vocabulary learning in foreign language is different from vocabulary learning in one’s mother tongue (L1) due to the fact that the acquisition of foreign language vocabulary is a more conscious and demanding process. Hence, vocabulary can be seen as a first concern obliging tests to screen learners' advancement in vocabulary and to evaluate the sufficiency of their vocabulary skill to meet their communication needs (Read, 2000).

Within the past decades, researchers have attributed an important role to vocabulary knowledge in second or foreign language learning through many theoretical studies (Richards, 1976; Laufer & Nation, 1995; Wesche & Paribakht, 1996; Coady & Huckin, 1997; Zimmerman, 1997; Henriksen, 1999; Nation, 2001; Read & Chapelle, 2001; Barcroft, 2004) and empirical studies (Prince, 1996; Paribakht & Wesche, 1999; Bogaards, 2001; Qian, 2002; Meara & Alcoy, 2010; Coxhead, 2012). Despite such great contributions, research on vocabulary development is an unfinished task. It might be really difficult to outline the processes and learning parts in vocabulary development as

a result of the intricacy of these components included; however, it is important to strive for more exactness to build up a unified theoretical construct of lexical competence and a model of vocabulary development (Henriksen, 1999).

Addressing this need for further research and remembering that vocabulary knowledge has different aspects and dimensions (Schmitt, 2000), the present study focused on (1) the relationship between receptive vocabulary knowledge and productive vocabulary knowledge, (2) the relationship between receptive vocabulary knowledge and reading performance, (3) the relationship between productive vocabulary knowledge and writing performance, (4) the lexical level of the student essays and its relation to productive vocabulary knowledge, and (5) the effect of receptive and productive vocabulary knowledge on general language ability of English as a foreign language (EFL).

It is hoped that this study will contribute a different viewpoint to the literature of foreign language learning providing better insights about the incremental and multidimensional nature of vocabulary. Moreover, it might present useful implications on vocabulary learning and teaching in an EFL setting.

1.1. Statement of the Problem

Many researchers and teachers have long been aware of the importance of the vocabulary development in foreign language learning. As a matter of fact, many aspects of vocabulary have been discussed in the previous studies such as learning vocabulary (Schmitt, 2008; Nation, 2011), teaching vocabulary (Nation, 2008; Sonbul & Schmitt, 2010; Shintani, 2011; Boers, 2013), receptive and productive vocabulary sizes of second or foreign language (L2) learners (Laufer & Nation, 1995 & 1999; Laufer & Paribakht, 1998; Laufer, 1998; Schmitt, Schmitt & Clapham, 2001; Harrington, 2006; Webb, 2005, 2008 & 2009; Li & MacGregor, 2010; Yuksel, 2012), the relationship between vocabulary and reading (Freebody & Anderson, 1983; Nagy, 1988; Stahl, 1999; Qian, 2002; Zhang & Annual, 2008; Pringprom, 2012), the relationship between vocabulary and writing (Meara, 2005; Lee & Muncie, 2006; Gallego & Llach, 2009), the relationship between vocabulary and listening (Elley, 1989; Vidal, 2003 & 2011;

van Zeeland & Schmitt, 2012), the relationship between vocabulary and speaking (Segalowitz & Freed, 2004; Koizumi & In'nami, 2013), the relationship between vocabulary and language proficiency (Thelen, 1986; Meara, 1996; Lewis, 1997; Şener, 2010) and testing vocabulary (Read, 1993 & 2000; Bogaards, 2000; Ishii & Schmitt, 2009).

Learning vocabulary in a foreign language is really challenging for learners since it is a conscious and demanding process. In fact, lack of L2 knowledge is the main and the largest source of problem for L2 learners to overcome (Meara, 1980; Alqahtani, 2015). It might be the case for Turkish EFL learners; therefore, it deserves scholarly concern. Although vocabulary development contains complex processes (Henriksen, 1999) and these cognitive processes are difficult to observe, such research as the current study sheds light on this issue presenting implications to help develop new ways of vocabulary learning and teaching.

In order to create necessary conditions for meaningful learning, “which occurs when the learner attempts to relate new information to what he or she already knows” (Thelen, 1986, p. 603), the text, the learner’s schema and the learner’s active role in attempting to learn the material should be properly organized (Thelen, 1986, p. 605) and thus understanding the interrelationships between language components is crucial. On the basis of this need, the current study was designed to investigate the impact of vocabulary knowledge on reading, writing and proficiency scores of English pre-school students in Turkey.

1.2. Significance of the Study

This study is an attempt to clarify the incremental and multidimensional nature of L2 vocabulary development and its relation to the participants’ reading and writing performance and general language ability of EFL. Although there are many studies investigating the relationship between receptive and productive vocabulary knowledge (Laufer & Nation, 1995 & 1999; Laufer & Paribakht, 1998; Laufer, 1998; Schmitt, Schmitt & Clapham, 2001; Mochida & Harrington, 2006; Webb, 2005, 2008 & 2009; Li & MacGregor, 2010, Yuksel, 2012), there might be little or no research analyzing the

relationship between the receptive dimension of vocabulary knowledge and reading performance, the relationship between the productive dimension of vocabulary knowledge and writing performance, the lexical level of the student essays and its relation to the productive vocabulary knowledge and the impact of both dimensions on general language ability of EFL in one study.

It can be generally observed that EFL students in Turkey are more likely to be exposed to the main skills of reading and writing during their English classes rather than listening and speaking; therefore, the relationship between vocabulary knowledge and the main skills of listening and speaking is not one of the main focuses of this study. However, the impact of receptive and productive knowledge on general language ability of EFL was examined in the current study and the participants' general language ability was based on their overall scores on a proficiency exam that included all the main skills of reading, writing, listening and speaking.

1.3. Aims and Research Questions of the Study

The main aim of this study was to examine the receptive and productive dimensions of vocabulary knowledge and the contribution of vocabulary knowledge to the performances of L2 reading, writing, and proficiency. In this respect, the following specific questions guided the current study:

1. What is the relationship between the receptive and productive vocabulary knowledge of the participants?
2. How does the participants' receptive vocabulary knowledge have an impact on their reading performance?
3. How does the participants' productive vocabulary knowledge have an impact on their writing performance?
4. What is the lexical level of the compositions written by the participants and its relation to their productive vocabulary knowledge?
5. How do the receptive and productive vocabulary knowledge have an impact on the participants' general language ability of EFL?

In the light of these five research questions, the present study included 175 B2.2 level prep-school students studying at Anadolu University, Eskişehir, Turkey with the ultimate aim of suggesting reasonable and practicable implications for EFL students and teachers about the impact of L2 vocabulary knowledge on the main skills of reading and writing and general language ability of EFL.

CHAPTER 2

LITERATURE REVIEW

In this chapter, the basic concepts of vocabulary knowledge, vocabulary learning, testing vocabulary, the relationship between vocabulary knowledge and general language ability, the relationship between vocabulary knowledge and reading skill, and the relationship between vocabulary knowledge and writing skill were discussed to present the background for the current study.

2.1. The Nature of Vocabulary Knowledge

The mechanics of vocabulary learning have not been understood fully so far; however, one may be sure about that L2 vocabulary cannot be acquired instantaneously or simultaneously as mastering a word completely requires various component types of word knowledge and even learning of individual word knowledge is incremental in nature being a gradually developing continuum (Schmitt, 2000).

A recent study conducted by Yuksel (2012) aimed to evaluate cross-sectionally the general and academic lexical competence and performance of Turkish English Language Teaching (ELT) majors. On this purpose, the study included 371 participants attending 1st year 1st semester, 1st year 2nd semester, 2nd year, 3rd year and 4th years at Department of English Language Teaching at Anadolu University, Eskişehir, Turkey. The data collection instruments, which were vocabulary level test and word association test to measure lexical competence; lexical frequency profile (LFP) and wordsmith tools to measure lexical performance; academic vocabulary section of vocabulary level test, test of academic vocabulary and LFP and argumentative essays to do further analysis on academic vocabulary, were given to all classes. The general conclusion of the study according to the collected data was that Turkish ELT majors' general and academic vocabulary knowledge differed incrementally across the years and their lexical competence and performance did not follow the same developmental tracks (Yuksel, 2012). As in that study, the development of vocabulary knowledge of foreign language learners is mostly gradual based on the fact that the incremental nature of vocabulary knowledge is one of the most immediate challenges for L2 learners since acquiring

sufficient words to assemble a working vocabulary in a foreign language that is sufficient across contexts requires time and effort (Huang, 2010).

Furthermore, according to cognitive linguistics (CL) approach it can be said that vocabulary knowledge is both motivated and arbitrary. CL approach (Langacker, 1987) suggests that language and its acquisition mirror the general cognitive abilities that work in our interaction with the world as being usage-based and therefore motivated. Boers (2013) exemplifies it stating that if language were not motivated that way, we wouldn't find such a statement odd: "A glass of alcohol containing wine, please." (p. 211). He also adds that the predetermined data in this articulation is redundant in the light of the fact that we sort out categories around prototypical members. Moreover, the characteristics of these members are clear-cut and accordingly they do not require any further clarification. On the other hand, if a language were not based on arbitrariness in some aspects, then every natural language would look and sound identical. Consequently, "non-arbitrary features of language can serve as stimuli for learners' cognitive engagement with at least some L2 words and phrases" (p. 220), and this engagement supports vocabulary retention.

To sum up, vocabulary knowledge is incremental, motivated and arbitrary; however, this is not the whole story. Apart from these characteristics, vocabulary knowledge also contains some certain aspects and dimensions.

2.1.1. Aspects of Vocabulary Knowledge

Vocabulary knowledge may sometimes be seen as consisting of isolated, memorized information about the meanings of particular words (Nagy, 2005); however, it is beyond this assumption. In addition to "learning burden, which is the amount of effort required to learn a word including its knowledge and patterns" (Nation, 2001, p. 7), the aspects of knowing a word (Nation, 1990) are also of the basic components affecting the process of learning a new word. Learners should know which word to use, how and where to use it. This knowledge constructs the aspects of vocabulary knowledge, which are respectively meaning, form, and use (Nation, 2001). Additionally, there is not a direct relationship between these aspects because meaning consists of the relationship

between a word and its referent and this relationship is not inherent. Therefore, this complex situation due to the arbitrariness of a language sometimes causes “fuzzy meaning”, which means that words cannot be assigned a firm meaning and have a certain degree of vagueness and in order to capture the “fixed meaning” of a word, an arrangement of fundamental and sufficient conditions should be made; otherwise, the meaning can get fuzzy (Aitchison, 2003, pp. 41-52). For example, the word ‘circle’ as a noun has four necessary conditions (Longman Dictionary of Contemporary English Online, 2015):

1. shape, a completely round shape, like the letter O;
2. a group of people or things arranged in the shape of a circle;
3. a group of people who know each other and meet regularly, or who have similar interests or jobs and
4. the upper floor of a theatre, that has seats arranged in curved rows

So, when these four conditions are consolidated, they are sufficient to characterize and recognize a ‘circle’ that is meant in that particular context. To deal with the challenges of fuzzy meaning, Schmitt (2000, p.23) suggests “prototype theory”, based on picking the best example considering “sense relations”. Sense relations are based on internal meaning relations between words within vocabulary such as synonymy (sameness), antonymy (oppositeness), hyponymy or meronymy (relating words hierarchically) (Jackson, Amvela & Etienne, 2007). Keeping all these in view and considering the multifaceted interrelation among words, one can be sure about that it is important to pay attention in foreign language vocabulary learning and teaching to the fact that the aspects of form, meaning and use require different learning and therefore different instruction and tasks.

Apart from the meaning, form, and use aspects of vocabulary knowledge suggested by Nation (1990), several other researchers also discussed this issue with different explanations and terms. Cronbach (1942, as cited in Bogaard, 2000, p. 491) distinguished 5 aspects of lexical knowledge: generalization (knowing the definition), application (knowledge about use), breadth of meaning (knowing different senses of a

word), precision of meaning (knowing how to use the word in different situations), and availability (knowing how to use the word productively).

Richard's (1976, p. 83) aspects defining the nature of vocabulary knowledge are another suggestion and as follows:

1. The vocabulary knowledge of native speakers continues to expand in adult life, in contrast to the relative stability of their grammatical competence.
2. Knowing a word means knowing the degree of probability of encountering that word in spoken or written discourse.
3. Knowing a word implies knowing the limitations on use according to variations of function and situation.
4. Knowing a word means knowing the syntactic behavior associated with the word.
5. Knowing a word entails knowledge of the underlying form of a word and the derivations that can be made from it.
6. Knowing a word entails knowledge of the network of associations between that word and other words in the language
7. Knowing a word means knowing the semantic values of a word.
8. Knowing a word means knowing many of the different meanings associated with a word.

Although pronunciation and spelling are the missing aspects in Richard's (1976) view, his definition not only incorporates morphological and syntactic properties but also involves frequency and register (Yuksel, 2012).

In fact, it is not possible to say which aspects are more important than others and in-between the two extremes of knowing a word and not knowing a word, there is an intermediate level. If we consider Richards' (1976) aspects describing what knowing a word entails, not knowing one or more of the features renders a word partially familiar; thus, partial knowledge is both a transitional level and a level that is likewise masterminded on a continuum (Zareva, 2012).

In his study, Brown (2011) examined nine current textbooks as to the aspects of vocabulary knowledge they gave attention to most and found that a single aspect of vocabulary knowledge, form and meaning, received by far the most attention in the textbooks at all three levels, while two other aspects, grammatical functions and spoken form, also received attention. However, the other six aspects (Richard, 1976) received just negligible degrees of consideration. Consequently, the author suggested that if materials, authors and teachers should take a more complete perspective of vocabulary knowledge, foreign language learners could gain a more complete and secure knowledge of items due to the inevitable repetition and recycling included in such an approach.

More recently, Bogaards (2000, pp. 492-493) suggested 6 aspects of knowing lexical units, which are form (familiarity with the written and/or spoken form of the unit), meaning (knowledge of the semantic side of a lexical unit), morphology (knowing the conditions of lexical units on derivations and compounding), syntax (knowing the way lexical units are arranged to form sentences or phrases, or the rules of grammar which control this), collocates (knowing which lexical units are often used together and sound natural together) and discourse (knowledge of style, register and appropriateness of particular senses of lexical units).

2.1.2. Dimensions of Vocabulary Knowledge

The continuum-based nature of vocabulary knowledge is also multidimensional. Like aspects of vocabulary knowledge, dimensions of vocabulary knowledge presented by several researchers and authors have some similarities and differences. For instance, three dimensions of lexical competence were proposed by Henriksen (1999):

(a) receptive to productive use ability, (b) partial to precise knowledge, and (c) depth of knowledge.

Firstly, receptive vocabulary knowledge involves perceiving the form of a word and retrieving its meaning while listening or reading. On the other hand, productive vocabulary use requires expressing a meaning through speaking or writing and

producing the proper spoken or written word form (Nation, 2001). However, a clear-cut separation is not possible due to the fact that each can include the other's features. For instance, although listening and reading are the use of receptive vocabulary knowledge; we can produce meaning in these processes. Considering that most vocabulary is learned receptively (Webb, 2005), receptive vocabulary knowledge tends to be larger than productive vocabulary knowledge (Webb, 2008) and also can give some indication of productive vocabulary size (Waring, 2002).

Secondly, vocabulary knowledge is a partial-precise continuum because levels of word knowledge are functioned at different levels of comprehension (Henriksen, 1996). In other words, knowledge progresses from initial recognition of the target vocabulary item, going through rough characterization and mastering different shades of meaning better (Waring, 2002). For instance, Schmitt (1998) found evidence for the partial/precise degrees of knowledge "ranging on a continuum rather than being known versus unknown" (p. 118). He concluded in his study that even spelling could behave in this manner coming before the mastery of derivational forms or meaning senses.

Another important distinction between two dimensions is depth of knowledge and size, or breadth of knowledge (Henriksen 1999; Read, 2000). Breadth of vocabulary knowledge refers to the quantity or the number of words learners know at a particular level of language proficiency (Nation, 2001) while depth of vocabulary knowledge refers to the quality of lexical knowledge, or how well the learner knows a word (Read, 2000). Although the later dimension is more related to the complexity and multidimensionality of word knowledge and to the suggestion that word knowledge should include more than the knowledge of individual meanings in particular contexts (Nassaji, 2006); in the present study, breadth of vocabulary knowledge was the focus. The rationale behind this preference was the idea that even though learning an extensive number of words does not ensure high language proficiency, foreign language learners will not be able to effectively take part in either receptive or productive language use without a minimum required threshold vocabulary size (Li & MacGregor, 2010).

The study by Li & Kirby (2014) also explored the relationship between breadth of vocabulary and depth of vocabulary, and their effects on different aspects of English reading in Chinese high school students learning English as a second language. The results showed that breadth and depth of vocabulary were moderately correlated and both contributed to word reading, but breadth of vocabulary had a stronger effect than depth of vocabulary. Moreover, vocabulary breadth significantly predicted a multiple-choice reading comprehension measure, which required general understanding of the text, while vocabulary depth contributed to summary writing, a measure of deeper text processing. Hence, it can be concluded that vocabulary breadth tends to help receptive skills whereas vocabulary depth tends to help productive skills.

Another three-dimensional model containing size, depth, and fluency, was proposed by Daller, Milton & Treffers-Daller (2007). In this model, fluency refers to the productive vocabulary knowledge and it is to discriminate the ease, speed of access and use of words that a learner knows from recognition and/or knowing about how to use the words while size and depth refer to the aspects of receptive vocabulary knowledge.

These three dimensional models of lexical competence show the degrees of knowledge and familiarity but we should not conclude that knowing a word is an all or nothing proposition. In fact, some other researchers proposed four dimensional models with the aim of emphasizing the continuum-based nature of vocabulary development. For instance, Nation (1990, p. 31) proposed four dimensions of lexical knowledge: form (oral or written), position (grammar and collocations), function (frequency and appropriateness) and meaning (conceptual and associative). Similarly, some researchers suggested “intermediary phases” that demonstrate this overlapping and interactive relation between dimensions: (1) imitation, a kind of “perceptual motor skill not depending on comprehension” (Fraser, Bellugi & Brown, 1963, p. 483); (2) reproduction, active reconstruction of what has been read or heard (Belyayev, 1963); (3) comprehension, a further and more complex stage following imitation and reproduction without assimilation, which are actually the first stages of recognition and (4)

production, the final stage following reproduction with assimilation (cited in Melka, 1997, p. 89).

A more recent study by Caspi & Lowie (2013) investigated the dynamics of L2 vocabulary development based on a four-level continuum including word recognition, word recall, controlled production and free production. They believed that their study was different from that of Meara (1997), Laufer (1998), Laufer & Paribakht (1998) and Webb (2008) because these previous studies suggested that there were linear interactions between vocabulary knowledge levels and other factors. On the contrary, Caspi & Lowie (2013) found out that the academic vocabulary knowledge of the participants increased on all knowledge levels; however, the gap between levels, particularly the gap between free production and the other levels, remained robust showing a high degree of variability.

To sum up, taking the abovementioned aspects and dimensions of vocabulary knowledge into consideration, it can be said that the relationship between these aspects and dimensions is not clear-cut and linear, but vague and varying. However, this study investigated the dimensions of receptive and productive vocabulary knowledge focusing on their specific aspects as much as possible.

2.1.3. Receptive and Productive Vocabulary Knowledge

Receptive knowledge of a word is to know about a word in order to recognize it while reading or listening whereas productive knowledge of a word is to know about a word in order to use it while speaking or writing (Crow, 1986). However, the distinction between receptive and productive vocabulary knowledge is more complicated than it might seem at first. As Milton (2009) stated “good passive skills often require the reader or the listener to actively anticipate the words that will occur” (p. 13). In other words, a learner may use his or her productive vocabulary knowledge while listening and reading. Despite no clear-cut separation, it is possible to classify specific aspects of receptive and productive vocabulary knowledge.

Nation (2001, p. 26) identified specific aspects of receptive vocabulary knowledge as:

1. the ability to recognize how a given word sounds and looks like,
2. the ability to recognize that many words can contain parts such as inter-, -nation; being able to relate these parts to the word's meaning,
3. understanding words in particular contexts in which they appear and knowledge of the concepts behind words that make them appear in a variety of contexts,
4. knowledge of other words that are semantically related to a given lexical item,
5. knowledge of which grammatical patterns the word appears in,
6. knowledge of frequent collocations of a given word,
7. knowledge of where, when and how often a word appears in conversation or reading

On the other hand, Nation (2001, p. 26) explained the features of productive knowledge as:

1. working knowledge of how to pronounce and spell a given word,
2. the ability to construct a word using the right word parts in their appropriate forms,
3. the ability to express the correct grammatical form and meaning of a word,
4. the ability to generate synonyms and antonyms of a given word,
5. the ability to use the word correctly in an original sentence,
6. the ability to produce collocations of a given word,
7. knowledge of where, when and how often to use a given word in terms of formal context.

