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COMPARING THE RECEPTIVE VOCABULARY KNOWLEDGE OF
INTERMEDIATE-LEVEL STUDENTS OF DIFFERENT NATIVE LANGUAGES IN
AN INTENSIVE ENGLISH PROGRAM

by

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B.Ed. King Faisal University, 2009

A thesis submitted in partial fulfillment of the requirements
for the degree of Master of Arts
in the Department of Modern Languages and Literatures
in the College of Arts and Humanities
at the University of Central Florida
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ABSTRACT

Because most—if not all—intensive English programs (IEP) assign students to specific levels based on a placement test that does not involve any form of explicit vocabulary testing, some degree of variation in lexical knowledge of students within an individual class should not be surprising. However, very little research has ever quantified this variation. The current study fills the gap in this important area of TESOL research by investigating vocabulary variation among intermediate-level students at one IEP. Participants ($N=79$) were split into two main proficiency groups, high intermediate ($N=28$) and low intermediate ($N=51$). The 2K, 3K, and 5K levels from the Vocabulary Levels Test (VLT) were used as a vocabulary measure. In this study, VLT scores were analyzed by proficiency level and by students' original individual classes ($N=7$). The results revealed considerable vocabulary variation. In some instances, vocabulary size varied by 900 word families per student. First language influence was also investigated by comparing the largest two language groups in the sample, Arabic ($N=28$) and Spanish ($N=12$). Spanish-speaking students significantly outperformed the Arabic speaking students in all vocabulary measures (except for the 2K level). The study, therefore, raises questions about the approaches used in teaching a class that has both Spanish and Arabic speakers. Implications and suggestions for further studies are discussed.

This work is dedicated to my two-and-a-half-year-old son simply because I love him; I love him to the moon and back. It is true that whenever he saw me typing, he would shout “sit down” and when I sat down, he would also sit down and pass me a small ball which I just had to pass back to him, which inevitably caused some delays in the writing of many parts of this work, but the joy and happiness he brought to my life allowed me to go back and write twice as fast!

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CHAPTER ONE: INTRODUCTION

Vocabulary, which includes idioms, phrasal verbs, collocations, and phrases, is the backbone of language. While communication in any language certainly involves many aspects, including intonation, gestures, and situational expectations, these are in addition to vocabulary. In our native languages, we use vocabulary every single day to communicate ideas, emotions, and thoughts with others. For many English as a Second Language (ESL) learners, communication can be hindered by cultural norms, body language, or lack of proficiency in pronunciation, composition, reading, or grammar competence, but to what extent? Wilkins concludes that “while without grammar very little can be conveyed, without vocabulary nothing can be conveyed” (as cited in Folse, 2004, p. 23).

Despite the importance of vocabulary, many—if not most—ESL programs emphasize grammar over vocabulary, with vocabulary relegated to a much lesser position. However, is grammar knowledge really more important than lexical knowledge when it comes to communication? An ESL learner, for example, would still be able to convey meaning and eventually communicate without perfect or mostly correct English grammar. However, without vocabulary—or even insufficient vocabulary—the communication breaks down. Folse (2008) demonstrates this as follows: When an ESL learner says “*all people must waiting for the bus at the hot weather,*” a native speaker would find the message transparent though there are three grammatical errors (article omission, model phrase and incorrect preposition). In contrast, the same utterance with lexical errors in *people*, *wait*, *bus*, *hot*, or *weather* is more prone to communication failure.

Given the importance of vocabulary knowledge, it is surprising that relatively little attention is directed to it by educators or curricula. One possible explanation for this mismatch is the myth that learners will simply pick up words while they learn grammar, reading, and writing without direct instruction (Folse, 2004). However, non-native learners of English have reported that vocabulary acquisition is one of their greatest challenges in their journey to learn a second language (L2) (Meara, 1980). The postulate in many programs is that vocabulary is not an especially serious problem for ESL learners.

Statement of the problem

Teachers who teach a language classroom where they have students of multilingual backgrounds assume that all of the students have very similar language knowledge when they enter the class because the students have been assigned to that class with a placement test. However, we know that this is not simply the case because some variation is both normal and expected. Because many placement tests are based on grammatical knowledge, it is logical to assume that the students' grammar knowledge is somewhat homogeneous and that students who are placed into "intermediate level," for example, have intermediate proficiency in grammar. However, what about those same students' proficiency in pronunciation, vocabulary, reading, writing, speaking, and listening? The reality is that different students in fact have different levels of knowledge and skill ability with grammar, vocabulary, pronunciation, etc.

When students are placed in a class at a certain level of a language program, we assume the students have a similar proficiency level. Teachers know, though, that some

students are more proficient or less proficient in individual skills such as pronunciation or spelling than other students in the same class. Because pronunciation and spelling, for example, are not thought to be significant factors in academic success, we tend not to worry about differences in student abilities in these two areas. Vocabulary, however, is a key component in second language success (Schmitt, Jiang & Grabe, 2011), so what if there is tremendous variation in vocabulary knowledge within a class of students, perhaps based on the students' first language (L1)? Because of the potential impact of student variability in vocabulary knowledge, especially how it might impact teachers' ability to teach their class well, the current study examines the degree of variability of vocabulary knowledge of students who are supposedly at the same level based on being assigned to the same classroom in a language program.