“Vocabulary knowledge ranges on a continuum rather than being known versus unknown” (Schmitt, 1998, p. 118); however, the abovementioned aspects help to differentiate between receptive and productive knowledge as much as possible. In the study conducted by Webb (2008) on these two types of vocabulary knowledge, translation tests were used considering the advantage that they could provide an equivalent test format. Responses were scored at two levels of sensitivity: sensitive and strict. Sensitive scoring was for partial knowledge of written form while strict scoring was for full knowledge of scoring. The results showed that total receptive

vocabulary size was larger than productive vocabulary. When responses were scored for fuller knowledge, receptive vocabulary size was also found to be greater than productive vocabulary size in each of three word frequency bands; however, receptive and productive knowledge increased as the frequency of the words decreased. On the other hand, when responses were scored for partial knowledge, the difference was little among vocabulary sizes at each frequency band. The findings also indicated that receptive vocabulary size might give some indication of productive vocabulary size, which means if learners have a larger receptive vocabulary, they are likely to know more of those words productively than learners who have a smaller receptive vocabulary.

Especially productive vocabulary knowledge of language learners can be measured at two levels of sensitivity regarding to the partial-precise continuum; however, in the present study only precise/full vocabulary knowledge was measured because the scores of the participants would be compared to their scores of their writings and also their LFP scores, both of which were based on precise vocabulary knowledge of production.

It is not certain by any means that these two types of vocabulary knowledge can be so neatly separated and are totally independent from each other as a dichotomous entity. In fact, it may involve learning along many continuums that seem to overlap enough that knowledge and learning, for convenience sake only, are labeled receptive and productive (Oller, 1976; Waring, 2002; Choi, 2007). To overcome the uncertainty of the distinction between receptive and productive vocabulary knowledge, Laufer & Goldstein (2004, pp. 405-407) distinguished four degrees of knowledge which were based on two dichotomous distinction: (1) supplying the form for a given meaning versus supplying the meaning for a given form and (2) being able to recall versus only being able to recognize whether form or meaning. The first distinction implies there is a difference in knowledge between the ability to supply the word form (active/productive knowledge) and the ability to supply the word meaning (passive/receptive knowledge) while the second distinction implies that there is a difference in knowledge between the

ability to recall the form or the meaning of a word and the ability to recognize the form or the meaning in a set of options.

The study by Zhong (2014) looked at this internal structure of vocabulary knowledge along the receptive and productive continuum under a multi-aspect framework. It examined the receptive knowledge of meaning, form, morphology, collocation and association and explored their relationship with productive vocabulary knowledge over time through a multi-task approach including 523 EFL participants from two junior high schools in southern China. After examining the relationships among different receptive aspects and between receptive aspects and the productive word use, and the changes of their relationships over time, the results showed that as learners' vocabulary knowledge developed, their receptive knowledge of form, meaning, morphology, association and collocation together explained a stable amount of variance in productive vocabulary knowledge. Moreover, as learners' productive vocabulary knowledge improved, their receptive knowledge of association and collocation became more and more important. This study offered a new perspective on the developmental pattern from receptive to productive vocabulary knowledge displaying the interrelation between receptive and productive vocabulary knowledge more clearly.

In opposition to Laufer & Goldstien (2004) or Zhong (2014), Meara (1997) suggested that the transition from passive/receptive vocabulary knowledge to active/productive vocabulary knowledge is definitely not a continuum but is a clear candidate for a threshold effect. According to this suggestion, it is possible for a word to move directly from zero knowledge to full knowledge and it is also possible for words to move from full or intermediate knowledge to zero knowledge.

In spite of the adverse opinions and the difficulty of the distinction of these two types of knowledge, there is no doubt about that 'one has to meet a word in reception before it can be produced' (Nation & Waring, 1997). Moreover, production seems to be more difficult than reception because production of vocabulary requires extra learning of new spoken or written output patterns (Nation, 1990).

Apart from the difficulty of learning and using productive vocabulary knowledge, second or foreign language learners' exposure to the certain type of vocabulary knowledge is also effective in its learning. For instance, Webb (2005) stated that when vocabulary is taught in the classroom, learning is also likely to be receptive due to the fact that receptive vocabulary activities and tasks such as looking up words in a dictionary, matching words with their meaning and definitions, guessing from context and learning from word pairs are more likely to happen in the classroom, most probably because they are easier to design, complete and grade than productive activities and tasks.

2.2. Vocabulary Learning

Language has traditionally been divided into grammar and vocabulary; however, in recent years, the emphasis on vocabulary has increased both in L1 and L2 acquisition since input plays an important role in communication as well as learning. L1 vocabulary knowledge has to be acquired through simple exposure during language use; on the contrary, learning L2 vocabulary remarkably differs from learning native language.

In the process of L2 vocabulary acquisition, there are two main stages: First, during early stages of second language acquisition learners get the meaning through word associations between L1 and L2 and mediating L2 performance in tasks. Second, as becoming more proficient, L2 learners can process L2 concepts directly by making L2 functionally similar to L1 (Talamas, Kroll & Dufour, 1999).

According to Nation & Carter (1989), learners process words in a holistic or analytical way or in a top-ruled or bottom-ruled way in vocabulary acquisition. In analytical learning, the aim is to acquire the target vocabulary analyzing its structures and components. Unlike analytical learning, in holistic learning the focus is on the general meaning of chunks that are learned as unanalyzed wholes such as 'How are you doing?' or 'I'll do my best'. Especially learners at the beginning level learn a second or foreign language through chunks because they are generally unable to analyze them into constituent parts. The second parameter for describing word processing is bottom-ruled and top-ruled. While "the top" is constituted by context and semantics, "the bottom"

ranges from the smaller units (orthography/phonology) to larger (collocations), reflecting an increasing meaning focus as you move upwards. Therefore, in top-ruled learning students try to understand the general message without understanding all of the constituent parts, while in bottom-ruled learning, language learning proceeds from the smaller units to larger ones and finally to the target meaning. Either in top-ruled learning at beginner levels or in bottom-ruled learning at more advanced levels, the ultimate aim is to get the meaning. In other words, the way of vocabulary learning can change but it continues through all proficiency levels of second or foreign language learning.

Also, L2 learners acquire vocabulary through these processes but there are so many different variables that affect second or foreign language vocabulary learning such as L1, age, the amount of exposure, motivation and culture. Besides these variables, we cannot physically see or track words in mental lexicon. Therefore, all research evidence remains indirect making it difficult to arrive at concrete conclusions. There is not a global theory that can explain vocabulary learning, but the insights gained from the studies in this field certainly help to have a definitive understanding of the vocabulary learning process.

2.2.1. The Process of Vocabulary Learning

It is a long-known fact that vocabulary learning is an essential component to language learning (Harley, 1996). Four vocabulary-learning partners, which are students, teachers, materials writers, and researchers, are essential to contribute to learning process to encourage sufficient vocabulary learning, (Schmitt, 2008). However, the best method to accomplish good vocabulary learning is still obscure somewhat on the grounds that it relies upon a wide variety of factors (de Groot, 2006). For instance, the amount of word-related activity induced by the task is an important factor that determines task effectiveness for vocabulary learning (Hill & Laufer, 2003).

There are two basic ways of vocabulary learning, which are incidental and intentional vocabulary learning. Incidental vocabulary learning refers to “the learning of vocabulary as the by-product of any activity not explicitly geared to vocabulary

learning” while intentional vocabulary learning refers to “any activity aiming at committing lexical information to memory” (Robinson, 2001, p. 271). Intentional vocabulary learning includes so many ways and strategies such as using word cards, using mnemonics, keeping vocabulary notebooks, doing vocabulary exercises, looking up dictionaries etc. Although there are many frameworks of vocabulary learning strategies suggested by different authors (Wenden & Rubin 1987; O'Malley & Chamot, 1990; Oxford, 1990; Schmitt, 1997), Gu & Johnson’s (1996) list of L2 vocabulary learning strategies as metacognitive, cognitive, memory and activation strategies presents a clear summary (see Table 1). Metacognitive strategies include selective attention and self-initiation strategies. While selective attention strategies help learners identify essential words for comprehension by deciding which words are important for them, self-initiation strategies are used to make the meaning of vocabulary items clear. Cognitive strategies include guessing strategies, use of dictionaries and note-taking strategies. Memory strategies consist of rehearsal strategies such as word lists and repetition and encoding strategies including imagery, visual, auditory, semantic, and contextual encoding as well as word structure. Finally, through activation strategies, learners use new words in different contexts such as creating sentences using the words they have just learned (Gu & Johnson, 1996, cited in Ghazal, 2007).

Table 1: Vocabulary learning strategies (Gu & Johnson, 1996, cited in Ghazal, 2007, p. 86)

| Metacognitive | Cognitive | Memory | Activation |
|---|---|---|---|
| <p>Selective Attention: Identifying essential words for comprehension</p> <p>Self-initiation: Using a variety of means to make the meaning of words clear</p> | <p>Guessing: Activating background knowledge, and using linguistic items</p> <p>Use of dictionaries</p> <p>Note-taking</p> | <p>Rehearsal: Word lists, repetition, etc.</p> <p>Encoding: Association (Imagery, visual, auditory, etc.)</p> | <p>Using new words in different contexts</p> |

Nation (2008) suggests that well-directed deliberate vocabulary learning using word cards is more efficient than teaching and vocabulary exercises. Unlike intentional vocabulary learning, “incidental vocabulary learning occurs, particularly through

extensive reading in input-rich environments, albeit at a rather slow rate” and “vocabulary acquisition would largely take care of itself, without the need for any substantial pedagogical intervention” (Read, 2004, p. 147).

Some researchers such as Nagy & Herman (1987), Waring & Nation (2004) and Pigada & Schmitt (2006) argue that extensive reading can lead to a great amount of vocabulary growth provided that certain preconditions including adequate exposure to the language, interesting material, and a relaxed, tension-free learning environment are met (Krashen, 1989). Moreover, extensive reading can promote second or foreign language learners’ automaticity of word recognition (Grabe, 1991; Paran, 1996, Pressley, 2006; Grabe, 2009) as well as it helps to improve their writing skills (Stotsky, 1983; Krashen, 1984; Hafiz & Tudor, 1989; Robb & Susser, 1989; Nation, 1997; Tsai, 2006). On the other hand, there is also some negative research evidence showing little or no significant effect of extensive reading on the development of L2 vocabulary knowledge (Hafiz & Tudor, 1990; Hulstijn, 1992).

Although there have been some discussions about which way of vocabulary learning is more effective, recently it is believed that a different approach which incorporates explicit attention to learning lexical items themselves is far more effective. To explore the added value of explicit instruction in addition to incidental vocabulary learning from reading, Sonbul & Schmitt (2010) compared vocabulary learning from two methodologies: (1) incidental learning from reading only (Read-Only) and (2) a combination of incidental learning from reading plus explicit instruction (Read-Plus). Incidental learning plus explicit instruction was found to be more effective than incidental learning alone for all three levels. Hence, it can be concluded that the value of the time and effort spent on direct teaching of lexical items in EFL reading classes should not be underestimated. More specifically, Hunt & Beglar (2005) suggested a framework incorporating two approaches: 1) promoting explicit lexical instruction and learning strategies, which includes acquiring decontextualized lexis, using dictionaries and inferring from context and 2) encouraging the use of implicit lexical instruction and learning strategies. The principal notion underlying their framework is that the most effective and efficient lexical development will occur in multifaceted curriculums that

achieve a pedagogically sound balance between explicit and implicit activities for L2 learners at all levels of their development especially emphasizing extensive reading, which is arguably the primary way that EFL learners can build their reading vocabulary to an advanced level. Based on the previous studies, while integrating the explicit instruction into the process of vocabulary learning, it is important to do these incorporations in a well-directed, well-organized and well-balanced way.

As a matter of fact, there are really good reasons for the integration of incidental and intentional learning in second or foreign language vocabulary learning (Laufer, 2005, pp. 226-227).

1. Learners who understand the overall message often do not pay attention to the precise meanings of individual words,
2. Guessing from context is often unreliable, especially if the learner does not know 98% of the words in the discourse,
3. Words which are easily understood (guessed) from context may not generate enough engagement to be learned and remembered,
4. New words which learners have met in discourse need to be met again relatively quickly to avoid their being forgotten. In order for words to be met 10 times in reading, learners would need to read 1–2 graded readers per week. The typical learner simply does not read this much.

In addition to the ways of vocabulary learning, some authors mention general processes that aid vocabulary learning. For instance, Nation (2001) listed three major processes that help to reach the learning goal in vocabulary learning: (1) noticing (paying attention to an item), (2) retrieval (involving receptive retrieval, which is perceiving a word and retrieving its meaning and productive retrieval, which is communicating the meaning of a given item), and (3) creative/generative use (using words that have been previously encountered in a different new way). In a similar way to Nation's (2001), Hulstijn & Laufer (2001) also identified three components of vocabulary learning – need, search, and evaluation and he explains them as following: The 'need' component is the motivational, non-cognitive dimension. There are two degrees of prominence for need: moderate and strong. Need is moderate when it is

imposed by an external agent such as the need to use a word in a sentence that the teacher has asked for. On the other hand, need is strong when it is self-imposed by the learners, for instance, by the decision to look up a word in an L1–L2 dictionary when writing a composition. The cognitive component ‘search’ is the attempt to find the meaning of an unknown L2 word or the attempt to find the L2 word form expressing a concept by consulting a dictionary or another authority. The other cognitive component ‘evaluation’ entails a comparison of a given word with other words, a specific meaning of a word with its other meanings, or comparing the word with other words in order to assess whether a word does or does not fit its context.

There are not many follow-up studies on the processes of vocabulary learning; however, an empirical study by Wang, Xu & Zuo (2014) investigated the respective effectiveness of these three factors (need, search and evaluation), which were included in task-induced involvement load with the same amount. The results showed that the evaluation factor was more decisive and crucial than the other two factors (need and search) since language learners benefited more by using the target words in their original contexts. That means tasks that require high degrees of evaluation should be the focus of vocabulary instruction in second or foreign language classes.

Additionally, Hulstijn & Laufer (2001) identified these three components to propose a motivational–cognitive construct of involvement and to develop Involvement Load Hypothesis for L2 vocabulary learning.

The basic contention of the Involvement Load Hypothesis is that retention of unfamiliar words is, generally, conditional upon the degree of involvement in processing these words. In other words, it is conditional upon who has set the task, whether the new word has to be searched, and whether it has to be compared, or combined with other words. The greater the involvement load, the better the retention (p. 545).

The study by Tajeddin & Daraee (2013) investigated the effect of form-focused and non-form-focused tasks, which were based on the Involvement Load Hypothesis (Hulstijn & Laufer, 2001), on EFL learners’ vocabulary learning through written input. The form-focused task involved word recognition activities while non-form-focused

tasks were divided into (a) the comprehension question task, which required an overall understanding of the text without focusing on any words; and (b) the message-oriented task. The results proved Hulstijn & Laufer's (2001) suggestion that task effectiveness depends on the degree of involvement tasks induce.

In regard to the involvement load hypothesis and aforementioned issues in vocabulary learning, some factors facilitating vocabulary learning process are included by Schmitt (2008, p. 339) as follows:

1. increased frequency of exposure;
2. increased attention focused on the lexical item;
3. increased noticing of the lexical item;
4. increased intention to learn the lexical item;
5. a requirement to learn the lexical item (by teacher, test, syllabus);
6. a need to learn/use the lexical item (for task or for a personal goal);
7. increased manipulation of the lexical item and its properties;
8. increased amount of time spent engaging with the lexical item;
9. amount of interaction spent on the lexical item.

All these suggestions prove that not just the combination of intentional and incidental vocabulary learning but also taking the factors affecting vocabulary learning and processes into consideration is required in second or foreign language vocabulary learning process.

2.2.2. Word Knowledge and Vocabulary Size

In the present study, the vocabulary items used in the vocabulary knowledge tests and student essays referred to word families rather than tokens (counting every word form in a spoken or written text), types (not counting the same word seen before), or lemmas (a headword and some of its inflected and reduced “n't” forms). Word families consist of a headword, its inflected forms, and its closely related derived forms (Nation, 2001). For instance the words ‘happy’, ‘happily’, ‘unhappy’, and ‘happiness’ belong to one word family and such units make the assessment of vocabulary size easier and more reasonable.

Although there is not an exact number of words to be known for a language learner or even a native speaker since the number changes according to the specific purposes; it was estimated that an educated native speaker would have a vocabulary size of approximately 17,000 word families according to Goulden, Read & Nation (1990) and 20,000 word families according to Nation & Waring (1997). Furthermore, some previous research provided foreign language learners and teachers with some numbers. For instance, an EFL learner need to know at least 2,000 word forms to understand 90 – 94% of spoken discourse in different contexts (Adolphs & Schmitt, 2004); 2,000 and 3,000 word families for adequate listening comprehension at 95% level, compared with Nation’s (2006) calculation of 6,000–7,000 families based on a 98% figure (van Zeeland & Schmitt, 2012); 3,000 word families to reach a text coverage of 95% (Laufer, 1992, 1997); 5,000 word families to enjoy reading (Hirsh & Nation, 1992); and 15,000 – 20,000 word families to comprehend the target L2 with almost no disturbance in a native-like level (Nation, 2001).

These figures probably underestimate the learning challenge considering the fact that each word family includes several individual word forms, including the root form (stimulate), its inflections (stimulated, stimulating, stimulates), and regular derivations (stimulation, stimulative) (Schmitt, 2008). To illustrate, a vocabulary of 6000 word families (enabling listening) entails knowing 28,015 individual word forms, while the 8000 families (enabling wide reading) entails 34,660 words (Nation, 2006). In fact, there is no absolute threshold for a total comprehension; nevertheless, it is true to say that poor vocabulary knowledge may lead to poor comprehension.

The first step of vocabulary knowledge is to have a certain amount of vocabulary size to comprehend and use the language. More importantly, language learners need to update their vocabulary size, since “vocabulary is a continually changing entity with new words and new uses of old words being added and old words falling into disuse” (Nation & Waring, 1997, p. 6). In respect to vocabulary size, an important question to ask is how many words a language learner needs to know. To be able to answer this question, we primarily should know what knowing a word means. In search of a quantifiable definition of “word knowledge”, that is what knowing a word means,

Nation (1990) identified components of word knowledge in a comprehensive framework by also a distinction between receptive and productive knowledge (see Table 2).

All of the word knowledge types may be learned concurrently; nevertheless, some are mastered sooner than others (Schmitt, 1998). In the process of vocabulary learning, if the same type of word knowledge is focused repeatedly, the other types remain ignored; therefore, learners should encounter the target words in many different contexts so that the mastery of different word knowledge types can be developed (Schmitt, 2008). Many follow-up studies proved the positive effect of repetition on gaining different aspects or components of word knowledge.

Table 2: Components of word knowledge (Nation, 1990, p. 31).

| |
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| <p>1. FORM</p> <p>A. Spoken form</p> <ul style="list-style-type: none"> • R – What does the word sound like? • P – How is the word pronounced? <p>B. Written form</p> <ul style="list-style-type: none"> • R – What does the word look like? • P – How is the word written and spelled? <p>2. MEANING</p> <p>A. Conceptual (meaning)</p> <ul style="list-style-type: none"> • R – What does the word mean? • P – What word should be used to express this meaning? <p>B. Association</p> <ul style="list-style-type: none"> • R – What other words does this word make us think of? • P – What other words could we use instead of this one? <p>3. USE</p> <p>A. Frequency</p> <ul style="list-style-type: none"> • R – How common is the word? • P – How often should the word be used? <p>B. Appropriateness (Register)</p> <ul style="list-style-type: none"> • R – Where would we expect to find this word? • P – Where can it be used? <p>4. POSITION</p> <p>A. Grammar</p> <ul style="list-style-type: none"> • R – In what patterns does the word occur? • P – In what patterns must we use the word? <p>B. Collocation</p> <ul style="list-style-type: none"> • R – What words and types of words can we express before and after the word? • P – What words or types of words must we use with this word? <p>Note. R refers to “receptive vocabulary knowledge” and P refers to “productive vocabulary knowledge”.</p> |
|--|

For instance, Webb (2007) explored the effect of multiple encounters (1, 3, 7, 10) on the aspects of word knowledge (orthography, association, grammatical functions, syntax, and meaning and form) and his findings suggested that as repetition increased, greater gains in knowledge were found for at least one aspect of knowledge as repetition increased. Also, Chen & Truscott (2010) investigated the effect of lexicalization (presence of a lexical equivalent for the target item in the L1) in addition to frequency (1, 3, 7). They found that repetition had a positive effect on word learning, especially productive vocabulary knowledge. However, in the literature there are studies showing the negative effect of multiple exposures on the development of vocabulary knowledge. Bisson, van Heuven, Conklin & Tunney (2014) found that repeated exposure to the stimuli was found to have a larger impact on learning during the first few exposures and decreased thereafter. Therefore, they concluded that the effects of repeated exposure on vocabulary acquisition were not necessarily constant.

The core of the acquisition of word knowledge is to be able to establish the link between meaning and form. In second or foreign language vocabulary learning, form is generally downplayed or disregarded. Considering the reason why L1 learners learn the target vocabulary easily, which is because they are acquainted with the features and regularities in the L1 input, more attention to the learning form in L2 vocabulary learning can aid to learn different aspects of word knowledge (Ellis, 2006).

To emphasize the continuum-based of learning of individual word knowledge, the propositions of lexical quality hypothesis can be presented. Basically, the lexical quality hypothesis claims that variation in the quality of word representations has consequences for reading skill, including comprehension. Lexical quality refers to the extent to which the reader's knowledge of a given word represents the word's form and meaning constituents and knowledge of word use that combines meaning with pragmatic features. By quality, "the extent to which mental representation of a word specifies its form and meaning components in a way that is both precise and flexible" is meant (Perfetti, 2007, p. 359). In order to be more specific about lexical quality, Perfetti (2007) distinguished five features of lexical representation in two categories of high and

low representations and hypothesized some consequences of these quality features for comprehension (see table 3).

Table 3: Properties and consequences of lexical quality (Perfetti, 2007, p. 360).

| Representational Properties of Lexicon | High Quality | Low Quality |
|--|---|---|
| Orthography | Fully specified; letters are constants | Not fully specified; some letters are variables |
| Phonology | Redundant word-specific phonology and context-sensitive grapheme-phoneme phonology | Less stable because of variable word-specific phonology and/or grapheme-phoneme phonology |
| Grammar | All grammatical classes of the word represented; morpho-syntactic inflections represented | Incomplete range of form class uses; less stable morpho-syntax |
| Meaning | More generalized, less context-bound; fuller range of meaning dimensions to discriminate among words in same semantic field | More context-bound; fewer relevant meaning dimensions to discriminate among related words |
| Constituent binding | Orthographic, phonological, and semantic constituents are tightly bound | Orthographic, phonological, and semantic constituents are less tightly bound |

These features and possible consequences and the components of word knowledge proposed by Nation (1990) complete each other and in fact they are true for each individual word. Although the learning process is the same for individual words, their usefulness is not equal. In the process of vocabulary learning, the “need” component (Hulstijn & Laufer, 2001) is closely related to the usefulness of the target vocabulary. If the learner needs to learn a vocabulary item, they see it useful so that they can have high lexical quality of the target vocabulary item they need. In the next section, the measure of usefulness of the vocabulary items will be discussed.

2.2.3. Low and High Frequency Words

An important thing to remember in vocabulary learning is that all of the words in a language are not equally useful and one measure of usefulness is word frequencies. It is well known that a small number of word types, high frequency words (the most frequent 2,000 words), occur very frequently and make up the majority of running words in discourse. Conversely, a very large number of types occur very rarely, and make up the low frequency words (Schmitt & Schmitt, 2012).

The assumption that vocabulary learning is strongly affected by word frequency has been confirmed by several studies (Read, 1998; Laufer & Nation, 1999; Read, 2004; Ozturk, 2015). The general conclusion gained from the examination of the relationship between vocabulary learning and word frequency is that learners tend to learn the words that occur frequently before the words that occur less frequently in the language.

Furthermore, there is a strong relationship between text coverage and word frequency. For instance, the most frequent 1,000 words of English account for around 75% of the running words in formal written texts and around 84% of informal spoken use (Laufer & Nation, 1999). The most frequent 2,000 words of English provide high coverage of fiction, but knowing them still does not provide enough coverage for a comfortable reading (Hsueh-Chao & Nation, 2000). More recently, Laufer & Ravenhorst-Kalovski (2010, p. 15) have suggested that there are two thresholds of lexical coverage: “An optimal one, which is the knowledge of 8,000 word families yielding the coverage of 98% (including proper nouns) and a minimal one, which is 4,000-5,000 word families resulting in the coverage of 95% (including proper nouns)”.

Word frequency has an impact on not just vocabulary learning and text coverage but also quality of word knowledge. The more frequent a word is, the better the knowledge of the tested aspects becomes. In other words, the knowledge of frequent, earlier acquired words are qualitatively better than that of the less frequent, more recently acquired words; therefore, it is apparent that vocabulary grows in breadth as well as in depth (Greidanus & Nienhuis, 2001).

The general view on this issue is that learners need to focus on just high frequency words as a first and main goal of their vocabulary learning. After learning these high frequency words, they should focus on low frequency words, which make up 5% of the words in an academic text (Nation, 2001). Unlike high frequency words, low frequency words are not worth spending class time on teaching them since they cannot be manageable being so many. One thing to be noticed at this point is that teachers can help learners to develop strategies to learn these low-frequency words. However, learners' specific needs may change this approach and teachers may need to teach some

low-frequency words in the classroom. Whether the target words are from high frequency or low frequency level, it is assumed that learners must encounter with unfamiliar or partially known words in one or multiple texts repeatedly for full word knowledge to develop (Baddeley, 1997; Paribakht & Wesche, 1999).

Considering this incremental, multidimensional, and interrelated nature of vocabulary knowledge; one can understand that ‘knowing a word’ is a complex concept involving different traits, especially from the point of view of receptive knowledge and productive knowledge as presented by Nation (2001, p. 26). In conclusion, the complexity of vocabulary knowledge makes also its assessment difficult. In the next section, testing vocabulary knowledge will be discussed.

2.3. Vocabulary Testing

In the context of language teaching and learning, language testing is an indispensable process enabling teachers to have an idea about the proficiency of an individual in using a particular language effectively. Read (2000) suggests that the authors see the purpose of language testing as making inferences about learners’ general language ability, which consists of two components: (1) language knowledge, which is knowledge about vocabulary, grammar, sound system and spelling of the target language and (2) strategic competence, which is using language knowledge for communicative purposes. Also, it cannot be denied that there is a strong relationship between vocabulary and areas of language knowledge; therefore, testing vocabulary gives important clues about learners’ general language ability. According to Bachman and Palmer (1996), areas of language knowledge consists of two main categories, which are organizational knowledge and pragmatic knowledge and they present the role of vocabulary in each main category and sub-categories perfectly well in Table 4.

Even though testing vocabulary is a really difficult issue due to individual differences and untraceable cognitive processes of learners, vocabulary knowledge of language learners can be tested in many ways. Depending on what exactly one wants to know about L2 vocabulary knowledge, one has to select the appropriate materials and adequate procedures to reach valid and reliable results; therefore, different types of tests

will be necessary to be able to take all aspects of vocabulary knowledge into account (Bogaards, 2000).

Table 4. Areas of language knowledge (Bachman & Palmer, 1996, p. 68)

| | |
|--|---|
| ORGANIZATIONAL KNOWLEDGE (how utterances and sentences are organized) | PRAGMATIC KNOWLEDGE (how utterances or sentences and texts are related to the communicative goals of the language user and to the features of language use setting) |
| Grammatical Knowledge (how individual utterances or sentences are organized) | Functional Knowledge (how utterances or sentences and texts are related to the communicative goals of the language users) |
| Textual Knowledge (how individual utterances or sentences are organized to form texts) | Sociolinguistic Knowledge (how utterances or sentences and texts are related to the features of language use setting) |

According to Read (2000, p. 9), vocabulary assessment has three dimensions: (1) “Discrete – embedded”: a discrete test takes vocabulary knowledge as a distinct construct, separated from other components of language competence while an embedded vocabulary measure is one that contributes to the assessment of a larger construct. (2) “Selective – constructive”: a selective vocabulary measure is the one in which specific vocabulary items are the focus of the assessment. In contrast, a comprehensive vocabulary test measures the whole vocabulary content of the input material or the test-taker’s response. (3) “Context-independent – context-dependent”: in a context-independent test, the test-taker can produce the expected response without referring to any context; however, in a context-dependent test, the test-taker must take account of contextual information in order to produce the expected response. In fact, these three dimensions are complementary and they relate to different purposes of assessment.

Moreover, as Gallego & Llach (2009) suggest, different conceptual and methodological problems may arise in the assessment of the number of words known by learners at different stages of their learning process when L2 teachers aim to evaluate and monitor their progress with various vocabulary tests. Despite such problems, teachers of foreign languages may be interested in the assessment of vocabulary

knowledge because it can provide some indication of the size of the learning task facing second or foreign language learners (Nation & Waring, 1997).

In testing vocabulary knowledge, there are some important questions that should be taken into consideration (Nation, 2001, pp. 344-362):

1. Is it enough to ask learners if they know the word?
2. Should choices be given?
3. Should translations be used?
4. Should words be tested in context?
5. How can depth of knowledge about a word be tested?
6. How can we measure words that learners don't know well?
7. How can we measure how well learners actually use words?
8. How can we measure total vocabulary size?
9. How can we test to see where learners need help?
10. How can we measure specific and total vocabulary knowledge?
11. How can we measure how well learners have control of the important vocabulary learning strategies?

In the light of these questions, what kind of vocabulary test is the best for a particular group of learners should be decided considering the testing goal, its degree of difficulty, and the criteria of reliability, validity, practicality and washback (Nation, 2001). From a testing perspective, there is only a limited basis for defining the constructs being measured by particular language tests and this means that although distinctions such as receptive vs. productive knowledge, or breadth and depth of knowledge can be measured, the tests used can still be problematic with the need for much further elaboration (Read, 2013).

In this study, vocabulary level tests (Schmitt, Schmitt & Clapham, 2001; Laufer & Nation, 1999) were used since it is useful to view the vocabulary of English (and indeed any language) as consisting of a series of levels based on frequency of occurrence for several reasons: First, there are striking differences between levels basically due to the purpose and frequency of use of the words in different levels.

Second, there are a very large number of words in English so that the goals of any language course can give attention to only a very small proportion of these words (Laufer & Nation, 1999).

The diversified nature of word knowledge makes impossible to test all the different knowledge facets of a word at the same time. However, as Pignot-Shahov (2012) suggests, a small number of well-established vocabulary tests provide valuable information for teachers, learners and assessment bodies by investigating and providing data for some aspects of word knowledge and aiming at validating theories and models of the mental lexicon on the grounds that knowing how words are stored and learned helps to improve language course content, delivery and assessment as well as to develop further our understanding of language learning processes.

2.3.1. Measuring Receptive Vocabulary Knowledge

In the literature of vocabulary research, there are a few tests to measure receptive vocabulary knowledge; however, versions of Vocabulary Level Test (VLT) (Nation, 1990; Schmitt, Schmitt & Clapham, 2001) are the best-known instruments to assess vocabulary size of learners. This test measures learners' receptive vocabulary knowledge at five levels of word frequencies in English: 2000, 3000, 5000, 10000, and academic.

In studies of vocabulary size, words have generally been selected by means of spaced sampling procedure, which involves working through the dictionary from a randomly determined starting points and taking words at a specified interval (Goulden, Nation & Read, 1990).

The 2000 level represents the 1,986 word families from the General Service List (GSL) (West, 1953) and GSL is still regarded as illustrative of the most broadly utilized words as a part of present-day English (Nation & Waring 1997). While the 3000, 5000 and 10,000 levels represent a sample of words from the third, fifth and tenth 1000-word frequency bands based on Thorndike & Lorge's (1944) word list and checked against the Computational Analysis of Present Day American English (Kucera & Francis 1967);

the academic word level comprises words selected from the Academic Word List (AWL) (Coxhead, 2000) containing 570 word families (Li & MacGregor, 2010).

Receptive vocabulary knowledge test surely has some limitations. For instance, if a learner should have even a small amount of knowledge about a target word's meaning, it may help them to make a correct response in receptive vocabulary knowledge test because the words within a cluster have very different meanings (Schmitt, Schmitt & Clapham, 2001). For the receptive vocabulary knowledge test, the students are expected to answer 30 items (consisting of 60 words and 30 associations) by matching the words with their associations. Apart from the receptive knowledge of the target words, the knowledge of the words used in associations will certainly affect the success of the test-takers. However, the fact that test-takers may guess the meaning of the given vocabulary items does not create serious harmful backwash effect; on the contrary, it is something that should be encouraged in foreign language education (Hughes, 2003).

The main reason why VLT is mostly preferred to measure receptive vocabulary knowledge is that it provides an estimate of the vocabulary size of examinees at each of the above four frequency levels and also at academic vocabulary level. Additionally, it gives teachers and administrators the opportunity to use this information in a pedagogical context. For instance, they can decide whether an examinee is likely to have the lexical resources necessary to cope with certain language tasks, such as reading authentic materials (Schmitt, Schmitt & Clapham, 2001).

On the other hand, there is a rationale for that 2000 word level receptive vocabulary level test developed by Schmitt, Schmitt & Clapham (2001) was chosen for the present study. As Read (2004) stated, "there is an obvious payoff for learners of English in concentrating initially on the 2,000 most frequent words, since they have been repeatedly shown to account for at least 80% of the running words in any written text" (p. 148). Furthermore, it is long and well known that knowledge of the most frequent 2,000 words in English provides the largest part of the lexical resources required for basic everyday oral communication (Schonell, Meddleton & Shaw, 1956).

In vocabulary education and assessment, the focus is generally on receptive vocabulary knowledge rather than productive vocabulary knowledge most probably because receptive knowledge is prior to productive knowledge (Lee & Muncie, 2006). Measuring receptive vocabulary knowledge obviously does not reflect learners' productive vocabulary use; therefore, at this point other types of measurement are needed to be able to assess learners' productive vocabulary knowledge.

2.3.2. Measuring Productive Vocabulary Knowledge

The receptive vocabulary knowledge test (Nation, 1983, 1990; Schmitt, Schmitt & Clapham, 2001) is helpful to determine the kind of attention that should be given to vocabulary for particular groups of learners; however, learners' productive vocabulary knowledge cannot be assessed with this kind of vocabulary test. Gaining a high score in a receptive vocabulary knowledge test may not ensure learners' use of their vocabulary in writing or speaking; therefore, well-designed tasks and encouragement may be required in order to help them draw more promptly on what they know (Laufer & Nation, 1999).

Since productive vocabulary knowledge has also incremental nature in itself; producing response words to stimuli and producing words in a composition are different kinds of production and therefore require different types of measurements. To use a word at one's free will is referred as free productive ability and one instrument that can be used to measure this kind of production is Lexical Frequency Profile. On the other hand, 'controlled productive ability' is "the ability to use a word when compelled to do so by a teacher or researcher, whether in an unconstrained context such as a sentence-writing task, or in a constrained context such as a fill-in task where a sentence context is provided and the missing target word has to be supplied" (Laufer & Nation, 1995, p. 37).

The productive vocabulary knowledge test is actually designed to measure 'controlled productive ability'. The test-taker's response is necessarily restricted to one word – the target word presented in a meaningful context and the first letters of which are given to prevent test-takers from filling another word that semantically fits in the

given context (Laufer & Nation, 1995); however, it is possible that the test taker might choose a different word to complete the sentence, which might be a less frequent word, possibly indicating a broader productive vocabulary than the test would reveal (Walters, 2012). The study conducted by Laufer & Nation (1999) proves that the productive vocabulary knowledge test is a reliable, valid and practical measure of vocabulary growth. On the other hand, in general especially low English proficiency learners get much lower scores in productive vocabulary knowledge tests compared to their scores in receptive vocabulary knowledge tests even though the existing frequency levels of productive vocabulary knowledge tests ranges from between 2,000 and 10,000 words. Therefore, low-leveled productive vocabulary knowledge tests such as the 500 word level productive vocabulary knowledge test designed by Abdullah et al. (2013) can be actively applied in EFL classrooms in order to help and motivate the learners who have low English proficiency to make them the feel sense of achievement.

For the assessment of free productive vocabulary knowledge, four of the most popular measurements of vocabulary used in essays are “lexical originality” (the number of tokens unique to one writer in the group divided by the total number of tokens used), “lexical density” (the percentage of lexical words in a text divided by the total number of words), “lexical sophistication” (comparison of the number of advanced words in the composition with the total number of words) and “lexical variation” (measurement of diversity of different words used in a composition). As a result of the various drawbacks of these measures, “the lexical frequency profile (LFP)”, which is only stable on essays with more than 200 words, is proposed by Laufer & Nation (1995, p. 314).

The importance of testing vocabulary in use cannot be underestimated considering that testing vocabulary in use gives a balanced picture of a learner’s vocabulary knowledge (Read, 2000). For example, measuring lexical richness in writing through Lexical Frequency Profile (Laufer & Nation, 1995) gives us an opinion about the lexical richness of the written text in terms of frequency levels. This means that the total vocabulary of the text is divided into frequency levels according to predetermined lists and the more vocabulary a text has, the greater the lexical richness rating is

(Nation, 2007). Nowadays, the Range program on Nation's site or VocabProfile BNC 20 on Cobb's site (the one used for the present study) provide a more detailed lexical profile. The text is matched against 20 frequency lists which were developed on the basis of the British National Corpus (BNC) and the resulting analysis shows the number and the percentage of words at each 1,000 of the 20 lists of 20 thousands words (Laufer, 2013). Consequently, Lexical Frequency Profile (Laufer & Nation, 1995), which is also in parallel with vocabulary level tests, was used to measure the participants' use of productive vocabulary knowledge in their essays in the present study. It is an additional quantitative measure that enables us to research some important issues in vocabulary acquisition. It provides similar stable results for two pieces of writing one by person, discriminates between learners at different proficiency levels, and correlates with an independent measure of vocabulary knowledge (Meara, 2005).

2.4. Vocabulary and Language Use

The literature has always indicated the strong relationship between vocabulary knowledge and general language use suggesting that vocabulary knowledge and size is a good indicator of general ability in a foreign language. For instance, Meara (1996, p. 3) state that "All other things being equal, learners with big vocabularies are more proficient in a wide range of language skills than learners with smaller vocabularies.". Yet still it does not predict all the various sub-skills of equally well such as a relatively straightforward relationship between lexical knowledge and the ability to read a text (Milton, 2004). Some research has suggested the bidirectional relationship between vocabulary and language use specifically emphasizing the close relationship between vocabulary knowledge and comprehension. For instance, Şener (2010) examined the effect of proficiency level on the rate of receptive and productive vocabulary acquisition. The quantitative analysis demonstrated that the students at both levels improved their vocabulary both receptively and productively; however, the students at the elementary level gained more words in a shorter period of time. The qualitative data analyses showed that instruction and the materials played a certain role in improving the students' vocabulary acquisition. However, either the materials or instruction could not satisfactorily explain the elementary groups' greater gains in vocabulary. It is possible that the results that could not be explained by either materials or instruction were

because of differences in proficiency. More specifically, considering the growing awareness of the importance of academic vocabulary, and of academic language proficiency, Nagy & Townsend (2012) suggest that the instruction of academic vocabulary as means for communicating and thinking about disciplinary content provide students with opportunities to use the instructed words for these purposes as they are learning them thereby developing their academic language proficiency in general.

Moreover, some views have also have been suggested to emphasize this close relationship. Three views for the relationship between vocabulary and language use suggested by Anderson & Freebody (1981, cited in Nation, 1993, pp. 115-116) as follows:

1. “The instrumentalist view” sees vocabulary as being a major prerequisite and causative factor in comprehension.
2. “The aptitude view” sees vocabulary knowledge as one of many outcomes of having a good brain.
3. “The knowledge view” sees vocabulary as an indicator of good world knowledge.