Purpose of the study

The purpose of the current study was to examine the variability of vocabulary knowledge of a group of international students in an intensive English program who have been placed at the same proficiency level and who came from different language backgrounds. Furthermore, this study attempted to estimate the size of English vocabulary that these students at the intermediate level possess. Another reason for conducting the present study was that no study -- as far as this researcher knows -- has investigated English vocabulary size based on the native language of the learners in an ESL classroom setting.

Research Questions

1. Is there any variability in vocabulary size among intermediate L2 learners in an intensive English program (IEP)?
2. Are there any differences in IEP intermediate L2 learners' vocabulary size based on their native language?

Assumptions

1. Because students are assigned to the same classroom in a language program using the same general placement test, students are at very similar proficiency levels overall, including vocabulary knowledge. (In other words, vocabulary knowledge will not vary much.)
2. Because lexical errors frequently reflect first language interference (Laufer, 2000), we expect some variation in lexical knowledge according to ESL learners' first language, but there is no expectation of how great this variability will or will not be.

Definition of terms

1. L1 is the First Language, the native language of an individual.
2. L2 is the Second Language (e.g., English for native speakers of Japanese).
3. EFL is English as a Foreign Language. It refers to English being taught in a country where English is not the first language (e.g., studying English in Saudi Arabia).

4. ESL is English as a Second Language. It refers to English being taught in a country where English is the native language (e.g., studying English in Australia).
5. ESL learner refers to the learner of English whether in EFL or ESL settings
6. Tokens refer to all running words in a given text (e.g., if you come across the word *go* in a text, and it was used again in the same text, then they are considered two words when counting tokens.)
7. Types refer to all different words in a given text (e.g., *go* and *go*, in the previous example, are one word when counting types). However, the derived forms of a word are considered separate words.
8. Word family refers to the head word in a dictionary. In this case, all derived forms are included in the word family (e.g., *care*, *careful* and *careless* are one word when counting word family). (For more details on types, tokens and word family, see section “what are we counting” on page 25).
9. 2K refers to a particular level of vocabulary knowledge, which is the first most frequent 2,000 word families in English.
10. 3K is one level beyond the 2K, which refers to the 3rd most frequent 1,000 word families in English.
11. 5K refers to the 5th most frequent 1,000 word families in English.
12. CMMS stands for the Center for Multilingual Multicultural Studies at University of Central Florida, which is an Intensive English Program that offers four proficiency levels and matriculates approximately 200 students five times per year.

13. Level 3, the proficiency level examined in this study, is the intermediate level at CMMS. Students in Level 3 at CMMS typically have TOEFL scores in the 430-480 range.
14. Level 3B is the first eight weeks of the Level 3 course at CMMS; students in this level have a TOEFL score of 430-450.
15. Level 3A is the second eight weeks of the Level 3 courses at CMMS; students in this level typically have a TOEFL score of 450-480.
16. Placement test is a test offered at the beginning of each teaching semester to determine what level of classes new accepted students should take.

Limitations

The study attempted to estimate the vocabulary size of intermediate students in a language program and compared that size based on the students' first language. However, different programs have different criteria for assigning students to their proficiency levels. Therefore, the research did not intend to conclude that all students in all language programs at the intermediate level possess the same vocabulary size as those in this study. Obviously, results gathered from one single language program do not represent all language programs. Rather, more than one language program should be used for a broad representation of the population of interest, but that is beyond the scope of the present study. One final limitation was that the students used in this study might not serve best in terms of representing their first language speakers. Students who come to the United States for academic purposes are chosen due to their distinguished achievements in their high schools or careers. Therefore, the results we obtain from this study could differ if

average students, i.e., those not destined to study abroad, were included. In other words, we might obtain different results for Spanish-speaking students in Colombia than for an ESL class with only one Colombian representing Colombians overall.

CHAPTER TWO: LITERATURE REVIEW

It is agreed by learners, teachers, and researchers that vocabulary is essential in successfully learning a second language. Research has investigated many aspects of L2 vocabulary, but the current study is unique in that it examined the lexical variation within one group of IEP students who had tested into the same proficiency level.

Why is vocabulary important in learning a second or foreign language?

Receptive vs. productive vocabulary

Vocabulary knowledge can be divided into two important dimensions: receptive vs. productive. As the names imply, receptive vocabulary involves words that can be understood (received) while reading or listening. On the other hand, productive vocabulary is words that a learner can actually use (produce) while writing or speaking. The sequence the two dimensions were put in was no coincidence since it is generally believed that learners learn words receptively first before they can put them into productive use. That is why, in many studies, (e.g., Fan, 2000; Zhou, 2010; Webb, 2008) learners were found to have much larger receptive vocabulary than productive one, which is intuitive. Vocabulary knowledge, then, can be viewed as a continuum where words start at the receptive extreme and grow to reach the productive one.

As mentioned, receptive vocabulary can serve in the receptive skills (reading and listening), while productive vocabulary serves in the productive skills (speaking and writing). Nation (2007) noted that ESL learners need to know much more vocabulary

when it comes to the receptive skills than for the productive ones simply because learners have control over what they produce but cannot control the type of language they are receiving. This study is mainly concerned with the receptive vocabulary and will use receptive vocabulary measure to assess receptive vocabulary size.

There are many components that contribute to building proficiency in a language, including grammar, reading, writing, listening, pronunciation, and vocabulary among many other factors. While these components are acknowledged by educators as critical to language learning, vocabulary has traditionally been recognized the least (Meara, 1980). Nevertheless, learners have reported that vocabulary acquisition continues to be one of the main barriers to learning a second language (Meara, 1980).

There are multiple ways to explain why vocabulary is important in learning a second or foreign language. In answering this question, we try to keep our learners' needs in mind. Therefore, in the following sections, we take a skills-based view because the value that vocabulary (or grammar or any other component) would have in a second language depends on what ESL learners want to actually do with the language. Are they trying to write an academic paper? Do they need to be able to make an oral presentation to their boss and coworkers? In this section, the researcher describes the considerable influence that vocabulary has on the performance of the four language skills: reading, listening, speaking, and writing.

The role of vocabulary in L2 reading

On one hand, vocabulary is essential for successful reading, and comprehension is not possible without knowledge of vocabulary. A reader needs to understand the words

that make up a text to be able to grasp what that text means. However, as Laufer (1997) stated, reading quality is not determined by vocabulary alone, as other factors impact reading comprehension, including background knowledge and reading strategies. For example, successful reading requires being able to understand the main idea of a text, guessing unknown words, and recognizing the type of text. Of these factors, however, vocabulary knowledge is seen to have the strongest contribution to reading comprehension (Laufer, 1997).

Reading has been one rich area for investigating the role of vocabulary by many researchers (e.g., Ouellette, 2006; Qian, 1999, 2002; Laufer, 1996, 1992). The results of such studies have always come to one conclusion: vocabulary is a strong predictor for reading comprehension. According to Schmitt et al. (2011), “there is a fairly straightforward linear relationship between growth in vocabulary knowledge for a text and comprehension of that text” (p. 39).

Recently, Rashidi and Khosravi (2010) examined the interrelations among vocabulary depth (the quality of vocabulary knowledge), vocabulary breadth (the quantity of vocabulary knowledge), and reading comprehension. After assessing the vocabulary depth, breadth, and reading comprehension of 38 Iranian intermediate students, the results suggested that vocabulary breadth had a positive and significant correlation with reading comprehension. However, vocabulary depth had even a stronger contribution to reading comprehension. That is, students with high level of breadth and depth of vocabulary knowledge performed better on reading comprehension.

One of the main goals in Mehrpour and Rahimi’s (2010) study was to investigate the role of general and specific vocabulary knowledge in reading comprehension. To

address the role of general vocabulary knowledge, a multiple-choice vocabulary test adapted from the TOEFL was administered to a group of participants. Based on that, the participants were split into three groups of high, intermediate, and low level. After completing a subsequent reading comprehension test (adapted from a different version of the TOEFL), general vocabulary knowledge was seen to influence the students' performance on the reading test. In regard to the effect of knowledge of specific vocabulary, the authors used two intact classes that are at the same proficiency level, one as the treatment group and the other one as the control group. The treatment group was given a reading comprehension test with a glossary, which included definitions of the most difficult words. The controlled group completed the same test, but no glossary was provided. The treatment group significantly outperformed the control group. Thus, familiarity with the difficult vocabulary in the text significantly affected reading comprehension.

Vocabulary is not only influential factor in reading comprehension, but also in the performance of several types of reading test items. In a study of 213 Iranian students enrolled in MA TESOL and BA in English literature programs, Alavi and Akbarian (2012) examined the role of vocabulary on the performance of five reading comprehension item types taken from the TOEFL: (1) guessing the meaning of unknown words, (2) understanding the main idea, (3) inferring, (4) referencing, and (5) locating factual information (stated detail). Based on the Vocabulary Levels Test (VLT), the participants were classified into three groups (low, middle, and high level). Considering the participants as one group, the results showed that there is a moderate positive correlation between vocabulary knowledge and stated detail but a significant correlation

towards guessing words. However, a weak correlation was found between VLT and items testing for main ideas, inferences and references. Applying the results to the high level group, VLT was significantly correlated with all the reading comprehension test item types except for inference. The low level group did not show any significance in the results, while the middle group significantly correlated with only the stated detail. The significant influence of vocabulary knowledge in guessing the meaning of unknown words for all the participants (as one whole group) and the high level group alone emphasizes the importance of having a good vocabulary coverage of a given test so that students can have a context based on which they can guess the meaning of unknown words. In addition, context clues alone might not be enough for successful guessing of unknown words. Laufer (1997) concluded that students need to know at least 95% of the words in a given text before being able to successfully guess the meaning of unknown words.