A fourth view that can be added to the ones above (Mezynsk, 1983, cited in Nation, 1993, p. 116):

4. “The access view” sees vocabulary knowledge as having a casual relationship with comprehension provided that the vocabulary can easily be accessed and this access can involve several factors including fluency of lexical access, speed of coping with affixed forms and speed of word recognition.

These views on the relationships between vocabulary and language use are valid for both native speakers of a language and non-native speakers of a language but for non-native speakers of a language they are more complicated mainly because of the effect of first language. (Hsueh-chao & Nation, 2000). Besides the effect of mother tongue, the type of the instruction has also a big impact on vocabulary learning and therefore language use. For instance, the study by Shintani (2011) investigated the

comparative effects of two types of treatment, which were input and output, on the vocabulary acquisition of young EFL learners. The findings provided further evidence that both input-based instruction and production-based instruction lead to both receptive and productive vocabulary knowledge. In general, the results showed similar levels of effects for input-based and production-based instruction on vocabulary acquisition. However, an examination of process features indicated that the input-based tasks provided opportunities for richer interaction for the learners than the production-based activities.

The learners in that study were at the beginner level and aged between 6 and 8. In fact, this may explain the better performance of the input-based group on the task-based comprehension test. Remembering the effect of the type of instruction depends highly on the specific characteristics of specific language learners; balancing and integrating input-based and output-based instruction could be an effective way in second or foreign language education.

Current perspectives on integrated skills instruction give importance to integration of writing, vocabulary, and grammar instruction on the one hand, and reading and vocabulary instruction on the other (Nation, 2001; Hinkel, 2006). Also, Lee (2008) suggests that integrating instruction of reading, vocabulary, and writing is logical due to the fact that vocabulary that is learned in the context of reading is a more demanding task than sentence level production; therefore, it can be retrieved and produced at discourse level.

Considering the fact that word knowledge includes the ability to recall meaning, infer meaning, comprehend a text, and communicate orally (Stoller & Grabe, 1993), it can be suggested that a language course should be mostly meaning-focused and also provide an appropriate balance of opportunities for learning. According to Nation (2007, pp. 2-7), the opportunities for learning language can be usefully divided into four strands:

1. Meaning-focused input, which is learning through listening and reading – using language receptively based on understanding, gaining knowledge and enjoyment;
2. Meaning-focused output, which is learning through speaking and writing – using language productively;
3. Language-focused learning, which is deliberate/intentional learning;
4. Fluency development, which is acquiring four main skills of listening, speaking, reading, and writing through repetitive reception or production.

Nation (2007) explains that these are called strands because they can be seen as long continuous sets of learning conditions that run through the whole language course. In other words, the relationship between vocabulary knowledge and general language use is also incremental and continuum-based in nature. However, the impact of vocabulary knowledge cannot be equal for all main skills and the main reason for this situation is the time and effort spent on elaboration and processing new lexical information more elaborately will lead to a better retention than if it had been processed less elaborately (Hulstijn & Laufer, 2001).

More specifically, vocabulary size plays an important role for language proficiency. For instance, Stæhr (2008) found that the majority of the EFL learners participating in his study did not know the most frequent 2,000 words in English, but if they had done, they would also have performed adequately in the listening, reading and writing tests.

Remembering all these facts and bearing in mind that in EFL classes in Turkey English language teaching tends to be focused on reading and writing rather than speaking and listening, the present study was mainly aimed to investigate the outcomes of vocabulary learning; thus, it focused on the impact of receptive and productive vocabulary size on the students' reading and writing performances. However, the effect of vocabulary size on general language ability was also measured with the aim of presenting a general overview on the relationship between vocabulary knowledge and proficiency level in foreign language education.

2.4.1. Vocabulary and Reading

Most educators would agree upon the idea that the primary aim of reading should be the comprehension; however, different authors used the term “reading” differently. For instance, according to Anderson, Hiebert, Scott & Wilkinson (1985, p. 1), reading is “the process of constructing meaning from written texts. It is a complex skill requiring the coordination of a number of interrelated sources of information”. Moreover, Dechant (2013, pp. 5-6) identified two major types of reading: (1) those that equate reading with interpretation of experience generally such as reading of pictures, faces and weather and (2) those that restrict the definition to the interpretation of graphic symbols such as building a representation of text by relating what is on the page to one’s own fund of experience.

Goodman & Burke (1973) characterize the reading process as “psycholinguistic guessing game”, whereby the efficient reader is actively involved in making and remaking a hypothesis about the writer’s message. According to Birch (2007), the processing mechanism of reading consists of a variety of strategies, which allow the reader to take the text as a source of information and drawing on the knowledge base as another source. Ignoring the unknown vocabulary item, consulting a dictionary or another individual and inferring are some examples of these strategies (Fraser, 1999) and they can be optionally applied consciously or unconsciously.

Considering the requirements of reading process, it cannot be denied that reading comprehension depends on the personal meaning of word meanings. The core of a certain text consists of words; however, to go beyond words is the reader’s job. In other words, comprehension requires readers to go beyond what is explicitly stated in order to make sense of them though they are normally unaware of the extent of such interpretation in everyday reading (Shibab, 2011). Reading is more than understanding the vocabulary and grammar of the target text, although having a certain level of vocabulary knowledge and grammar plays an important role in comprehension of reading texts. That a second or foreign language learner practices reading does not necessarily means they know how to read. Hence, “a focus on developing skills and strategies that will assist future reading” is the key point in this sense and it requires

primary concern over the meaning of the text that has been read and subsequently shifting the attention to how that meaning has been conveyed by noticing the target form in deliberately chosen examples, with the result that learners are potentially comparing their new understanding of the text's meaning with their earlier understanding (Macalister, 2011, p. 162). In conclusion, reading in both first language and foreign language constitutes an interactive process between the reader and the text.

Word knowledge has particular importance in literate societies contributing significantly to achievement in the subjects of the school curriculum, as well as in formal and informal speaking and writing. Most people feel that there is a common sense relationship between vocabulary and comprehension – “messages are composed of ideas, and ideas are expressed in words” (Smith, 1997, p. 2).

As mentioned above, the link from word-level reading to comprehension is through the assumption that comprehension includes higher level processes that require cognitive resources (working memory) such as integrative processes, inferences, syntactic repairs; however in reading, the singular recurring cognitive activity is the identification of words (Perfetti, 2007). Hence, vocabulary size of learners is a kind of starting point to comprehend the given text. According to the study conducted by Zhang & Annual (2008), vocabulary knowledge at the 2,000-word and the 3,000-word levels was correlated to their reading comprehension.

Several authors and researchers emphasized the effect of the integration of vocabulary learning and improving reading skills. For example, Zimmerman (1997) stated that interactive vocabulary instruction accompanied by moderate amounts of self-selected and course-related reading led to gains in vocabulary knowledge; students' perceptions of how best to learn words corroborated these results. It has been argued that teachers should give consideration to the effects of combining reading and interactive vocabulary instruction.” Also, Hill & Laufer (2003) found that post-reading tasks explicitly focusing on target words led to better vocabulary learning than comprehension questions which required knowledge of the target words' meaning.

Another way to increase vocabulary knowledge and reading comprehension is modification of the target input. Modifications to input can be divided into two types: simplification, in the form of less complex vocabulary and syntax, and elaboration, in which unfamiliar linguistic items are offset with redundancy and explicitness (Yano, Long, & Ross, 1994). Finally, The study by Levy (2011) aimed to examine how the type of text practice (repeated reading of one text versus reading of several related texts) influenced contents area vocabulary learning. Findings indicated vocabulary and comprehension growth in all three groups as a result of the direct instruction. This growth was maintained over a three-month period after the end of instruction in three out of four measures. It can be said that the effects of group dynamic, individual differences and texts were observed in the study.

There is an interrelation between vocabulary knowledge and reading comprehension having two major directions of effect – the effect of vocabulary knowledge on reading comprehension and the effect of reading comprehension on vocabulary knowledge or growth (Hsueh-chao & Nation, 2000). Moreover, most theorists and researchers in education have assumed that vocabulary knowledge and reading comprehension are closely and strongly related, and numerous studies have shown the strong correlation between the two (Nelson-Herber, 1986; Anderson & Freebody, 1981; Baker, et al., 1995; Zimmerman, 1997; Read, 2000; Nation, 2001; Qian, 2002; Zhang, 2012).

More specifically, there is a linear relationship between the vocabulary size and the reading comprehension (Laufer, 1992; Schmitt, Jiang & Grabe, 2011). In other words, as Pringprom (2012) stated, “learners will have difficulty comprehending the text if their vocabulary size is far from the required threshold” (p. 1104). However, it is crucial to remember without underestimating the effect of vocabulary size and knowledge that there are other factors affecting reading comprehension of learners rather than vocabulary such as the effect of L1 (Fecteau, 1999; Lee & Schallert, 1997; van Gelderen et al., 2004; Garrison-Fletcher, 2012), group dynamic and individual differences (Levy, 2011) and text difficulty (Thomas & Healy, 2012).

2.4.2. Vocabulary and Writing

The EFL writing process is defined in the literature as “a sequence of a series of cyclical, recursive, and progressive stages with the purpose of producing a final piece of written work” (p. 14) and it includes revising, practices vary from person to person and technology can shape the way we write (Camps, 2005). Therefore, it is obvious that writing is a social, cognitive and also individual process.

As Laflamme (1997, p. 373) stated, "Reading and writing are two analogous and complementary processes in that both involve generating ideas, organizing ideas into a logical order, drafting them a number of times to achieve cohesion, and revising the ideas as is appropriate". Apart from having specific reading and writing skills and knowing the certain strategies, vocabulary plays a very important role in both skills since we express or understand ideas in reading and writing through words. Engber (1995) emphasized that the efficient retrieval of vocabulary is especially important in the timed writing tasks because most students would face them at some time in their academic careers. However, while improved vocabulary knowledge can enhance language learners' writing skills, it cannot happen automatically. Language learners may work out how to use acquired vocabulary by themselves; but apart from that the teacher should guide them providing them a variety of writing opportunities both in the classroom and outside the classroom.

Considering that a certain level of vocabulary is needed to learn the target language and writing means the production; it can be said that vocabulary plays an important role in writing enabling the use of the language in an active way. In the study by Coxhead (2012), the students individually carried out an integrated reading and writing task and then participated in an interview which focused on their language learning background and academic studies through vocabulary use in the reading and writing task. Data analysis showed that these students have an overall sense of the importance or need for academic vocabulary for their university studies and they especially demonstrated a high level of awareness of the academic audience for their writing and its impact on their word choice. Furthermore, these participants used a variety of techniques to incorporate academic or technical words into their essays.

The previous studies proved the strong relationship between vocabulary knowledge and writing skill suggesting that effective use of vocabulary is one of the most important indicators of overall composition quality (Raimes, 1985; Astika, 1993; Leki & Carson, 1994; Engber, 1995; Laufer & Nation, 1995; Meara & Fitzpatrick, 2000; Lee & Muncie, 2006; Baba, 2009). For instance, Astika (1993) investigated the assessment of foreign students' writing by native speaker English as a second language (ESL) teachers using an analytical scoring technique based on the ESL Composition Profile which contained the following features: Content, Organization, Vocabulary, Language Use, and Mechanics. The analysis indicated that Vocabulary accounted for the largest amount of variance in the total scores (83.75%), with Content, Language Use, Organization, and Mechanics accounting for 8.06%, 4.05%, 2.48% and 0.29%, respectively.

As the relationship between vocabulary and reading, the relationship between vocabulary and writing is also reciprocal. In other words, vocabulary knowledge and size have an impact on writing whereas writing helps to improve vocabulary knowledge. Receptive vocabulary knowledge develops through a variety of sources, but Laufer (1998) claimed that productive vocabulary does not necessarily develop in parallel. Converting receptive vocabulary into productive vocabulary is the final stage of vocabulary learning (Brown & Payne, 1994), and a writing course would be an appropriate place for this to happen. Muncie (2002) states that writing allows for greater experimentation with productive use of new words than speaking does, as students have greater use of resources such as dictionaries and time.” Likewise, Pichette, Serres & Lafontaine (2012) suggest that writing a text may lead to significantly higher recall than reading if enough time is allocated for each task, writing being intrinsically longer than reading for the same amount of language and therefore language teachers may resort to writing tasks that incorporate newly taught words in order to enhance students’ retention.

The term “output” has been used to describe what English language learners can produce in the spoken or written modalities. In this sense, to be able to use vocabulary knowledge in compositions is also a kind of output. However, recently output has been

explored as a learning process as well (Beckman-Anthony, 2008). Also, Swain (2005) discussed three possible functions of output in the learning process, which are noticing/triggering, hypothesis testing, and metalinguistic/reflective functions. When learners attempt to produce the target language, the production of output might trigger attention. In the second function of hypothesis testing, learners create a “trial run” of how to communicate a message. Finally, in the metalinguistic/reflective function, learners may modify the output to arrive at the appropriate production. These three hypotheses of output are closely related to the use of vocabulary knowledge in compositions and actually learners may go through a similar learning process for the production of the target output.

In the process of production, gaining a certain size of vocabulary is essential. Surely ‘a mere increase in vocabulary size’ cannot immediately lead to better writing performance in L2 (Baba, 2009); however, awareness of the learning process in initiating, selecting and consolidating the vocabulary items to be learned affects composition quality (Ma, 2013). In this process, teacher elicitation, explicit explanation, discussion, negotiation and multimode exposure to target vocabulary will increase learners’ use of vocabulary (Lee & Muncie, 2006).

CHAPTER 3

METHOD

This non-experimental study was designed as quantitative, correlational and descriptive research in order to present the impact of vocabulary knowledge on reading, writing and proficiency scores of a group of English prep-school students. The data were collected in order to calculate the following:

1. The relationship between the participants' receptive vocabulary knowledge test scores and productive vocabulary knowledge test scores,
2. The correlation between the participants' receptive vocabulary knowledge test scores and reading performance scores,
3. The correlation between the participants' productive vocabulary knowledge test scores and writing performance scores,
4. The lexical level of the student essays, which were evaluated through a tool of Lexical Frequency Profile (LFP),
5. The correlation between the participants' LFP scores and productive vocabulary knowledge test scores,
6. The correlation between the participants' receptive vocabulary knowledge test scores and proficiency exam scores,
7. The correlation between the participants' productive vocabulary knowledge test scores and proficiency exam scores.

3.1. The Prep-School and Participants

In Anadolu University School of Foreign Languages (AUSFL), all the students' proficiency level was determined with a placement exam at the beginning of the fall term. The placement exam, prepared by Bilkent University in Ankara, was a multiple-choice exam consisting of 170 questions of different levels of difficulty. The questions were designed to test students' knowledge of grammar and vocabulary. Each question had five options to choose from and four wrong answers cancelled out one correct answer.

This test primarily identified the language level of the students. At the same time, it aimed to determine the students who would take the proficiency exam. Students who scored 60 points or higher from the test were entitled to take the proficiency exam while students who scored 59 points or lower were placed to a class according to their points and started their preparatory education at one of the levels called A, B1.1, B1.2, B.2.1 and B2.2. These levels were based on Common European Framework of Reference for Languages (CEFR) and their learning outcomes were adapted regarding to that of CEFR levels. A was the beginner level at which students with low level or no English skills were placed while B1.1, B.1.2 and B2.1 were the levels at which students further consolidated and developed the language points from the previous levels. The exit level, B2.2 aimed to bring students' language, skills and lexis up to the level required for entry into faculties.

Each term, fall and spring, included two modules and therefore students who started their preparatory education from the level A and completed the levels B1.1, B.1.2 and B2.1 successfully in two terms (one academic year) could take courses in the summer term or the next fall term as B2.2 level students. Students who started their preparatory education from the level B1.1 or B1.2 had the chance to complete all the levels in two terms and graduate from the prep school at the end of the spring term. Students who started their preparatory education from the levels B2.1 and B2.2 had the chance to graduate from the prep-school at the end of the fall term. Students who failed at their current level had to repeat their classes in the next module and they could take face-to-face preparatory education for 2 years at most. After 2 years, students who could not graduate from the prep-school did not have the right to attend the lessons but they could take the proficiency exams administered at the beginning and end of the fall term and also at the end of the spring term by AUSFL. Otherwise, they could prove their proficiency with the external international examinations or foreign language examinations conducted by the Student Selection and Placement Center (ÖSYM) meeting the equivalent point regulated by the Higher Education Council Executive Board and Anadolu Univeristy.

Normally, each module, in which students of different levels could study, lasted 8 weeks; however, if students were able to reach B2.2 level at the very beginning of the fall or spring term, they had to take the courses of this level for 16 weeks, which was one academic term.

A variety of assessment methods such as mid-term(s), online assignment(s), portfolio(s), and a final exam were implemented. In order to pass their level, the students had to fulfil the following requirements: They had to take 8 pop-quizzes (16 pop-quizzes for 16-week B2.2 level students, who were the participants of the present study), (25%); kept portfolios including vocabulary files, unit tests, and written assignments (15%) and did online study exercises (10%) as in-course assessment requirements (50% in total) and also took a mid-module test consisting of listening, reading, and writing parts (50%) and their score had to be 70 or more out of 100 to be able to take the end of module test (EMT). In the EMT, which consisted of reading, listening, writing and speaking parts, they had to take at least 60 out of 100 to be able to study at the next level. This exam procedure was valid for all levels with the exception that A and B2.2 level students did not take a speaking exam as a part of the EMT.

Moreover, if students were able to pass the EMT of B2.2 level, they were allowed to take the proficiency exam consisting of a multiple choice exam to assess reading and language use, a listening exam, a speaking exam, and a writing exam. As the last requirement, the students scoring 60 or more out of 100 as the average of all these exams gained the right to pass the preparatory school and enter their faculties.

175 students from the level B2.2 (16 weeks) attending School of Foreign Languages in Anadolu University in Eskisehir, Turkey in the second term of 2013-2014 academic year participated in the current study. Although 8-week B2.2 level students were not included, the participants of the present study consisted of a mixed group of students including the ones who never repeated previous levels, the ones who repeated one or more previous levels or their current level and those students from the previous year.

For the purposes of the present study, 16-week B2.2 level students' grades in the reading and writing parts of the end of module test as their reading and writing performance scores and their grades in the proficiency exam as their general language ability scores were taken into consideration. The primary reason why B2.2 level students were included in the current study was that B2.2 level was the exit level of the prep-school; thus, they were at the most advanced level in their English learning process in this context.

3.2. Instruments

With the aim of collecting the required data for the present study, 2000 Word Level Receptive Vocabulary Knowledge Test (Schmitt, Schmitt & Clapham, 2001), 2000 Word Level Productive Vocabulary Knowledge Test (Laufer & Nation, 1999), Lexical Frequency Profile and Anadolu University School of Foreign Languages 2013-2014 Academic Year Spring Term 16-week B2.2 Level Students' reading and writing scores in the end of module test and also their overall scores on the proficiency exam were utilized.

3.2.1. 2000 Word Level Receptive Vocabulary Knowledge Test

The 2000 level represents the 1,986 word families from the General Service List (GSL; West 1953) (Li & MacGregor, 2010). The test used in the present study consisted of 30 items (Schmitt, Schmitt & Clapham, 2001) and the students were expected to match three words out of six with the given three associations presented in 10 units (see Appendix B). The six words within each item were semantically, morphologically and phonologically unrelated, to minimize the contribution of guessing to correct scores (Li & MacGregor, 2010). The words from the stratified sample tended to fall into a 3 (noun): 2 (verb): 1 (adjective) ratio and actually this ratio was maintained in the test, with each section containing three noun clusters, two verb clusters and one adjective cluster (Schmitt, Schmitt & Clapham, 2001).

3.2.2. 2000 Word Level Productive Vocabulary Knowledge Test

Unlike the fully productive tests such as Lexical Frequency Profile (Laufer & Nation, 1999); the term 'controlled productive vocabulary test' actually defines this form of

productive test better since it more correctly refers to the ability to use a word when compelled to do so by a teacher or researcher, whether in an unconstrained context such as a sentence-writing task, or in a constrained context such as a fill-in task where a sentence context is provided and the missing target word has to be supplied (Laufer & Nation, 1999). For the one used in this study, for each item, a meaningful sentence context was presented and the first letters of the target item were provided in order to prevent test-takers from filling in another word which would be semantically appropriate in the given context but which came from a different frequency level. For this purpose, two 2,000 word level productive vocabulary knowledge tests, Version A (18 items) and Version B (18 items), (Laufer & Nation, 1999) were used considering the fact that inclusion of 30 items is probably a minimum for a reliable test (Nation, 2001) (see Appendix C).