The role of vocabulary in L2 listening

Research on the role of vocabulary in listening in relation to language learning is relatively small. In the past, researchers would apply the findings of reading studies to listening due to the complexity associated with testing oral ability (Bonk, 2000). In general, writing and speaking are considered similar because they involve student production of language, while reading and listening are considered similar because they involve more passive recognition of language. In addition, some research showed a significant correlation between the two skills (e.g., Hirai, 1999), which has led researchers to assume that comprehension performance in reading and listening is similar.

However, linguistic features and the way in which each skill is processed differ (Staehr, 2009). As Lynch and Mendelsohn (2002) stated: “listening is not merely an auditory version of reading” (p. 197). Therefore, the role of vocabulary in listening is most likely not the same as in reading. In support of this, Mecarty (2000) concluded in a study on Spanish as a L2 that there was a stronger correlation between vocabulary knowledge and reading than there was for listening.

One of the few studies to investigate the extent to which vocabulary knowledge impacts listening was conducted by Staehr (2009). He looked into the influence of both vocabulary depth and breadth on listening comprehension. In this study, 115 advanced Danish English as a foreign language (EFL) learners underwent an advanced listening test that included listening for gist, details, stated and nonstated opinions, and making inferences. In addition, the test covered various text types. The VLT (version 2) and the Depth of Vocabulary Knowledge Test were used to assess both depth and breadth of the learners’ vocabulary. Staehr found that both dimensions of vocabulary knowledge are highly correlated with the listening test results. Specifically, they accounted for half of the variance in the listening scores. In inquiring about the role of depth of vocabulary besides the contribution of breadth, he concluded that depth of vocabulary will not contribute significantly to comprehension besides the value already added by breadth. That is, vocabulary size was the main factor in listening comprehension. The author concluded that, for listening, vocabulary size was almost as influential as it was for reading.

These findings are strengthened by Bonk’s (2000) study. He used recall protocol to test the subjects’ listening comprehension where students wrote, in their L1 or L2,

details that they remembered from a passage that they had listened to. The papers were then evaluated under a holistic comprehension score (1-2 was associated with low comprehension and 3-4 with high comprehension) by two raters for consistency in scoring. As for lexical knowledge, participants were instructed to dictate words from an audio recording where they wrote that they had heard (another version of the text that has many pauses) without worrying about spelling and grammar. The results showed that the higher the scores students received in dictation, the better score they got in the comprehension test, which suggested a significant correlation between lexical knowledge and listening comprehension. Furthermore, it was found that good comprehension always takes place at 90%+ test-lexis familiarity.

Similarly, Kelly (1991) investigated factors that have the largest impact on listening comprehension. The author analyzed EFL listening errors in transcriptions of several BBC radio recordings and 38 English listening comprehension texts. Participants were low to high advanced learners and were allowed to re-listen to the recordings as much as they needed. Errors made by at least 20% of the subjects were analyzed, which revealed that the main obstacle to listening comprehension was vocabulary shortage.

Goh (2000) also examined the difficulties faced by L2 listeners. He used real time self-reported problems by 40 Chinese students who were studying English in preparation for undergraduate studies. Sources of data included weekly diaries, semi-structured interviews, and immediate retrospective verbalizations. Based on these sources, Goh identified 10 problems that occurred while processing the listening materials, five of which were related to word recognition and ineffective attention. Examples of such problems were: “Do not recognize words they know,” “understand words but not the

intended message,” “neglect the next part when thinking about meaning,” and “unable to form a mental representation from words heard.” The fact that five of the reported problems related to word recognition emphasizes the importance of vocabulary for successful listening.

In a study of 117 Taiwanese college students, Chang (2007) found that pre-teaching vocabulary positively impacted subsequent vocabulary test scores but not listening scores. However, as seen earlier in this chapter, the results of Staehr (2009), Bonk (2000), Kelly (1991), and Goh (2002) most certainly did show a clear connection between vocabulary knowledge and listening scores.

The role of vocabulary in L2 speaking

Unlike the other three language skills, speaking is an area that has been least investigated in terms of the possible contribution of lexical knowledge to it. Again, and especially in speaking, it is logical to say that if ESL learners do not have the necessary amount of vocabulary to convey their intended message, they simply will not be able to do so, or the message will be severely distorted. As Folse (2008) puts it “Even though insufficient grammar won’t block comprehension, insufficient vocabulary will certainly do so.” (p. 3). Although there is certainly a dearth of empirical research in this area, there have been three solid studies worth considering here.