3.2.3. Lexical Frequency Profile

Lexical Frequency Profile (LFP) is a kind of measurement to estimate productive vocabulary size. Meara (2005) states LFP takes a text as raw input, and outputs a profile that describes the lexical content of the text in terms of frequency bands. In Nation's original formulation of LFP (Nation & Heatley 1996, cited in Meara, 2005, p. 33), the bands are described as follows:

The first [band] includes the most frequent 1,000 words of English. The second [band] includes the second 1,000 most frequent words, and the third [band] includes words not in the first 2,000 words of English but which are frequent in upper secondary school and university texts from a wide range of subjects. All of these base lists include the base forms of words and derived forms.

In LFP, for the assessment of bands, Nation's (1986) word lists are used and the calculation is done by a computer program. The output from LFP shows the number and percentage of word types and word tokens from the text being analyzed (Meara, 2005). Although there are some counterarguments, the study conducted by Laufer & Nation (1995) proved that Lexical Frequency Profile correlates well with an independent measure of vocabulary size and therefore this reliable and valid measure of lexical richness in writing will be useful for determining the factors that affect judgments of

quality in writing and for examining how vocabulary growth is related to vocabulary use. Therefore, in the present study the participants were given a certain topic according to their level and their textbooks and then their compositions were analyzed through the range program VocabProfile to get results for their lexical frequency profile (see Appendix G for a sample output).

3.2.4. Anadolu University School of Foreign Languages 2013-2014 Academic Year Spring Term 16-week B2.2 Level Students' Reading Scores in the End of Module Test

AUSFL 2013-2014 Academic Year Spring Term 16-week B2.2 Level Students' Reading Scores in the End of Module Test were used so as to be able to correlate the students' receptive vocabulary knowledge to their reading performance. The reading part prepared by the lecturers working in Testing Office of AUSFL consisted of 20 items including multiple-choice questions and true-false questions for two reading texts. The texts had 71.5% text difficulty level according to Flesch Kincaid The Readability Test Tool (see Appendix E for a sample part from the exam), which meant they were "fairly easy to read".

3.2.5. Anadolu University School of Foreign Languages 2013-2014 Academic Year Spring Term 16-week B2.2 Level Students' Writing Scores in the End of Module Test

AUSFL 2013-2014 Academic Year Spring Term 16-week B2.2 Level Students' Writing Scores in the End of Module Test were used so as to be able to correlate the students' productive vocabulary knowledge to their writing performance. For the writing part, which was prepared by the lecturers working in Testing Office of AUSFL, the students were given an essay topic, which was "World Health Organization (WHO) estimates that the number of overweight adults in the world is 2.1 billion. What are the possible causes / effects of obesity?". Also, some key points such as 'diet', 'genetics', 'death', 'social factors' and 'lifestyle' were given to help them develop their essay along with these topics. They were expected to write a cause-effect essay meeting the word limit between 250 and 300 words. The essays were evaluated in terms of content,

organization, grammatical range and accuracy and lexical range and accuracy (see Appendix F for the criteria).

3.2.6. Anadolu University School of Foreign Languages 2013-2014 Academic Year Spring Term 16-week B2.2 Level Students' Overall Scores on the Proficiency Exam

The proficiency exam aimed to determine whether students had proficiency in English. The students who scored 60 and higher were exempt from the preparatory school, and they had the right of entry into their faculties. The exam was conducted in three sessions (Anadolu University School of Foreign Languages Student Handbook, 2014-2015):

Session 1- Multiple choice Exam: It constituted 60% of the exam and consisted of listening (25 multiple choice questions related to short and medium length listening texts), reading (25 multiple choice questions related to the given reading texts which included 200-500 words), vocabulary (25 multiple choice questions about finding the meaning of vocabulary, assessment of knowledge on vocabulary structure, finding the synonyms and antonyms, assessment of knowledge of the collocations) and grammar (25 multiple choice questions about filling the blanks either in a sentence or in a text and finding the mistakes in the sentences, which were underlined).

Session 2 – Writing: It constituted 20% of the exam. Students were given a topic to write about it. A jury of two teachers assessed writing papers in terms of content, organization, vocabulary and grammar. The same criteria as the one used for the writing part of the EMT were applied for this session (see Appendix F).

Session 3 – Speaking: It constituted 20% of the exam. Students took the exam in groups of two at the date and hour they were assigned beforehand and they were asked two personal questions that they could speak individually, and one question that they could speak with one another, which would be cam-corded. Their performances would be evaluated by the jury of two teachers in terms of content, language usage, fluency, vocabulary knowledge and pronunciation. The speaking part constituted 20% of the exam.

For the purposes of the present study, the overall scores that the students got from all the abovementioned parts of the proficiency exam were used in order to be able to measure their general language ability.

3.3. Procedure

Before being used in the present study, the vocabulary knowledge tests were pilot-tested with a group of 20 students at B2.2 level in the 14th week of their module. The primary aim of the pilot study was to decide the time to allocate in the study. It revealed the time the students needed for the receptive vocabulary knowledge test as 15 minutes and productive vocabulary knowledge test as 25 minutes. The pilot study was only for allocating time since the test-developers had already proved the reliability and validity of both 2000 word level receptive vocabulary knowledge test (Schmitt, Schmitt & Clapham, 2001) and 2000 word level productive vocabulary knowledge test (Laufer & Nation, 1999).

For the study itself, the tests were administered during the classes in the 15th week of their module. Before the students took the tests, they had been informed about the general purpose of the study and that the tests would not affect their course outcome and also they filled the related consent forms (see Appendix A). Moreover, they had been instructed about how to do receptive and productive vocabulary knowledge tests with sample questions. Firstly, they were given the 2000 word level productive vocabulary knowledge test. After the participants submitted the productive vocabulary knowledge test, they took 2000 word level receptive vocabulary knowledge test. The reason why they were given the productive vocabulary knowledge test in the first order was that some of the items in both tests were the same; and therefore, the possibility of getting help from the receptive vocabulary knowledge test to do productive vocabulary knowledge test was removed beforehand. These vocabulary knowledge tests were administered towards the end of the second semester and their reading, writing and proficiency scores were included in the calculation of the study results after they were announced.

The analyses of the vocabulary knowledge test results were done through paired-samples t-test in order to find out the relationship between the receptive and productive vocabulary knowledge test scores. In fact, there are two kinds of results of this kind of analysis since responses in the ‘controlled’ productive vocabulary test can be scored at two levels of sensitivity, which are sensitive and strict scoring in order to consider both partial and full knowledge of the students. In the strict scoring system, a learner’s response is marked as correct if the target word is written exactly. In the sensitive scoring system, responses are marked correct even if the target words are misspelled or ungrammatically written, which means ignoring spelling mistakes, the mistakes in subject-verb agreement and the mistakes in part of speech. However, in the present study strict scoring system was preferred because it was assumed that it could provide more correct correlations. In addition, the correlation between the scores the students got on these two types of tests was also calculated to find out their impact on one another.

Next, the correlation between the students’ scores on the receptive vocabulary knowledge test and reading exam and the correlation between the students’ scores on productive vocabulary knowledge test and writing exam were calculated. Additionally, the lexical level of the compositions written by the participants was calculated through a range program for LFP and its relation to their productive vocabulary knowledge was found out. Finally, the correlation between the students’ scores on receptive vocabulary knowledge test and proficiency exam and the correlation between the students’ scores on productive vocabulary knowledge test and proficiency exam were analyzed.

For the productive vocabulary knowledge test, the students were expected to complete the given 36 words according to the given clues, which were some of the beginning letters of the target words and the meaning of the whole sentence context in which they appeared (see Appendix C).

The following is an example:

He has a successful car_____ as a lawyer.

They answer it in the following way:

He has a successful **career** as a lawyer.

The descriptive statistics for receptive and productive vocabulary knowledge tests (means, standard deviations, standard error means and minimum and maximum scores) are given in Table 5. Since the grades of the reading exam, writing exam, proficiency exam and Lexical Frequency Profile scores were calculated out of 100, the participants' scores in the vocabulary knowledge tests were also converted to be able to be calculated out of 100 (see Appendix D).

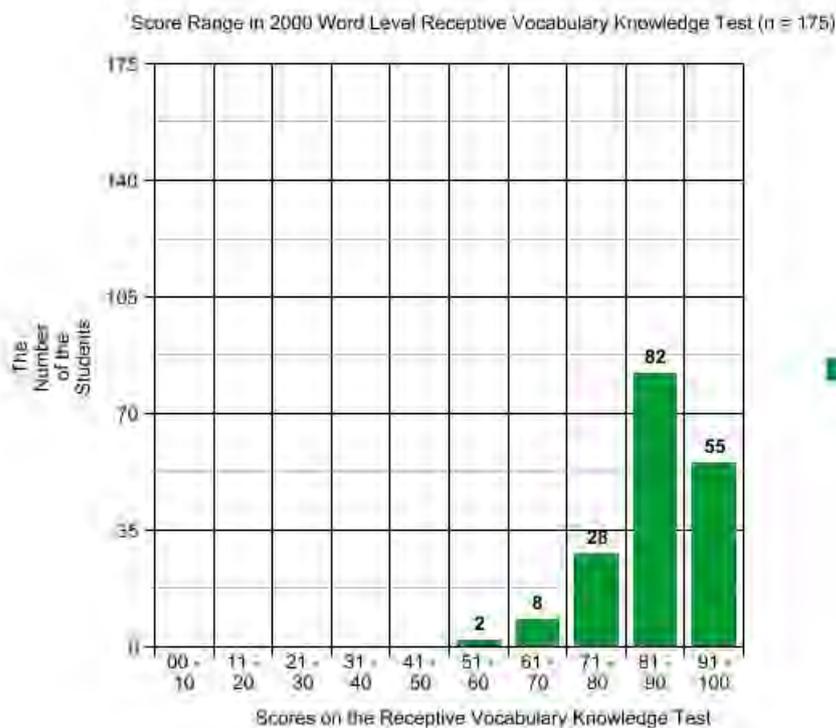
Table 5: Means, standard deviations, and minimum and maximum scores for the 2000 word level receptive and productive vocabulary knowledge test scores

| | N | Minimum | Maximum | M | SD | Std. Error Mean |
|---|----------|----------------|----------------|----------|-----------|------------------------|
| Receptive vocabulary knowledge test scores | 175 | 53 | 100 | 87,1829 | 8,47720 | ,64082 |
| Productive vocabulary knowledge test scores | 175 | 19 | 72 | 45,1486 | 10,69970 | ,80882 |

Note. Maximum score = 100.

As seen in Table 5, the participants knew most of the words in the receptive vocabulary knowledge test (M = 87,1829). Also, Figure 1 shows that all participants receptively knew more than 50% of the given words from 2000 word level (min. = 53 and max. = 100).

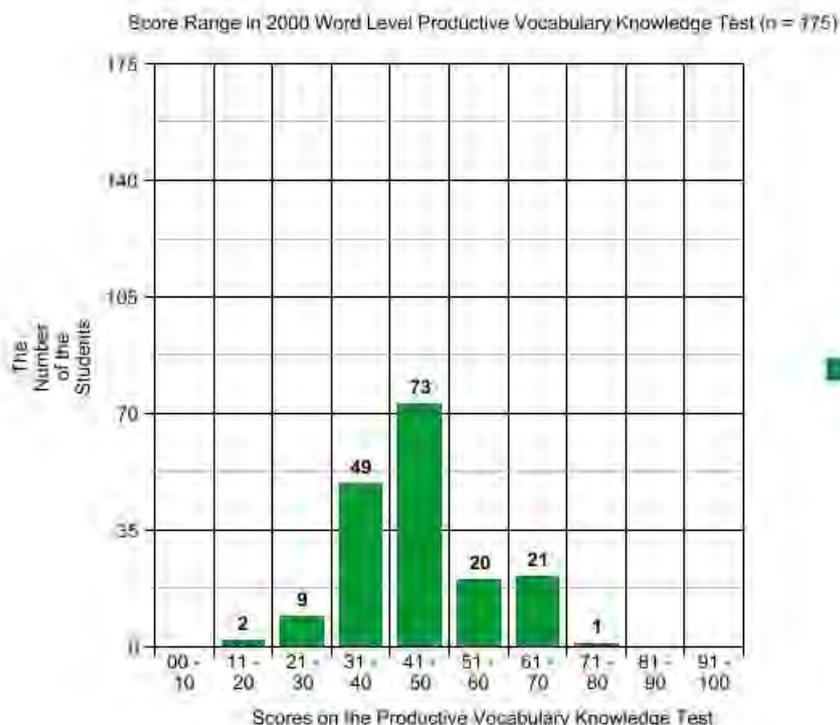
Figure 1: Distribution of the Scores on Receptive Vocabulary Knowledge Test



On the other hand, the participants were not as successful in 2000 word level productive vocabulary knowledge test ($M = 45,1486$) as they were in 2000 word level receptive vocabulary knowledge test ($M = 87,1829$). As Figure 2 shows, the participants did not have much productive knowledge of the given words (min. = 19 and max. = 72).

All in all, the mean scores indicate that the participants' receptive scores were higher than their productive scores. This result proved the suggestion that receptive vocabulary knowledge tends to be larger than productive vocabulary knowledge (Webb, 2008) most probably due to the fact that most vocabulary is learned receptively (Webb, 2005) in EFL classrooms. Moreover, it supported the fact that productively a lot more is needed and demanded when considered the aspects of vocabulary knowledge (Cronbach, 1942; Richards, 1976; Bogaard, 2000; Nation, 2001) and the dimensions of vocabulary knowledge (Henriksen, 1999); therefore, productive vocabulary knowledge is acquired later and slower than receptive vocabulary knowledge.

Figure 2: Distribution of the Scores on Productive Vocabulary Knowledge Test



Moreover, the standard deviation figures show that the distribution of the receptive vocabulary knowledge test scores ($SD = 8,47$) was more concentrated than the distribution of the productive vocabulary knowledge test scores ($SD = 10,69$). The larger spread of the scores on productive vocabulary knowledge test might be due to the fact that the participants of the present study consisted of a mixed group of students including the ones who never repeated previous levels, the ones who repeated one or more previous levels or their current level and those students from the previous year. Therefore, their backgrounds seemed to be largely different although they all studied at the same level. Furthermore, considering the fact that for each word to gain the full knowledge, foreign language learners need to master a multitude of aspects and it is more difficult to acquire and use the productive aspects. Thus, this larger distribution of the scores on productive vocabulary knowledge test is most probably due to the effect of individual differences and personal effort of the participants in the process of vocabulary learning.

On the other hand, the narrower spread of the scores the students got from the receptive vocabulary knowledge test might be due to the fact that receptive vocabulary

knowledge is easier to acquire and receptive vocabulary knowledge test is a relatively easier test type. Despite their different backgrounds, all the participants were exposed to similar vocabulary learning in the classrooms, which were mostly receptive and therefore might have resulted better scores in receptive vocabulary knowledge test. Besides, in receptive vocabulary knowledge test, test-takers only have to recall the meaning of the words to match their associations while they have to produce the target words according to the given clues in the productive vocabulary knowledge test. Another important point to be considered is that the participants' even a small amount of knowledge about a target word's meaning may help them to make a correct response in receptive vocabulary knowledge test because the words within a cluster have very different meanings (Schmitt, Schmitt & Clapham, 2001).

To address the first research question of the current study, which is "What is the relationship between the receptive and productive vocabulary knowledge of the participants?", the participants' scores in 2000 word level receptive vocabulary knowledge test and 2000 word level productive vocabulary knowledge test were analyzed through paired samples t-test.

Table 6: The paired differences and t, df, and sig. values found in paired samples t-test of receptive vocabulary knowledge test scores & productive vocabulary knowledge test scores

| | Paired Differences | | | | | t | df | Sig. (2-tailed) |
|------------------------------|--------------------|----------------|------------|---|----------|--------|-----|-----------------|
| | Mean | Std. Deviation | Std. Error | 95% Confidence Interval of the Difference | | | | |
| | Mean | Std. Deviation | Std. Error | Lower | Upper | | | |
| Receptive VK & Productive VK | 42,03429 | 8,01500 | ,60588 | 40,83847 | 43,23010 | 69,378 | 174 | ,000* |

Note. * = statistically significant at 0.01 level. VK refers to "vocabulary knowledge".

The mean differences, the other paired differences such as standard deviation and 95% confidence interval of the difference, and also t, df, and sig. values are presented in Table 6. The mean difference between receptive vocabulary knowledge and

productive vocabulary knowledge (MD = 42,03) shows that the difference was significant being lower than 0,01. These results indicate that the students got significantly higher scores from receptive vocabulary knowledge test as compared to their scores from productive vocabulary knowledge test. Based on the fact that sufficient words to assemble a working vocabulary in a foreign language that is sufficient across contexts requires time and effort and a working vocabulary involves the knowledge of basic concepts of meaning, form and use (Nation, 1990), it can be concluded that productive vocabulary knowledge is more comprehensive than receptive vocabulary knowledge by requiring more extensive competence on the dimensions and aspects of vocabulary knowledge (Nation, 2001) whereby eventually affecting the size of vocabulary knowledge foreign language learners have.

Some researchers argue that receptive vocabulary knowledge develops double time faster at beginner levels, but that production eventually catches up with it and therefore the gap diminishes in favor of productive vocabulary knowledge at advanced levels (Morgan & Oberdeck, 1930, as cited in Waring, 1999; Laufer 1998; Laufer & Paribakht 1998). However, the results of the present study did not support this suggestion because the participants' scores of receptive vocabulary knowledge test were much higher than that of productive vocabulary knowledge test (MD = 42,03) even if they studied at the exit level of their prep-school. The reason why the gap between their receptive vocabulary knowledge and productive vocabulary knowledge was still large may be due to two main factors such as the type of vocabulary learning, which was mostly receptive in the classroom (Webb, 2005) and the characteristics of that specific group, which had different backgrounds as mentioned earlier.

Table 7: The correlation between the receptive vocabulary knowledge test scores and productive vocabulary knowledge test scores

| | N | Correlation | Sig. |
|---|-----|-------------|------|
| Receptive VK & Productive VK | 175 | ,673* | ,000 |

Note. * = Correlation is significant at the 0.01 level (2-tailed). VK refers to “vocabulary knowledge”.

When the participants' receptive vocabulary knowledge test scores were correlated with their productive vocabulary knowledge test scores, it was found out that there was a moderate positive correlation ($r = 0,673$) between the two types of vocabulary knowledge. This means when the scores on 2000 word level receptive vocabulary knowledge increased, the scores on productive vocabulary knowledge also increased or vice versa. Also 45% of variance in productive vocabulary knowledge was explained by receptive vocabulary knowledge ($r^2 = 0,4529$). The correlation was significant at the 0.01 level and the results are summarized in Table 7. It demonstrates that the more receptive vocabulary knowledge the students had, the more productive vocabulary knowledge they had as well. The results supported the previous finding by Waring (2002) that receptive vocabulary knowledge can give some indication of productive vocabulary size. In other words, if a student has more receptive vocabulary knowledge, they have more productive vocabulary knowledge as well.

4.2.The Relationship between Receptive Vocabulary Knowledge and Reading Performance

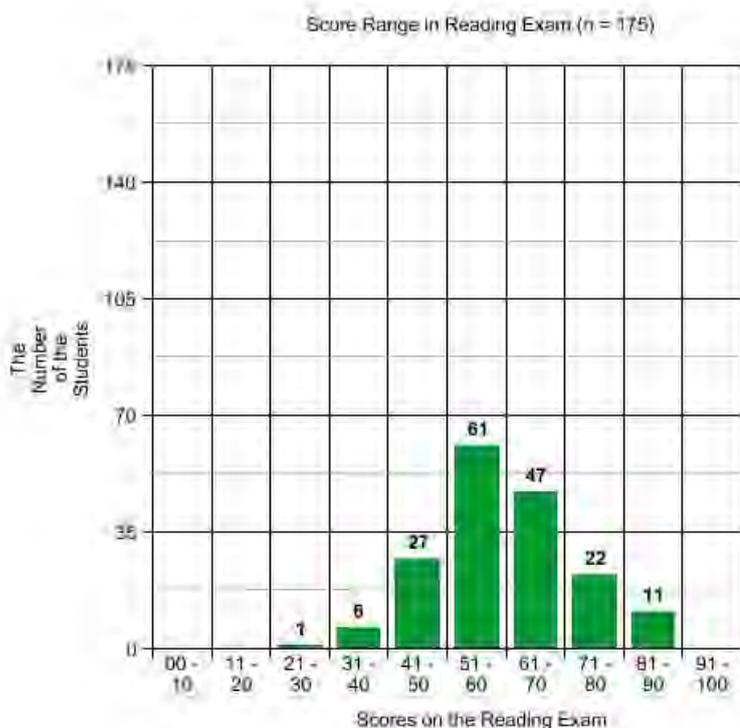
For the reading exam, the students were expected to answer 20 items including the given multiple choice questions and true-false questions according to the two reading texts in AUSFL 2013-2014 Academic Year Spring Term 16-week B2.2 Level End of Module Test. The reading part was prepared by the lecturers working in Testing Office of AUSFL and the two reading texts in the reading exam had 71.5% text difficulty level according to Flesch Kincaid The Readability Test Tool, which meant that the texts were fairly easy for students to understand. One of the reading texts in the exam and its 8 multiple-choice questions are given in Appendix E as an example.

Table 8: Means, standard deviations, and minimum and maximum scores for the reading exam scores

| | N | Minimum | Maximum | M | SD | Std. Error Mean |
|---------------------|----------|----------------|----------------|----------|-----------|------------------------|
| Reading Exam Scores | 175 | 27 | 90 | 60,7600 | 12,74640 | ,96354 |

The descriptive statistics for the reading exam scores (means, standard deviations, standard error means and minimum and maximum scores) are given in Table 8 and the distribution of them are presented in Figure 3. As seen, the participants' scores ranged from 27 to 90 out of 100 ($M = 60.76$).

Figure 3: Distribution of the Reading Exam Scores



In response to the second research question, which is “How does the participants’ receptive vocabulary knowledge have an impact on their reading performance?”, the students’ scores in the reading part of the 16-week B2.2 Level 2014-2015 Spring Term End of Module Test scores were correlated with their receptive vocabulary knowledge test scores. The aim was to find out how receptive vocabulary knowledge was related to reading performance. The results demonstrate that there was a moderate positive correlation ($r = 0,429$) between the participants’ receptive vocabulary knowledge and reading performance. This means when the scores on 2000 word level receptive vocabulary knowledge test increased, the scores on the reading exam moderately tended to increase or vice versa. Also, 18% of variance in reading performance was explained by receptive vocabulary knowledge ($r^2 = 0,184041$). The correlation was significant at the 0.01 level and the results are summarized in Table 9.

Table 9: The correlation between the receptive vocabulary knowledge test scores and reading exam scores

| | N | Correlation | Sig. |
|------------------------------|-----|-------------|------|
| Receptive VK & RP | 175 | ,429* | ,000 |

Note. * = Correlation is significant at the 0.01 level (2-tailed). VK refers to “vocabulary knowledge” and RP refers to “reading performance”.

The findings of the present study proved the impact of receptive vocabulary knowledge on reading performance showing that the more receptive vocabulary knowledge the students had, the more successfully they performed in the given reading exam.

Also, the item analysis of the 20 questions in the reading exam is presented demonstrating lower, upper, p and r values of each item in Table 10. Item analysis "investigates the performance of items considered individually either in relation to some external criterion or in relation to the remaining items on the test" (Thompson & Levitov, 1985, p. 163). In the table, upper values (U) show higher scores of the group while lower values (L) show lower scores the students got on the reading exam. The p-value, ranging between 0 and 1, shows the item difficulty, which is the percentage of the students that correctly answered the item. The higher the p-value is, the easier the item is. On the other hand, the r-value, ranging between -1 and 1, shows item discrimination, which is the relationship between how well students did on the item and their total exam score. The higher the r-value is, the more discriminating the item is. According to these values and comments, 20% of the questions (4 items) were very good while 15% of them (3 items) were good. On the other hand, 40% of the questions (8 items) were moderate having an r-value between 0,20 and 0,29. This means that the items were acceptable; nonetheless they could be improved in order to make them good or very good items. Finally, 10% of the questions (2 items) were bad having an r-value smaller than 0,20 and 15% of the questions (3 items) were reverse scored, which means most of the students chose a distractor as the correct answer. In other words, 35% of the questions (5 items in total) needed to be corrected.

Table 10: Item Analysis of the 20 questions in the reading part of the 16-week B2.2 Level 2014-2015 Spring Term End of Module Test.

| Qs | As | A | | B | | C | | D | | Not Answered | | p | r | COMMENT |
|----|----|------|------|------|------|------|------|------|------|--------------|------|------|------|-----------------|
| | | U | L | U | L | U | L | U | L | U | L | | | |
| 1 | B | 0,19 | 0,49 | 0,56 | 0,15 | 0,21 | 0,29 | 0,03 | 0,05 | 0 | 0 | 0,35 | 0,41 | Very good |
| 2 | C | 0 | 0,03 | 0,1 | 0,17 | 0,89 | 0,77 | 0 | 0,01 | 0 | 0 | 0,83 | 0,12 | Bad |
| 3 | B | 0,52 | 0,61 | 0,47 | 0,12 | 0 | 0,12 | 0 | 0,14 | 0 | 0 | 0,29 | 0,35 | Reverse scoring |
| 4 | D | 0,26 | 0,56 | 0,1 | 0,19 | 0 | 0,05 | 0,63 | 0,19 | 0 | 0 | 0,41 | 0,44 | Very good |
| 5 | A | 0,87 | 0,4 | 0,1 | 0,22 | 0,01 | 0,08 | 0 | 0,26 | 0 | 0,01 | 0,63 | 0,47 | Very good |
| 6 | D | 0,01 | 0,01 | 0,17 | 0,4 | 0,29 | 0,31 | 0,5 | 0,26 | 0 | 0 | 0,38 | 0,24 | Moderate |
| 7 | B | 0,1 | 0,24 | 0,85 | 0,64 | 0 | 0,05 | 0,03 | 0,05 | 0 | 0 | 0,74 | 0,21 | Moderate |
| 8 | C | 0,03 | 0,15 | 0,07 | 0 | 0,7 | 0,52 | 0,19 | 0,31 | 0 | 0 | 0,61 | 0,18 | Bad |
| 9 | A | 0,85 | 0,47 | 0,01 | 0,24 | 0,01 | 0,01 | 0,1 | 0,26 | 0 | 0 | 0,66 | 0,38 | Good |
| 10 | C | 0,17 | 0,08 | 0,4 | 0,24 | 0,12 | 0,01 | 0,29 | 0,64 | 0 | 0 | 0,06 | 0,11 | Reverse scoring |
| 11 | B | 0,31 | 0,52 | 0,57 | 0,29 | 0 | 0,01 | 0,1 | 0,15 | 0 | 0 | 0,43 | 0,28 | Moderate |
| 12 | D | 0,07 | 0,17 | 0 | 0,12 | 0,07 | 0,38 | 0,85 | 0,31 | 0 | 0 | 0,58 | 0,54 | Very good |
| 13 | B | 0,26 | 0,36 | 0,54 | 0,28 | 0,01 | 0,22 | 0,17 | 0,12 | 0 | 0 | 0,41 | 0,26 | Moderate |
| 14 | C | 0 | 0,1 | 0,01 | 0,21 | 0,98 | 0,68 | 0 | 0 | 0 | 0 | 0,83 | 0,3 | Good |
| 15 | B | 0,03 | 0,07 | 0,78 | 0,42 | 0,03 | 0,15 | 0,14 | 0,35 | 0 | 0 | 0,6 | 0,36 | Good |
| 16 | A | 0,4 | 0,17 | 0,07 | 0,14 | 0,15 | 0,33 | 0,36 | 0,35 | 0 | 0 | 0,28 | 0,23 | Moderate |
| 17 | A | 0,68 | 0,4 | 0,19 | 0,21 | 0 | 0,21 | 0,1 | 0,17 | 0 | 0 | 0,54 | 0,28 | Moderate |
| 18 | B | 0,12 | 0,33 | 0,08 | 0,03 | 0,54 | 0,47 | 0,24 | 0,15 | 0 | 0 | 0,05 | 0,05 | Reverse Scoring |
| 19 | A | 0,91 | 0,7 | 0,03 | 0,1 | 0,03 | 0,08 | 0,01 | 0,1 | 0 | 0 | 0,8 | 0,21 | Moderate |
| 20 | D | 0 | 0,01 | 0,28 | 0,38 | 0,31 | 0,4 | 0,4 | 0,19 | 0 | 0 | 0,29 | 0,21 | Moderate |

Note. Qs refers to “Questions”, As refers to “Answers”, U refers to “Upper Value”, and L refers to “Lower Value”.

When compared with the writing exam scores (min. = 55; max. = 100; and M = 81,28), the students’ scores on the reading exam were lower (min. = 27; max. = 90; and M = 60,76). The values received from the item analysis of the questions in the reading exam could be the explanation for the students’ lower grades on the reading exam considering that most of the items (65%) needed correcting or improving. Hence, it can be concluded that the reading exam might not have been able to assess what it aimed to assess. Considering the fact that “the fundamental use of testing in educational program is to provide information for making decisions, that is for evaluation” (Bachman, 1990, p. 54), it is crucial that test developers should be trained to examine all the aspects of a test including its validity, reliability, access and justice for its fairness (Kunnan, 1997). More specifically, reading assessment can be problematic since it can require different

types of reading assessment at different proficiency stages. For instance, extensive reading may become a part of reading assessment or may be in interaction with other language components such as writing according to different aims and contexts (Grabe, 1997). When all taken into consideration, it can be suggested that the standardized tests can meet most of these requirements for reading assessment.

Regarding this situation to the present study, the effect of the quality of reading exam on the results cannot be ignored, especially in terms of the correlation between receptive vocabulary knowledge and reading performance. If the reading exam had been structured differently, the level of the success of the students in the exam would have been different resulting a different correlation between their receptive vocabulary knowledge and reading performance.

4.3. The Relationship between Productive Vocabulary Knowledge and Writing Performance

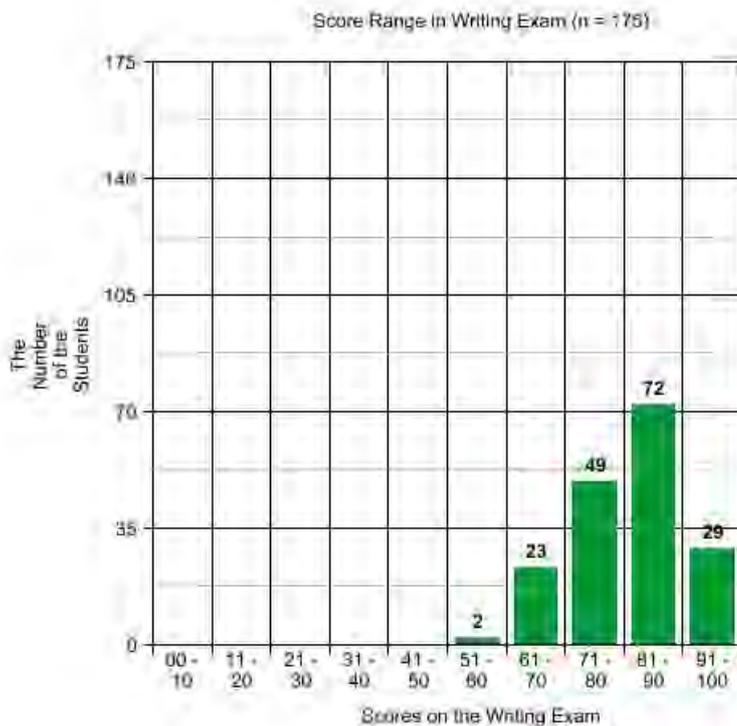
For the writing exam, the students were given an essay topic, which was “World Health Organization (WHO) estimates that the number of overweight adults in the world is 2.1 billion. What are the possible causes / effects of obesity?” and some key points such as ‘diet’, ‘genetics’, ‘death’, ‘social factors’ and ‘lifestyle’ were also given to help them develop their essay with these certain topics. They were expected to write a cause-effect essay meeting the word limit between 250 and 300 words. The essays were evaluated in terms of content, organization, grammatical range and accuracy and lexical range and accuracy by two graders. If their writing did not meet the word limit, it was evaluated accordingly, beginning from the band ‘inadequate’. The criteria for the writing part of the end of module test can be seen in Appendix F.

Table 11: Mean, standard deviation, and minimum and maximum scores for the writing exam scores

| | N | Minimum | Maximum | M | SD | Std. Error Mean |
|---------------------|----------|----------------|----------------|----------|-----------|------------------------|
| Writing Exam Scores | 175 | 55 | 100 | 81,2800 | 9,03482 | ,68297 |

The descriptive statistics for the writing exam scores (means, standard deviations, standard error means and minimum and maximum scores) are given in Table 11 and the distribution of them are presented in Figure 4. As seen, the participants' scores ranged from 55 to 100 out of 100 ($M = 81,28$).

Figure 4: Distribution of the Writing Exam Scores



Compared with the distribution of the reading exam scores ranging from 27 to 90 out of 100 with the mean score 60,76, the distribution of the writing exam scores ranging from 55 to 100 out of 100 with the mean score 81,28 shows the higher achievement of the students in the writing exam. Generally, the language learners were expected to get higher scores in reading exams rather than writing exams since reading is a receptive skill while writing is a productive skill. The reason why the students got higher scores in the writing exam in this case might be due to the abovementioned situation, which is the reading exam itself and also the approach adopted for writing criteria, which is holistic scoring. Holistic scoring consists of a single scale with all criteria to be included in the evaluation being considered together and the raters assign a single score based on an overall judgment of the student work. In other words, the rater matches an entire piece of student work to a single description on the scale, which is an

approach that can lead the students can get higher scores since the writing components such as content, organization, structure and vocabulary are not analyzed one by one. In fact, it could be said that the students' writing grades would eventually be subjective even if they were assessed by two graders because writing an essay does not have one true answer or way as the multiple-choice questions in the reading exam.

The third research question, which is “How does the participants’ productive vocabulary knowledge have an impact on their writing performance?”, focused on the relationship between productive vocabulary knowledge and writing performance.

Table 12: The correlation between the productive vocabulary knowledge test scores and writing exam scores

| | N | Correlation | Sig. |
|-------------------------------|----------|--------------------|-------------|
| Productive VK & WP | 175 | ,431* | ,000 |

Note. * = Correlation is significant at the 0.01 level (2-tailed). VK refers to “vocabulary knowledge” and WP refers to “writing performance”.

In response to the third research question, the students’ scores in the writing part of the AUSFL 16-week B2.2 Level 2014-2015 Spring Term End of Module Test were correlated with their 2000 word level productive vocabulary knowledge test scores. The aim was to find out how productive vocabulary knowledge was related to writing performance. The results indicated that there was a moderate positive correlation ($r = 0,431$) between productive vocabulary knowledge and writing performance. This means when the scores on 2000 word level productive vocabulary knowledge test increased; the writing exam scores moderately tended to increase or vice versa. Also, 18% of variance in writing performance was explained by productive vocabulary knowledge ($r^2 = 0,185761$). The correlation was significant at the 0.01 level and the results are summarized in Table 12.

Looking at these findings, it could be concluded that the more productive vocabulary knowledge a student had, the more successful they were in the writing exam and the impact of the participants’ productive vocabulary knowledge on their writing performance was significant. However, there is one important point that should not be

ignored in the examination of the relationship between productive vocabulary knowledge and writing performance: Even if the students did not have a large size of ‘full’ productive vocabulary knowledge, they could write a well-developed essay using the words they knew fully, which were most probably low frequency words (the most frequent 2,000 words) occurring very frequently and making up the majority of running words in discourse. Eventually, these findings supported the suggestion by Greidanus and Nienhuis (2001) that word frequency has an impact on quality of word knowledge since it enables students with frequent encounters to acquire better knowledge of the aspects of vocabulary items by providing them to use words productively.

4.4. The Lexical Level of the Student Essays and Its Relation to Productive Vocabulary Knowledge

Addressing the fourth research question, which is “What is the lexical level of the compositions written by the participants and its relation to their productive vocabulary knowledge?”, the students’ essays were submitted to the VocabProfile program and each participant’s use of word families from the 1000 and 2000 word bands together and only 2000 word band was noted down (see Appendix G for a sample output). The descriptive statistics for the participants’ Lexical Frequency Profile percentages (means, standard deviations, standard error means and minimum and maximum scores) are given in Table 13. As seen, the participants’ use of word families ranged from 81,11% to 97,70% (M = 89,79%) for the cumulative calculation of 1000 and 2000 word bands together while their use of word families from only 2000 word level band ranged from 6,56% to 24,14% (M = 13,84%).

Table 13: Means, standard deviations, and minimum and maximum percentages on the Lexical Frequency Profile

| | N | Minimum | Maximum | M | SD | Std. Error Mean |
|-------------------------------|-----|---------|---------|---------|---------|-----------------|
| LFP – Word Families (1K + 2K) | 175 | 81,11 | 97,70 | 89,7979 | 3,92777 | ,29691 |
| LFP – Word Families (2K) | 175 | 6,56 | 24,14 | 13,8404 | 3,29465 | ,24905 |

As mentioned before, the students were given some key points such as ‘diet’, ‘genetics’, ‘death’, ‘social factors’ and ‘lifestyle’ in order to help them develop their essay along with these topics. Although these words could function as clues to help the students write their essay more easily in terms of developing ideas for the given topic, they might have limited the students’ use of vocabulary knowledge directing them to focus on the given key points rather than find their own. Furthermore, none of the given key points were from 2000 word level according to VocabProfile. The words ‘diet’, ‘genetics’, ‘lifestyle’ and ‘factors’ were off-list while the words ‘death’ and ‘social’ were from 1000 word level. Therefore, the key points themselves might affect the students’ use of vocabulary besides directing their word choice thereby resulting having an impact on the results of the present study.

To examine the relationship between the lexical level of the essays and the students’ productive vocabulary knowledge, the correlation between the LFP 1000 and 2000 word band percentages and 2000 word level productive vocabulary knowledge test scores and also the correlation between LFP 2000 word band percentages and 2000 word level productive vocabulary knowledge test scores were calculated.

Table 14: The correlations between the productive vocabulary knowledge test scores and lexical frequency profile scores

| | N | Correlation | Sig. |
|--|----------|--------------------|-------------|
| Productive VK & LFP 1K + 2K | 175 | ,378* | ,000 |
| Productive VK & LFP 2K | 175 | ,424* | ,000 |

Note. * = Correlation is significant at the 0.01 level (2-tailed). VK refers to “vocabulary knowledge”, LFP 1K + 2K refers to “1000 and 2000 word band in Lexical Frequency Profile” and LFP 2K refers to “only 2000 word band in Lexical Frequency Profile”.

According to the results, there was a moderate positive correlation between productive vocabulary knowledge test scores and the participants’ lexical level (see Table 14). When the scores on the productive vocabulary knowledge increased, the percentages of the use of word families from the 1000 and 2000 level moderately tended to increase or vice versa ($r = 0,378$). In other words, 14% of variance in the participants’ lexical level at 1000 and 2000 word band was explained by their

productive vocabulary knowledge ($r^2 = 0,142884$). Moreover, when the scores on the productive vocabulary knowledge increased, the percentages of the use of word families from only 2000 level moderately tended to increase or vice versa ($r = 0,424$). That means 17% of variance in the participants' lexical level at 2000 word band was explained by their productive vocabulary knowledge ($r^2 = 0,179776$).

This moderate positive correlation between the students' productive vocabulary knowledge test scores and lexical frequency profile scores indicate that the more productive vocabulary knowledge a student had, the more lexical level they also had. Moreover, the findings proved, one more time, the suggestion that Lexical Frequency Profile correlates well with an independent measure of vocabulary size and therefore it is reliable and valid measure of lexical richness (Laufer & Nation, 1995).