Hilton (2008), in evaluating the role of vocabulary in speaking fluency, analyzed the oral production of 56 non-native speakers of English, French, German, and Italian, ranging from novice to advance in proficiency level. The source of the production was a description of a short video that the non-native speakers were asked to produce. An

additional group of native speakers completed the same process for a source of criteria for fluent L1 speech. All productions were transcribed and analyzed for all types and time of hesitations, pauses for more than 200 milliseconds in length, the position of each pause, number of words produced, and error rate for each speaker. The participants completed several tests as well to measure L2 knowledge (grammar and vocabulary). Based on the fluency analysis, three groups emerged: disfluent learners—those with more than 52% of the production time hesitating, fluent learners—those with less than 33% hesitations, and native speakers. It was found that while grammatical knowledge had negative correlation with error rate, lexical knowledge significantly correlated with all fluency measures: words per minutes, mean length of run, percentage of hesitation and rate of hesitation. In analyzing what causes speech pauses, 78% of the in-clause pauses were triggered by search for lexical items. However, 80% of the grammatical errors in the fluent group happened smoothly and without any pauses, which suggested the strong influence of lexical knowledge in fluency. The author, therefore, registered his surprise that research on the contribution of vocabulary to speaking fluency is almost absent.

The relationship between vocabulary knowledge and speaking was further investigated to include vocabulary depth. Koizumi and In'nami (2013) examined the extent to which vocabulary size and depth contribute to speaking proficiency. They included vocabulary speed in another study in the same article, but size and depth are sufficient for our purpose here. For this purpose, 224 Japanese EFL learners ranging from novice to intermediate in proficiency level were selected. Items asking about antonyms, derivations, and collocations of words were used to assess learners' vocabulary depth. The authors measured the learners' lexical size by presenting them with Japanese words

in which they needed to write the corresponding meaning in English. All the vocabulary test words were compiled from JACET800 (a word list for Japanese ESL learners). As for the speaking assessment, all participants were instructed to introduce themselves, describe a single picture, and explain the differences between two pictures. It is worth mentioning that the reliability estimates of all vocabulary tests were reported to be high. After a careful transcription and analysis of the learners' productions and comparing them to their vocabulary tests, it was found that vocabulary knowledge played a substantial role in predicting L2 speaking. Vocabulary size alone was the strongest contributor to speaking proficiency, which suggested that the more vocabulary learners have, the better and more fluently they can speak (Koizumi & In'nami, 2013).

Quite recently, a specific type of vocabulary was pointed out in Shahrestanifar and Rahimy's (2014) study. They researched whether knowledge of high frequency words would positively affect speaking ability. Shahrestanifar and Rahimy's initial hypothesis was that knowledge of high frequency words would not affect speaking ability. In testing this hypothesis, 60 out of 100 Iranian EFL learners were recruited based on their scores on the Oxford Placement Test (OPT). This test was used to homogenize the participants and to measure their proficiency level. Subsequently, the selected participants completed a lexical frequency test in which they were given two items and had to decide which item was high frequency and which was low frequency. The total number of items was forty. Based on their scores on the lexical frequency test, the participants were split into two groups: higher knowledge of high frequency words group (experimental group) and lower knowledge of high frequency words group (control group). Finally, all participants were interviewed and the production was analyzed and

compared to the lexical frequency test. The results showed a considerable difference between the two groups with the experimental group outperforming the control group in the oral interview. Shahrestanifar and Rahimy concluded that knowledge of high frequency words had a positive effect and enriched speaking ability, and the initial hypothesis was rejected.

The role of vocabulary in L2 writing

The relationship between vocabulary and the quality of a written text has been well-established. Scardamalia and Bereiter (1987) have suggested that when developing writing, there are two types of knowledge: content knowledge (information about the topic) and discourse knowledge (e.g., genre). Vocabulary is a constructing factor of each type of knowledge because different topics have different specialized words that must be used to convey a proper content knowledge (Harmon, Hedrick, & Wood, 2005). As for discourse knowledge, Olinghouse and Wilson (2013) reported that vocabulary use and choice are distinct characteristics of the different genres tested, namely for informative, persuasive, and story texts. In their study of fifth-grade native speakers of English, story writing had more vocabulary diversity than informative texts. In addition, informative texts included more content words than story and persuasive texts. Furthermore, the latter contained higher register than both of the other genres. These findings show that vocabulary plays a significant role in defining a particular genre.

One of the important criteria and predictors for a well-written academic essay is vocabulary (Laufer, 1994), an important finding that was supported by Stæhr (2008) in his study investigating the relationship between vocabulary size and reading, listening,

and writing. In testing the ability of writing, each participant wrote about 450 words that went through a holistic evaluation including grammar, errors in lexis, ideas, and coherence. The subjects' vocabulary size was measured by the VLT. The findings showed that writing correlates significantly with vocabulary size and that the ability to score above average in the writing test was predicted by vocabulary size. Furthermore, all participants who mastered the 1st 2000 word families were able to score above average in the writing test. On the contrary, the majority of the students who did not master the 1st 2000 word families performed below average. Stæhr concluded that these results emphasized the importance of vocabulary for successful writing.

How much vocabulary is necessary?