4.5. The Impact of Receptive and Productive Vocabulary Knowledge on General Language Ability

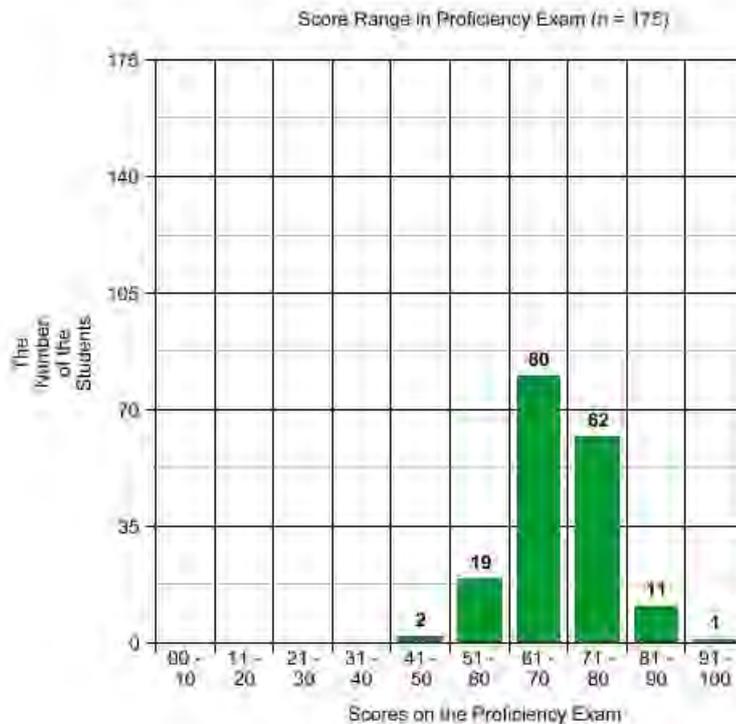
The AUSFL 2013-2014 Spring Term Proficiency Exam consisted of a multiple-choice exam to assess reading and language use (multiple choice questions of grammar and vocabulary), a listening exam, a speaking exam, and a writing exam as aforementioned in Chapter 3, Section 2. For the writing part, they were given a topic and expected to write an essay between 250 and 300 words. The criteria were the same as the end of module test writing criteria (see Appendix F). For the speaking exam, the students took the exam in pairs. It consisted of two parts, individual discussion and pair discussion and the students were expected to answer the questions in the first part individually and the questions in the second part discussing with each other. The performances of the students were evaluated by two teachers, one was the interlocutor who interviewed with the students and assessed their performance according to the more general criteria and the other was the assessor who did not interact with the students but merely assessed the students' performances according to the more detailed criteria. In both criteria, the scores were out of 20; however, later they were converted to the scores out of 100.

Table 15: Mean, standard deviation, and minimum and maximum scores for the proficiency exam scores

| | N | Minimum | Maximum | M | SD | Std. Error Mean |
|-------------------------|-----|---------|---------|---------|---------|-----------------|
| Proficiency Exam Scores | 175 | 48 | 93 | 68,9657 | 7,67583 | ,58024 |

The descriptive statistics for the students' overall scores on the proficiency exam (means, standard deviations, standard error means and minimum and maximum scores) are given in Table 15 and the distribution of them are presented in Figure 5. As seen, the participants' scores ranged from 49 to 93 out of 100 (M = 68,96).

Figure 5: Distribution of the Proficiency Exam Scores



To address the fifth research question of the current study, which is “How and to what extent does the receptive and productive vocabulary knowledge have an impact on the participants’ general language ability?”, the correlation between the participants’ scores on 2000 word level receptive vocabulary knowledge test and their proficiency exam scores and the correlation between the participants’ scores on 2000 word level

productive vocabulary knowledge test and their proficiency exam scores were calculated (see Table 16).

Table 16: The correlations between the vocabulary knowledge test scores and proficiency exam scores

| | N | Correlation | Sig. |
|--------------------------------|-----|-------------|------|
| Receptive VK & GLA | 175 | ,650* | ,000 |
| Productive VK & GLA | 175 | ,826* | ,000 |

Note. * = Correlation is significant at the 0.01 level (2-tailed). VK refers to “vocabulary knowledge” and GLA refers to “general language ability”.

In response to the fourth research question, the students’ general language ability, which was their proficiency exam grades, were correlated with their receptive vocabulary knowledge test scores and productive vocabulary knowledge test scores. The aim was to find out how both types of vocabulary knowledge were related to general language ability. The results indicate that there was a moderate positive correlation ($r = 0,650$) between receptive vocabulary knowledge and general language ability while there was a strong positive correlation ($r = 0,826$) between productive vocabulary knowledge and general language ability. This means that when the scores on receptive vocabulary knowledge went up, the scores on general language ability moderately tended to go up or vice versa. Also, 42% of variance in general language ability was explained by receptive vocabulary knowledge ($r^2 = 0,4225$). On the other hand, when the scores on productive vocabulary knowledge went up, the scores on general language ability also went up or vice versa. Moreover, 68% of variance in general language ability was explained by productive vocabulary knowledge ($r^2 = 0,682276$). Both correlations were significant at the 0,01 level; however, the higher value belonged to the correlation between productive vocabulary knowledge and general language ability ($r = 0,826$). The reason why the correlation between productive vocabulary knowledge test scores and general language ability scores was relatively higher was most probably because productive vocabulary knowledge might be a better indicator of success in foreign language learning addressing the use of skills instead of just recognizing knowledge. However, all in all, it was found out that vocabulary knowledge had a significant impact on general language ability in foreign language

learning supporting the previous research (Thelen, 1986; Şener, 2010; Huang, 2010). In other words, the more vocabulary knowledge a student had, the more successful they were in the target foreign language.

To conclude, all the findings of the present study proved the significant impact of receptive vocabulary knowledge on productive vocabulary knowledge, receptive vocabulary knowledge on reading performance, and productive vocabulary knowledge on writing performance. Also, the relationship between productive vocabulary knowledge and lexical level of the student essays and the impact of both receptive and productive vocabulary knowledge on general language ability were also significant.

CHAPTER 5

DISCUSSION

5.1. Conclusions

This chapter presents the conclusions drawn from the results of the analyses of the relationship between receptive vocabulary knowledge and productive vocabulary knowledge, the relationship between receptive vocabulary knowledge and reading performance, the relationship between productive vocabulary knowledge and writing performance, the lexical level of the student essays and its relation to productive vocabulary knowledge and the effect of receptive and vocabulary knowledge on general language ability.

5.1.1. The Relationship Between Receptive Vocabulary Knowledge and Productive Vocabulary Knowledge

The first research question investigated the relationship between receptive vocabulary knowledge and productive vocabulary knowledge. In fact, the productive knowledge test assessed controlled productive vocabulary knowledge because it more correctly refers to the ability to use a word when compelled to do so by a teacher or researcher (Laufer & Nation, 1999). The results supported previous findings (Stoddard, 1929; Laufer, 1998; Fan, 2000; Webb, 2008; Zhou, 2010) and the common perception among researchers (Clark, 1993; Melka, 1997; Waring, 1999) that a learner's receptive vocabulary knowledge is larger than his or her productive vocabulary knowledge because receptive vocabulary knowledge demands less than productive vocabulary knowledge.

The aspects of receptive and productive vocabulary knowledge suggested by Nation (2001, p. 26) clearly present the differences between two types of vocabulary knowledge also giving the rationale behind the case of having larger size of receptive vocabulary knowledge than productive vocabulary knowledge.

Another important result in response to the first research question is that the students who have larger receptive vocabulary knowledge are likely to have more

productive vocabulary knowledge than the students who have smaller receptive vocabulary knowledge. Besides, the gap between receptive vocabulary knowledge and productive vocabulary knowledge is significant most probably due to the assessment of other aspects of word knowledge such as collocations and syntax in productive vocabulary knowledge tests in addition to form and meaning assessed in both receptive and productive vocabulary knowledge tests. Previous research (Griffin, 1992) has suggested that receptive learning is more likely to lead to larger gains in receptive knowledge than productive knowledge, whereas productive learning tends to be more effective in increasing productive knowledge. Likewise, Webb (2005) states that vocabulary learning in the classroom tends to be receptive due to the fact that receptive vocabulary activities are more likely to happen in the classroom. Also in this study, the students gained higher scores in receptive vocabulary knowledge test probably because they were mostly exposed to receptive learning in the classroom. Furthermore, there is an effect of test type on the student's success. In this case, the students were more likely to be familiar with the receptive vocabulary knowledge test than productive vocabulary knowledge test since they were more likely to do such vocabulary activities as matching rather than produce the target words with limited clues.

In order to enhance vocabulary knowledge of both reception and production; extensive reading is a primary way that EFL learners can build their reading vocabulary to an advanced level. Extensive reading promotes second or foreign language learners' automaticity of word recognition (Grabe, 1991; 2009; Paran, 1996, Pressley, 2006) as well as it helps to improve their writing skills (Stotsky, 1983; Krashen, 1984; Hafiz & Tudor, 1989; Robb & Susser, 1989; Nation, 1997; Tsai, 2006); therefore, EFL students can be encouraged to read outside of the classroom by teaching them reading strategies and giving them assignments related to extensive reading.

According to some researchers (Nagy & Herman, 1987; Waring & Nation, 2004; Pigada & Schmitt, 2006; Krashen, 1989), extensive reading can lead to a great amount of vocabulary growth provided that certain preconditions including adequate exposure to the language, interesting material, and a relaxed, tension-free learning environment are met. However, other researchers state that extensive reading is not able to promote a

dramatic increase in vocabulary knowledge. For instance, if a learner reads for an hour, they will acquire only 3 to 6 words (Waring & Nation, 2004). Therefore, “extensive reading practice might help students confirm the meaning and function of the words that are already stored in their memory systems making the connection stronger, which in turn may potentially develop into productive-vocabulary knowledge” (Yamamoto, 2011, p. 240)

Although the effect of repeated exposure on vocabulary acquisition is not necessarily constant (Bisson et al., 2014), it is generally suggested that learners encounter the target words in many different contexts so that the mastery of different word knowledge types can be developed (Schmitt, 2008). Considering the fact that the knowledge of frequent, earlier acquired words are qualitatively better than that of the less frequent, more recently acquired words (Greidanus & Nienhuis, 2001), the contribution of extensive reading to the foreign language learner especially in terms of multiple encounters of words in different contexts cannot be underestimated. All in all, it is true that “each encounter leaves a trace which makes words easier to retrieve” (Pignot-Shahov, 2012, p. 41).

5.1.2. The Relationship Between Receptive Vocabulary Knowledge and Reading Performance

The second research question investigated the relationship between receptive vocabulary knowledge and reading performance; therefore, the correlation between the participants’ scores on 2000 word level receptive vocabulary knowledge test and the reading part of 16-week B2.2 Level End of Module Test was calculated. The results showed that there was an impact of the participants’ receptive vocabulary knowledge on their reading performance and this means the more receptive vocabulary knowledge the students had, the more successful they were in the given reading exam and this impact was significant. Hence, the results supported the previous research findings (Laufer, 1997; Hsueh-Chao & Nation, 2000; Schmitt, Scmitt & Clapham, 2001) suggesting the close relationship between vocabulary knowledge and reading comprehension. However, the correlation between the receptive vocabulary knowledge test scores and the reading exam scores was moderate. The item analysis of the questions in the reading

exam revealed that 65% of the questions were not good enough requiring to be developed or corrected and it was an important factor that affected the level of the success of the students in the reading exam. Besides the exam itself, there might have been some other factors also affecting their success in the reading exam such as individual differences, text difficulty relative to reader skill (Thomas & Healy, 2012), and L1 reading comprehension (Fecteau, 1999; Lee & Schallert, 1997; van Gelderen et al., 2004).

Another important point regarding to the impact of vocabulary knowledge on reading performance is that reading for information or entertainment provides a quantitatively and qualitatively rich context and resource for lifelong lexical development (Eckerth & Tavakoli, 2012) in addition to the importance of explicit or deliberate vocabulary learning.

5.1.3. The Relationship Between Productive Vocabulary Knowledge and Writing Performance

The third research question investigated the relationship between productive vocabulary knowledge and writing performance; therefore the correlation between the participants' scores on 2000 word level productive vocabulary knowledge test and the reading part of 16-week B2.2 Level End of Module Test was calculated. According to the results, the relationship between productive vocabulary knowledge and writing performance was significant. The more productive vocabulary the students had, the more successful they were in the given writing exam. Like the correlation between the receptive vocabulary knowledge test scores and the reading exam scores, the correlation between productive vocabulary knowledge test scores and the writing exam scores was also moderate. For the writing exam, the students were given some key points such as 'diet', 'genetics', 'death', 'social factors' and 'lifestyle' to help them develop their essay on the possible causes or effects of obesity. These key points enabled them to write their essays on certain topics and none of these given words were from 2000 word level band according to VocabProfile, the program used to assess the lexical level of the student essays. Therefore, it can be said that the students' lexical level in terms of full productive knowledge could be assessed without any impact of the instruction or key points given

in the writing exam. On the contrary, it enabled students to remain in a certain framework that provided individual but parallel samples of writing.

Moreover, except for vocabulary knowledge, there might have been some other factors that affected the students' success in the writing exam such as individual differences and the topic of the target essay. In terms of learning how to use vocabulary actively, previous studies led to mixed conclusions about the issue of "forced output" (Barcroft, 2006) and there is still need for further research in the related literature. For instance, in L2 learning, some researchers found writing target words in sentences or essays, a way of forced output of using full productive knowledge, were more effective than alternative methods while other researchers found it to produce negative effects on L2 vocabulary knowledge (Barcroft, 1998; 2000; 2004; Folse, 1999) relative to alternative methods. It can be concluded that the effect of writing on productive vocabulary knowledge is not clear; however, the effect of productive vocabulary knowledge on writing seems significant according to the present study and previous studies (Raimes, 1985; Astika, 1993; Leki & Carson, 1994; Engber, 1995; Laufer & Nation, 1995; Meara & Fitzpatrick, 2000; Lee & Muncie, 2006; Baba, 2009).

5.1.4. The Lexical Level of the Student Essays and Its Relation to Their Productive Vocabulary Knowledge

The fourth research question investigated the lexical level of the student essays and its relation to the students' productive vocabulary knowledge. According to the findings, the lexical level of the students for 1000 and 2000 word band together ranged from 81,11% and 97,70% ($M = 89,79$). Despite this narrow range, the relationship between their LFP scores and productive vocabulary knowledge was significant. The range of percentages for only 2000 word band seemed to be larger, from 6,56% and 24,14%. Looking at these findings, it can be concluded that if a student had more productive vocabulary knowledge, they used more word families from 1000 and 2000 word bands and from only 2000 word band than the ones who had less productive vocabulary knowledge. Eventually, the results supported the claim of LFP that it correlates with an independent measure of vocabulary knowledge (Laufer & Nation, 1995).

There was moderate positive correlation between LFP scores and productive vocabulary knowledge test scores; however, there might have been several factors affecting the findings. Firstly, none of the given key points in the instruction of the writing exam was from 2000 word band according to VocabProfile. The words 'diet', 'genetics', 'lifestyle' and 'factors' were off-list while the words 'death' and 'social' were from 1000 word band. Therefore, the key points themselves and the effect of the given key words on the word choice throughout the students' essays might have affected their LFP scores. Secondly, the student essays were evaluated at the 1000 and 2000 word bands together and only 2000 word band because the productive vocabulary knowledge test was at 2000 word level. Eventually it was found out that more than 80% of the word families were used by the participants from the 1000 and 2000 word bands together. However, the words off-list or from the other bands could not be assessed. Thirdly, the correlation between the LFP scores and productive vocabulary knowledge test scores were in support of LFP itself rather than the students' productive vocabulary knowledge. For instance, a student using word families mostly from 1000 word level and a student using word families mostly off-list or from the other bands except for 1000 and 2000 word bands may get the same score in their writing exams, therefore the students' use of full productive vocabulary knowledge as a whole cannot be assessed through LFP.

In conclusion, one of the most important findings from the correlation between the lexical level of the student essays and their productive vocabulary knowledge was that the relationship between the students' controlled productive vocabulary knowledge and full productive vocabulary knowledge was significant. Moreover, the word families from the 1000 and 2000 word bands covered at least 81% of the student essays on average. The findings supported the suggestion by Read (2004) that the 2000 most frequent words account for at least 80% of the running words in any written text.

However, LFP may not be cost effective for some reasons. Meara & Fitzpatrick (2000) state that test-takers need a lot of time to create texts containing infrequent words and therefore LFP may not be able to assess their vocabulary size from different levels effectively. Besides, the way in which LFP uses word frequency is rather limited;

as a result, it may not be used for meaningful feedback to the learners and requires to be adapted to reflect the actual frequencies rather than broad bands of LFP (Goodfellow, Lamy & Jones, 2002).

5.1.5. The Effect of Receptive and Productive Vocabulary Knowledge on General Language Ability

The fifth research question investigated how receptive and productive vocabulary knowledge of the students were related to their general language ability; therefore, correlations between the two types of vocabulary knowledge and the students' overall grades in the proficiency exam referring to their general language ability were calculated. Both correlations between receptive vocabulary knowledge and general language ability and between productive vocabulary knowledge and general language ability were highly significant. Therefore, these results supported the common perception in the literature that vocabulary knowledge is an important component in the improvement of general language ability (Zimmerman, 1997; Laufer 1992, 1997; Grabe & Stoller 1997). The correlation between productive vocabulary knowledge and general language ability had the higher value. The reason for this finding might be due to the fact that in the receptive vocabulary knowledge test, matching allows the learner a chance to try to guess the true answer with no knowledge of any of the six choices while the productive vocabulary knowledge test offers little or no chance to guess correctly; therefore, productive vocabulary knowledge test enabled the learners to exhibit their vocabulary knowledge without including the chance factor but giving them the tolerance to make mistakes. In conclusion, productive vocabulary level tests could be a more appropriate way of assessing vocabulary knowledge as a step and guide to full productive vocabulary knowledge.

5.2. Implications

This study was implemented towards the end of the spring term of 2014-2015 academic year and with the students studying at the exit level of AUSFL in Eskişehir, Turkey. The participants and the timing of the administration of the study was decided like that because it was descriptive research to evaluate the reached level of vocabulary

knowledge and its relation to the other components of the target language or the target language as a whole.

Although these exit level students were expected to get higher scores on these 2000 word level vocabulary tests, some of the students participating in this study got low scores on receptive vocabulary knowledge test (min. = 53,00 and M = 87,18) and most of them got even lower scores on productive vocabulary knowledge test (min. = 19,00 and M = 45,14). In addition, the correlations between vocabulary knowledge tests and the exams revealed the contribution of vocabulary knowledge to the foreign language performances. Hence, by looking at the overall results of the present study, it can be suggested that vocabulary awareness should be created for the students in their language learning process. Deliberate teaching of low frequency words in the classroom, encouraging students to acquire high frequency words via extensive reading and teaching them vocabulary learning strategies are some optional ways to create the awareness of the importance of vocabulary in an EFL setting. For instance, learners' receptive vocabulary knowledge can be enhanced through various vocabulary activities (Topkaraoğlu & Dilman, 2014) whether they are combined with reading or not (Laufer, 2003). Additionally and more specifically, the use of full vocabulary knowledge can be encouraged with specific and realistic goals including different ways of productive vocabulary knowledge taught by teachers with sufficient language training and practice (Levitzky-Avaid & Laufer, 2013). To be able to monitor such process of vocabulary development, assessment of the students' vocabulary size can be done regularly (Pringprom, 2012).

The scores of the students on 2000 word level vocabulary knowledge tests, their exam scores, the lexical level of the student essays, and all the correlations found out in the present study showed that vocabulary knowledge at 2000 word level may not be sufficient for the exit level students even if they did not get low scores in all these assessments despite their relatively lower scores on productive vocabulary knowledge test. For instance, Schmitt & Schmitt (2012) label the vocabulary between high-frequency (3,000) and low-frequency (9,000+) as “mid-frequency vocabulary” and suggest that foreign language learners should learn mid-frequency vocabulary for

proficient language use and also for authentic purposes, such as watching movies or reading. However, it is a well-known fact that students tend to use a small range of simple words in their writing in academic discourse as in this study although they are expected to use more sophisticated vocabulary. Considering the fact that not only learning opportunities but also learners' subjective willingness to explore these opportunities mediate their receptive and productive vocabulary knowledge (Zhang, 2012), motivation and needs of both foreign language teachers and learners crucially help to create the awareness of the importance of vocabulary in an EFL setting.

5.3. Suggestions for Further Research

This non-experimental descriptive study was able to identify these results at that particular time when the data were collected. However, a longitudinal study with practices that would gather data at certain intervals could better provide results reflecting the incremental nature of vocabulary knowledge. For instance, to be able to determine the drawbacks encountered during foreign language learners' acquisition of productive vocabulary knowledge in the long term may be investigated by looking at their written work to see what vocabulary discourse features are not properly used. Also, through a case study, specific findings could be obtained reflecting the individual differences on the vocabulary learning and teaching process since this kind of study would present a detailed view of personal vocabulary improvement.