As seen in the research studies outlined in this chapter, vocabulary is influential in the four language skills. However, one key question remains: “how much vocabulary do ESL students need to know?” The discussion here will be about vocabulary and reading, as reading is recognized as a critical tool for academic success (Schmitt, Jiang & Grabe, 2011). Furthermore, reading is usually the only way by which students can learn on their own beyond the classroom (Schmitt, Jiang & Grabe, 2011). Deciding on a minimum vocabulary number (threshold) for adequate comprehension is important, as this information can aid teachers and material designers in setting learning goals (Laufer & Ravenhorst-Kalovski, 2010). However, the research on vocabulary threshold or text coverage (the percentage of words known in a given text) seems to place the figures on the basis of what is considered adequate comprehension. That is, how well the learners need to perform (Laufer, 2010) and what they are reading such as newspaper, novels, etc.

(Nation, 2006). Studies concerning the number of vocabulary needed for successful comprehension will be presented in chronological order:

Before setting up vocabulary threshold, it is essential to figure out how many unknown words in a text a learner can tolerate before having comprehension difficulties. In 1989, Laufer was the first to suggest that learners need to know 95% of the words in an academic text for adequate comprehension. In her study, a score of 55% was set as the minimum comprehension (it is the passing grade in her university). The participants were 100 freshmen EFL learners at Laufer's university who went through two assessments. First, reading comprehension tests which included one standardized test (multiple choices) and one self-made test (open-ended question). Second, a lexical coverage test which was measured through two ways: the subjects were asked to underline each unknown word they came across. Plus, they were given a list of 40 words compiled from the two comprehension tests to translate which validated and assured what the students reported to be known or unknown. After several analyses, Laufer reported that the minimum percentage of words to be known in a text for adequate comprehension is 95%. The group of students who scored 95% on the lexical coverage had a significantly higher number of readers (a score of 55% and more on the reading) than non-readers (a score of 54% and below). In addition, no analysis between any other group results reflected such significance, which assures that at least 95% of the words in an academic test should be known for adequate comprehension.

After three years, and after suggesting the 95% text coverage, Laufer (1992) stated that "Yet, a more important finding would be the number of words the reader must possess in his lexicon to be able to read in L2" (p. 127). In this study, she came up with

the finding that 3,000 word families is the vocabulary threshold below which learners cannot have a reasonable comprehension. This finding was reached after examining the relation between vocabulary size and reading comprehension. Two standardized reading test and two vocabulary size tests were used on 92 participants for this purpose. Based on the vocabulary score, the participants were divided into five groups (below 2000 words, 2000, 3000, 4000 and 5000). It was found that at level 3000 vocabulary knowledge, there were significantly more readers who received a score of at least 56% than those who did not in reading comprehension. This significance in the difference between the scores did not show up in any other group. Thus, adequate minimum comprehension here was a score of 56% in the reading comprehension. However, knowledge of 4,000 word families would yield a score of 63%, and 5,000 words led to a score of 70% in the reading comprehension.

In 2000, Nation and Hu investigated the text coverage as well, i.e., the minimum percentage of words in a text needed to be known for adequate comprehension. The methodology here is different than that of Laufer (1989). Nation and Hu had edited a story text to produce four versions of vocabulary coverage of the text (100% - 95% - 90% - 80%). For example, in the 95% version, 5% of the words were replaced by nonsense words; in the 90% version, 10% of the words were replaced by nonsense words and so forth. As for the 100% version, it was left unchanged. However, all the remaining words in the versions, including all words tokens in the 100% version, were simplified to be within the most 2,000 frequent words in English. Therefore, any vocabulary inefficiency would be attributed to the nonsense words. Learners were also tested using the VLT in which they had to be familiar with the first 2000 words in English. Then they were

randomly assigned to the coverage versions. Based on two reading comprehension texts (multiple choice and cued written recall test), the 80% coverage group could not gain any comprehension. A minority gained comprehension when 90% and 95% of the words were familiar. The 98% lexical coverage was concluded to produce an adequate comprehension. It is important to say here that adequate comprehension was considered the score that most learners in the 100% version achieve, which was 12 out of 14 correct answers in the multiple choice test. Laufer and Ravenhorst-Kalovski (2010) argued that, comparing their findings of the adequate coverage (95%) to that of this study (98%), “Both suggestions could be correct depending on what level of comprehension is expected” (p. 17). Similarly, Nation (2001) stated that, while the 98% coverage can produce adequate comprehension that almost all learners can gain, the 95% coverage can be the standard minimum acceptable comprehension (as cited in Laufer & Ravenhorst-Kalovski, 2010).

Considering the 98% lexical coverage as the ideal model for adequate comprehension, Nation (2006) then tried to examine how many words would match the coverage suggested. In his study, he looked at the lexical coverage that 14 frequency lists would provide to different types of texts (newspaper, novel, graded reader, and spoken language). The lists were developed by the British National Corpus in which each frequency list has 1,000 word families. For example, if the seventh 1,000 word families constitute 98% of the tested text, then learners need to possess 7,000 words to be able to read that text. After running each texts under experiment through the 14 frequency lists, Nation reported that learners would need 8,000 to 9,000 words to read newspapers and novels. If the type of reading wanted is a graded reader, then learners need to be familiar

with the first most frequent 3,000 word families, which will result in a coverage of 98%. Finally, reading a spoken text would require knowledge of 6,000 to 7,000 word families.