The current study examined on the relationship between receptive vocabulary knowledge and reading performance and the relationship between productive vocabulary knowledge and writing performance. However, the impact of vocabulary knowledge can be observed on all the main skills. Thus, the analysis of the impact of vocabulary knowledge on listening and speaking is also a must. For instance, a corpus study to find the vocabulary which is much more frequent in certain spoken registers than it is in written registers might be implemented in the future.

Finally, the present study focused on learning vocabulary and the size of vocabulary knowledge. However, teaching vocabulary, especially teachers' approaching to unknown words, is another vital topic in the literature. To give a specific suggestion,

whether before or after gaining meaning focused experience is the best time for direct teaching to occur in the learning of a word in an EFL setting can be studied in the future. Besides, testing vocabulary should include the other dimensions such as partial and precise word knowledge or depth of vocabulary knowledge in addition to vocabulary size due to the multidimensional nature of vocabulary knowledge; thus, further research is needed to develop or measure the practicality of different kinds of vocabulary tests.

5.4. Limitations

Although the present study had significant results, it had also some limitations:

- Firstly, in the productive vocabulary knowledge test the first letters of the target vocabulary items are given to prevent test-takers from filling another word that semantically fits in the given context (Laufer & Nation, 1995); however, it is possible that the test taker might choose a different word to complete the sentence, which might be a less frequent word, possibly indicating a broader productive vocabulary than the test would reveal (Walters, 2012).
- Either vocabulary learning is continuum-based (Henriksen, 1996; Schmitt, 1998; Zhong, 2014) or it is not a continuum but a candidate for a threshold effect as Meara (1997) suggested, the results of the present study could have been different if it had been implemented before or after the time when the data were collected. Individuals' vocabulary knowledge can develop or regress according to the involvement in the foreign language vocabulary learning and teaching process (Hulstijn & Laufer, 2001).
- In addition to the effect of the nature of vocabulary knowledge on the results of the present study, there might have been some other factors having an impact on the findings. Since the students were informed about the general purpose of the study and that the tests would not affect their course outcome, they might not have taken these vocabulary tests seriously.

- Moreover, the questions and the texts in the reading exam might have had a negative effect on the results. The item analysis of the questions in the reading exam revealed that most of the items could not effectively assess what they aimed to assess since 65% of the questions needed correcting or improving.
- Also the content of the questions in the reading, writing and proficiency exams might have had an effect on the success of the participants and therefore on the results of the present study. For instance, it would have been likely for the participants to get different scores if different questions had been asked in these exams.
- The writing exam criteria, which were holistic scoring, had also an impact on the results since it did not allow assessing the writing components such as content, organization, structure and vocabulary one by one. If analytic scoring had been used in that writing exam and the correlation between the participants' scores on productive vocabulary knowledge test and their scores on the vocabulary component of the writing exam had been analyzed, different results could have been found out.
- Finally, the vocabulary part in the proficiency exam (25 multiple choice questions about finding the meaning of vocabulary, assessment of knowledge on vocabulary structure, finding the synonyms and antonyms, assessment of knowledge of the collocations) might have an effect on the results leading to stronger correlations between vocabulary knowledge tests and the proficiency exam.

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APPENDICES

Appendix A: SAMPLE CONSENT FORM

Consent to Participate in a Research Study

Introduction

- You are being asked to be in a research study called “The Impact of Vocabulary Knowledge on Reading, Writing and Proficiency Scores of B2.2 Level Turkish Students: A study with Anadolu University English Prep-School Students” conducted by Inst. Dilek KARAKOÇ.
- I ask that you read this form and ask any questions that you may have before agreeing to be in the study.

Purpose of the Study

- The purpose of the study is to investigate the relationship between the receptive and productive vocabulary knowledge, the relationship between receptive vocabulary knowledge and reading performance and the relationship between productive vocabulary knowledge and writing performance using vocabulary knowledge tests and the participants’ scores on their reading, writing and proficiency exams. Additionally, the lexical level of the compositions written by the participants and its relation to their productive vocabulary knowledge and the impact of both receptive and productive vocabulary knowledge on the participants’ general language ability of EFL were also examined.
- Ultimately, this research may be published as an MA thesis.

Procedure of the Study

- If you agree to be in this study, you will be asked to do the following things:
 1. You will be instructed about how to do the vocabulary tests according to the given examples on the first pages of the papers.
 2. You will be given the productive vocabulary test first and when all you complete these tests, your instructors will collect them.
 3. After that, you will be distributed the receptive vocabulary tests.

4. You will be given 25 minutes for the productive vocabulary test and 15 minutes for the receptive vocabulary test.

- There are no reasonable foreseeable (or expected) risks. However, this study will contribute a different viewpoint to the literature of foreign language learning providing better insights about the incremental and multidimensional nature of vocabulary. Moreover, it will present useful implications on vocabulary learning and teaching in an EFL setting with the help of your participation.

Confidentiality

- This study is anonymous. We will not be collecting or retaining any information about your identity.

Payments

- You will receive no payment/reimbursement.

Right to Refuse or Withdraw

- The decision to participate in this study is entirely up to you. You may refuse to take part in the study at any time without affecting your relationship with the investigators of this study. Your decision will not result in any loss or benefits to which you are otherwise entitled. You have the right not to answer any single question, as well as to withdraw completely from the interview at any point during the process; additionally, you have the right to request that the interviewer not use any of your interview material.

Right to Ask Questions and Report Concerns

- You have the right to ask questions about this research study and to have those questions answered by me before, during or after the research. If you have any further questions about the study, at any time feel free to contact me, [Dilek KARAKOÇ] at [dilekk@anadolu.edu.tr]. If you like, a summary of the results of the study will be sent to you.

Consent

- Your signature below indicates that you have decided to volunteer as a research participant for this study, and that you have read and understood the information provided above. You will be given a signed and dated copy of this form to keep, along with any other printed materials deemed necessary by the study investigators.

Subject's Name:

Subject's Signature:

Date:

Investigator's Signature:

Date:

Appendix B: 2000 WORD LEVEL RECEPTIVE VOCABULARY TEST
VERSION 1 (Schmitt, Schmitt and Clapham, 2001)

This is a vocabulary test. You must choose the right word to go with each meaning.
Write the number of that word next to its meaning.

Here is an example:

- | | | |
|---|----------|----------------------------------|
| 1 | business | |
| 2 | clock | _____ part of a house |
| 3 | horse | _____ animal with four legs |
| 4 | pencil | _____ something used for writing |
| 5 | shoe | |
| 6 | wall | |

You answer it in the following way:

- | | | |
|---|----------|-----------------------------------|
| 1 | business | |
| 2 | clock | ___6__ part of a house |
| 3 | horse | ___3__ animal with four legs |
| 4 | pencil | ___4__ something used for writing |
| 5 | shoe | |
| 6 | wall | |

Some words are in the test to make it more difficult. You do not have to find a meaning for these words. In the example above, these words are business, clock, and shoe.

If you have no idea about the meaning of a word, do not guess. But if you think you might know the meaning, then you should try to find the answer.

1 birth
2 dust _____ game
3 operation _____ winning
4 row _____ being born
5 sport
6 victory

1 choice
2 crop _____ heat
3 flesh _____ meat
4 salary _____ money paid regularly for
5 secret _____ doing a job
6 temperature

1 cap
2 education _____ teaching and learning
3 journey _____ numbers to measure with
4 parent _____ going to a far place
5 scale
6 trick

1 attack
2 charm _____ gold and silver
3 lack _____ pleasing quality
4 pen _____ not having something
5 shadow
6 treasure

1 cream
2 factory _____ part of milk
3 nail _____ a lot of money
4 pupil _____ person who is studying
5 sacrifice
6 wealth

1 adopt
2 climb _____ go up
3 examine _____ look at closely
4 pour _____ be on every side
5 satisfy
6 surround

1 bake
2 connect _____ join together
3 inquire _____ walk without purpose
4 limit _____ keep within a certain size
5 recognize
6 wander

1 burst
2 concern _____ break open
3 deliver _____ make better
4 fold _____ take something to someone
5 improve
6 urge

1 original
2 private _____ first
3 royal _____ not public
4 slow _____ all added together
5 sorry
6 total

1 brave
2 electric _____ commonly done
3 firm _____ wanting food
4 hungry _____ having no fear
5 local
6 usual

Appendix C: 2000 WORD LEVEL PRODUCTIVE VOCABULARY TEST
VERSION A and VERSION B (Laufer and Nation, 1999)

This is a vocabulary test. You must complete the word according to the given clues, which are some of the beginning letters of the target word and the meaning of the whole sentence.

Here is an example:

He has a successful car_____ as a lawyer.

You answer it in the following way:

He has a successful career as a lawyer.

1. I'm glad we had this opp_____ to talk.
2. There are a doz_____ eggs in the basket.
3. Every working person must pay income t_____.
4. The pirates buried the trea_____ on a desert island.
5. Her beauty and ch_____ had a powerful effect on men.
6. La_____ of rain led to a shortage of water in the city.
7. He takes cr_____ and sugar in his coffee.
8. The rich man died and left all his we_____ to his son.
9. Pup_____ must hand in their papers by the end of the week.
10. This sweater is too tight. It needs to be stret_____.
11. Ann intro_____ her boyfriend to her mother.
12. Teenagers often adm_____ and worship pop singers.
13. If you blow up that balloon any more it will bu_____.
14. In order to be accepted into the university, he had to impr_____ his grades.
15. The telegram was deli_____ two hours after it had been sent.

16. The differences were so sl_____ that they went unnoticed.
17. The dress you're wearing is lov_____.
18. He wasn't very popu_____ when he was a teenager, but he has many friends now.
19. It is the de_____ that counts, not the thought.
20. Plants receive water from the soil through their ro_____.
21. The nu_____ was helping the doctor in the operating room.
22. Since he is unskilled, he earns low wa_____.
23. This year long sk_____ are fashionable again.
24. Laws are based on the principle of jus_____.
25. He is walking on the ti_____ of his toes.
26. The mechanic had to replace the mo_____ of the car.
27. There is a co_____ of the original report in the file.
28. They had to cl_____ a steep mountain to reach the cabin.
29. The doctor ex_____ the patient thoroughly.
30. The house was su_____ by a big garden.
31. The railway con_____ London with its suburbs.
32. She wan_____ aimlessly in the streets.
33. The organisers li_____ the number of participants to fifty.
34. This work is not up to your usu_____ standard.
35. They sat down to eat even though they were not hu_____.
36. You must have been very br_____ to participate in such a dangerous operation.

**Appendix D: CONVERSION TABLES FOR THE RECEPTIVE AND
PRODUCTIVE VOCABULARY TESTS**

Receptive Vocabulary Knowledge Test

| The Number of Correct Items | Scores out of 100 |
|--|------------------------------|
| 30 | 100 |
| 29 | 97 |
| 28 | 93 |
| 27 | 90 |
| 26 | 87 |
| 25 | 83 |
| 24 | 80 |
| 23 | 77 |
| 22 | 73 |
| 21 | 70 |
| 20 | 67 |
| 19 | 63 |
| 18 | 60 |
| 17 | 57 |
| 16 | 53 |
| 15 | 50 |
| 14 | 47 |
| 13 | 43 |
| 12 | 40 |
| 11 | 37 |
| 10 | 33 |
| 9 | 30 |
| 8 | 27 |
| 7 | 23 |
| 6 | 20 |
| 5 | 17 |
| 4 | 13 |
| 3 | 10 |
| 2 | 7 |
| 1 | 3 |
| 0 | 0 |

Productive Vocabulary Knowledge Test

| The Number of Correct Items | Scores out of 100 |
|--|------------------------------|
| 36 | 100 |
| 35 | 97 |
| 34 | 94 |
| 33 | 92 |
| 32 | 89 |
| 31 | 86 |
| 30 | 83 |
| 29 | 81 |
| 28 | 78 |
| 27 | 75 |
| 26 | 72 |
| 25 | 70 |
| 24 | 67 |
| 23 | 64 |
| 22 | 61 |
| 21 | 58 |
| 20 | 56 |
| 19 | 53 |
| 18 | 50 |
| 17 | 47 |
| 16 | 44 |
| 15 | 42 |
| 14 | 39 |
| 13 | 36 |
| 12 | 33 |
| 11 | 31 |
| 10 | 28 |
| 9 | 25 |
| 8 | 22 |
| 7 | 19 |
| 6 | 17 |
| 5 | 14 |
| 4 | 11 |
| 3 | 8 |
| 2 | 6 |
| 1 | 3 |
| 0 | 0 |

Appendix E: 2014 – 2015 ACADEMIC YEAR SPRING TERM 16-WEEK B2.2
LEVEL EMT READING EXAM
SAMPLE READING TEXT AND MULTIPLE-CHOICE QUESTIONS

Selfie Alert: Photo Dilemma

[P1] Before you submit that headshot of yourself on LinkedIn or Facebook, you might want to consider — does it really show you in a good light? A new study finds that people can collect wildly inaccurate first impressions of people based on slight variations in how a person's face is presented.

[P2] "The findings suggest that the images we post online can affect us in unexpected, and undesired, ways, subtly biasing other people's decisions," Alexander Todorov of Princeton University said in a press release. Todorov and colleague Jenny Porter, of Columbia University, took an interest in how people interpret photos of others since so many people are constantly adding to their online presence, whether on professional networking sites, dating sites, social networking sites or personal websites.

[P3] Other research has shown that people tend to form first impressions very quickly based on how a person looks. But when a person's face is presented in a static image, even small details can change that first impression dramatically. "Our findings suggest that impressions from still photos of individuals could be deeply misleading," said Todorov. For their study, the researchers presented subjects with headshots of different people. While the lighting and backgrounds of the photos remained the same, the images featured slight variations in facial expressions. The subjects were then asked to rate the images on various characteristics, including attractiveness, competence, creativity, cunning, extraversion, meanness, trustworthiness or intelligence. The results showed that impressions of the same people presented in different photos varied as widely as impressions of photos of different people. In other words, how a person's face was presented was everything.

[P4] "What we have shown here is something that people in the business of image manipulation have known for a long time," Todorov and Porter wrote. So does this mean it might be wise to consult a professional when posting images of yourself on LinkedIn, say, or a dating website? The authors argue there's likely no way to present yourself in a full, true light when it comes to a photo. We are, after all, living, breathing humans whose expressions and body language and language change by the second.

[P5] "The face is not a still image frozen in time but rather a constantly shifting stream of expressions that convey different mental states," they note. The key lesson, perhaps, is to never take too much stock in any person's single photo. Your best bet may be to just wait to meet them in person.

13. Todorov and Porter decided to study on images posted online because ____ .

- A. they saw people misinterpret their photos uploaded
- B. people continuously keep uploading photos everywhere
- C. they have biased ideas about social networking sites
- D. people manage to present their personality through them

14. Photos may lead people to ____ .

- A. have rational ideas
- B. know someone at first sight
- C. have a wrong first impression
- D. find a partner easier

15. In paragraph 3, it can be inferred about the research results that ____ .

- A. the quality of photos is as important as the pose itself
- B. the facial expression can affect the interpretation of personality
- C. different photos of a person don't change the perception of viewers
- D. the same pose of different people creates the same impact on people

16. The word “featured” in paragraph 3 is closest in meaning to ____ .
- A. involved
 - B. expressed
 - C. characterized
 - D. viewed
17. It is hopeless to try to represent real you through photography because ____ .
- A. every minute we use different mimics and gestures revealing our feelings
 - B. we continue to live but the photos are left in a definite time in the past
 - C. the photo manipulation is an industry making profit by editing people’s photos
 - D. human brain is tricky and causes people to misinterpret what they see
18. The word “it” in paragraph 4 refers to ____ .
- A. write
 - B. consult
 - C. manipulate
 - D. post
19. The word “convey” in paragraph 5 is closest in meaning to ____ .
- A. show
 - B. conduct
 - C. convert
 - D. hinder
20. The text is mainly about ____ .
- A. the advantages of the photos on social networks
 - B. the first impression of people depending on social networks
 - C. the presentation of real you through a photo
 - D. the impossibility of reflecting yourself in a photo

**Appendix F: WRITING CRITERIA FOR THE WRITING PART IN AUSFL
2014 – 2015 ACADEMIC YEAR SPRING TERM 16-WEEK B2.2 LEVEL EMT
AND THE PROFICIENCY EXAM (OUT OF 100)**

| | | |
|-----------------|----------|---|
| 5 Very Good | 88 – 100 | <ul style="list-style-type: none"> • CONTENT: All content points covered with appropriate expansion including all the requirements of the task. • ORGANIZATION: Ideas effectively organized and logically sequenced in accordance with the text type. • STRUCTURE: A wide variety of structures with accurate and appropriate uses with almost no errors. • VOCABULARY: A wide variety of vocabulary with accurate and appropriate uses with almost no errors. |
| 4 Good | 75 - 87 | <ul style="list-style-type: none"> • CONTENT: All major content points with the requirements of the task included with possibly one or two minor omissions. • ORGANIZATION: Ideas fairly organized and logically sequenced in accordance with the text type. • STRUCTURE: A variety of structures with accurate and appropriate uses with a few minor errors and a few simple forms and structures. • VOCABULARY: A variety of vocabulary with accurate and appropriate uses with a few minor errors. |
| 3 Adequate | 60 – 74 | <ul style="list-style-type: none"> • CONTENT: Major content points included but there are some minor omissions. • ORGANIZATION: Ideas adequately organized and logically sequenced in accordance with the text type. • STRUCTURE: Adequate range of structures with accurate and appropriate uses including some limitations and errors of forms and structures. • VOCABULARY: Vocabulary with some accurate and appropriate uses including a number of errors, but still communicates. |
| 2 Inadequate | 36 – 59 | <ul style="list-style-type: none"> • CONTENT: Some major content points inadequately covered or omitted; partly inappropriate information and/or doesn't meet the word limit. • ORGANIZATION: Ideas inadequately organized and illogically sequenced in accordance with the text type. • STRUCTURE: Limited range of structures with inaccurate and inappropriate uses. Vocabulary with a number of errors that distract reader and obscure communication at times. |
| 1 Very Poor | 16 – 35 | <ul style="list-style-type: none"> • CONTENT: Notable content omissions and considerable irrelevance. • ORGANIZATION: Lack of organization and totally illogical sequencing in accordance with the text type. • STRUCTURE: Totally narrow range of structures inaccurate and inappropriate uses even with very simple forms. • VOCABULARY: Vocabulary with frequent errors that totally obscure communication. |
| 0 | 1 – 15 | <ul style="list-style-type: none"> • Achieves nothing. • Too little language for assessment. • Totally irrelevant to the question. |

Appendix G: SAMPLE LFP OUTPUT

WEB VP OUTPUT FOR FILE: Untitled (1.65 kb)

Words recategorized by user as 1k Items (proper nouns etc): NONE (total 0 tokens)

| | Families | Types | Tokens | Percent |
|---------------------------------------|----------|-------|--------|----------|
| K1 Words (1-1000): | 102 | 119 | 242 | 83.16% |
| Function: | ... | ... | (148) | (50.86%) |
| Content: | ... | ... | (94) | (32.30%) |
| > Anglo-Sax =Not Greco-Lat/Fr Cog: | ... | ... | (44) | (15.12%) |
| K2 Words (1001-2000): | 9 | 10 | 13 | 4.47% |
| > Anglo-Sax: | ... | ... | (4) | (1.37%) |
| 1k+2k | | | ... | (87.63%) |
| AWL Words (academic): | 15 | 15 | 16 | 5.50% |
| > Anglo-Sax: | ... | ... | (1) | (0.34%) |
| Off-List Words: | 2 | 8 | 20 | 6.87% |
| | 126+? | 152 | 291 | 100% |

| Current profile | |
|-----------------|--------|
| % | Cumul. |
| 83.16 | 83.16 |
| 4.47 | 87.63 |
| 5.50 | 93.13 |
| 6.87 | 100.00 |

| | |
|-----------------------------------|------|
| Words in text (tokens): | 291 |
| Different words (types): | 152 |
| Type-token ratio: | 0.52 |
| Tokens per type: | 1.91 |
| Lex density (content words/total) | 0.49 |

Pertaining to onlist only

| | |
|--|------|
| Tokens: | 271 |
| Types: | 144 |
| Families: | 126 |
| Tokens per family: | 2.15 |
| Types per family: | 1.14 |
| Anglo-Sax Index: | % |
| <small>(A-Sax tokens + function / onlist tokens)</small> | |
| Greco-Lat/Fr-Cognate Index: (Inverse of above) | % |