Having said that vocabulary threshold depends on the goal needed to be achieved by learners, Laufer and Ravenhorst-Kalovski (2010) investigated the relations between vocabulary size, text coverage, and reading comprehension with more focus on what constitutes as adequate comprehension. They used a much larger sample size than that of all the mentioned studies ($N = 745$). A standardized reading comprehension test that is implemented by Haifa University for admission purposes was used for the study. Its maximum score is 150. In addition, the VLT was used for assessing the learners' vocabulary size and the Vocabulary Profiler for judging the lexical coverage of the texts (an older, but very similar version of the texts used in the test of reading comprehension). Laufer and Ravenhorst-Kalovski measured adequate comprehension based on the learners' scores on the comprehension test by comparing them to what each score qualifies in the admission test. At Haifa University, learners who receive a score of at least 134 out of 150 are exempted from English classes; therefore, Laufer and Ravenhorst-Kalovski considered the students who received the same score on their study as being able to read academic texts independently and thus, the lexical threshold for this level was 8,000 words which correlated with 98% text coverage. A score of 116 and above would allow students to study only one semester at Haifa University. Thus, if students needed to read with some assistance, then the threshold was knowledge of 5,000 words which yielded 95% lexical coverage (with proper nouns). Laufer and Ravenhorst-Kalovski concluded that the first threshold is the optimal and the second one is the minimal.

In 2011, Schmitt, Jiang, and Grabe argued against any threshold in vocabulary size. Commenting on Laufer's (1992) lexical threshold, they mentioned that considering adequate comprehension as 55% and basing the threshold on that figure seemed to provide very modest comprehension, which most ESL learners would not be satisfied with. However, the 98% lexical coverage of a text was seen to be a more plausible goal for learners to achieve. In their study, they investigated the relation between text coverage and reading comprehension. The comprehension test had two components: a multiple choice section and a graphic design in which students were asked to locate information, recognize the organizational pattern of the text, and draw logical relationships. The texts were then analyzed for their words' frequency and then 120 words were selected from the different frequency bands to be tested as a way to identify the text coverage (10 words from each band). Also, 30 non-words were added to ensure that students were not overestimating their knowledge and any individual who chose too many non-words was deleted from the sample. Students had to only indicate their knowledge of the items by a Yes/No checklist. The authors had 661 participants complete the experiment. The results indicated that the relation between text coverage and reading comprehension is linear, and there was no point at which comprehension dramatically increased, which suggested that vocabulary coverage depended on the degree of comprehension needed. If 60% comprehension is required, then 95% lexical coverage is needed. Likewise, if 70% comprehension is adequate, then 98% to 99% coverage will suffice. Nevertheless, comprehension of 75% would require knowledge of all words in the given text.

Although each of the studies used different methodologies and different sample sizes, they converge at one point: lexical coverage depends on what is considered adequate comprehension to the targeted learners. The two different coverages suggested by Nation and Laufer are not contradicting each other; rather, they provide two options for students by which they can choose their required amount of comprehension.

What are we counting?

After discussing the amount of vocabulary learners need to possess, one might ask “what qualifies as one vocabulary item?” For example, when we say that this particular group of students knows the first 2,000 words, what do we mean by “word” here? Are *predict* and *unpredictable* one or two words? Can an ESL learner assume that he knows two words? When measuring vocabulary size, there are three things that can be counted; namely, *tokens*, *types*, and *word family*. These three concepts will be discussed in the following paragraphs.

In the first sentence in the previous paragraph, there are 19 *tokens*. According to Nation and Webb (2011), tokens are each running word, literally all the words in a given text or sentence. Counting tokens could be helpful in knowing how long a text is or how many words one can read per minute for example. However, this is not practical when investigating the quantity of words a learner possesses, simply because there is no point in counting a word that was identically repeated four times as knowing four different words. Measuring the *types* would offer a better alternative. Types, they added, are all the **different** words in a text. For example, if you see (go, go, go, go) in a text, they all are considered as one word; which would be considered four words if we are counting

tokens. Types, however, still count all derived forms as separate words. For example, *measure, measurement, measuring, measured*, are four words when counting types. Thus, this is not the ultimate choice when measuring vocabulary size as well because knowledge of one form will make it easier to understand variant or derived forms. Unlike *types, word family* comprises the headword (e.g. care) and all its derived forms (e.g. careful, cared) which seems more rational as compared to counting types or tokens in assessing a learner vocabulary size (Nation & Webb, 2011).

Nation and Webb (2011) maintained that counting all words in the same family (word family) as one single word in order to give an estimate of one's vocabulary size seems to be the most accurate method for this purpose. Therefore, in this study, word family will be used as a parameter for counting vocabulary size. For example, if a learner knows three words, then he knows three different words which do not belong to the same family.

Instruments for measuring ESL vocabulary

Before describing the instruments by which vocabulary can be measured, it is essential to identify what will be measured. As mentioned in the previous section, vocabulary knowledge has various aspects, and having one test that can encompass all these facets of vocabulary knowledge is rather difficult (Milton, 2013). Instead, two dimensions have been proposed by Anderson and Freebody (1981), which contain all aspects and elements of knowledge underlying a single word: breadth and depth (as cited in Milton, 2013). While the former refers to the quantity of words a learner knows, the latter refers to the quality of this knowledge. How much a learner knows seems to be

clear, but the quality of the knowledge seems to trigger intriguing questions. The quality is how well a learner knows a word; therefore, it can encompass knowing what other words usually occur with it (collocational knowledge), knowing its inflected forms (inflectional and derivational knowledge), knowing how to use it correctly, and knowing its referents (as cited in Milton, 2013).

In measuring depth and breadth of vocabulary knowledge different instruments have been designed four of which will be explained in the following paragraphs. Suffice it to say here that the tests measuring size of vocabulary are based on frequency lists. Those lists are compiled from large linguistic corpora of different written and spoken texts which, based on the corpora, split words into different frequency bands (the most frequent 1,000 words – second 1,000 – third 1,000, etc.). Vocabulary size tests make use of such frequency lists by estimating how much vocabulary is known at each level. The rationale behind this is that learners usually acquire high frequency words before low frequency ones (Schmitt, 1994), so a sample of words from each frequency list can be tested and a final estimate of the vocabulary size will occur.

The first test that utilizes this concept is the revised version of the VLT, which was originally designed by Nation (1983), then validated and developed by Schmitt, Schmitt and Clapham (2001). The test is for receptive vocabulary and has five frequency levels: 2K, 3K, 5K, 10K and the Academic Word List. The 2K level is based on the General Service List (West, 1953), which contains the most frequent 2,000 words occurring in texts of a total of 3 million words. The 3K, 5K, and 10K levels test the 3rd most frequent 1,000, the 5th most frequent 1,000, and the 10th most frequent 1,000 word families from a list designed by Thorndike and Lorge (1944), which is compiled from a

corpus of 18 million words. The final level tests words in the Academic Word List (Coxhead, 2000). Each frequency level tests 30 items from the corresponding list, except for the AWL, which has 36 items. Per each level, there are ten clusters that each includes three definitions or synonyms on the right and six words on the left. The results reflect how much learners know from each level or how much vocabulary they possess in total. The strength of this method is that it allows test-takers to verify their knowledge of the words for less arbitrary choosing. So, unlike YES/NO tests, learners have the target word's meaning or synonym and, by choosing the right answer, it is confirmed that they know the word because they really know its meaning and not because they confused it with another one. In addition, the test is relatively easy to score and interpret. However, while verifying the knowledge may seem sufficient, one synonym or definition cannot reflect a full knowledge of the words. Words are polysemous and there are many aspects of knowing a word (Folse, 2004). Therefore, their knowledge could be partial. Because learners have to verify their knowledge by choosing the right synonym or definition, only a limited number of items can be tested per each frequency level (30 items), which can be seen as a limitation.

The second test for measuring receptive vocabulary size is the YES/NO test (Meara & Buxton, 1987). It uses the same principle in selecting words from frequency lists, but it differs in the levels tested. It utilizes the first ten 1,000-word frequency bands (e.g., the 1st 1,000 words, the 2nd 1,000 words, the 3rd 1,000 words, etc.). The whole test is in the form of a checklist where test-takers are presented with many words from the corresponding level and are only asked to check the words they know. Obviously, this format allows for a large number of items to be included, which can better represent the

target level. Besides the large item number, a large population of students can take the test at once (about 9 minutes per student). There are, however, some drawbacks to this method. One limitation is that learners may overestimate their knowledge by checking words they do not know. In addition, a learner might check a word thinking that he knows it, while in fact he just confused it with another word that shares a similar form or spelling.

So far, the tests described in this review focus on vocabulary breadth, the second dimension for vocabulary knowledge is depth. A well-known depth test is the Vocabulary Knowledge Scale (VKS) (Paribakht & Wesche, 1996). It measures small gains of knowledge to evaluate how well a person knows a word. It is a self-report in which a test-taker has to measure his or her knowledge according to five scales:

1. I don't remember having seen this word before
2. I have seen this word before but I don't know what it means
3. I have seen this word before and I think it means _____ (synonym or translation)
4. I know this word. It means _____ (synonym or translation)
5. I can use this word in a sentence. e.g.: _____ (if you do this section, please also do section 4)

This test is based on the idea that there are many aspects of knowing a word and that knowing words is not a matter of simply Yes/No. Thus, the test allows for partial knowledge of words. Level 1 shows what the test-taker does not know. Levels 2, 3, and 4

measure the recognition of words while level 5 measures the productive knowledge of words. Besides its utility for measuring vocabulary depth, this test is helpful in that it can measure the effectiveness of some vocabulary teaching methods by showing how well students have learned after a treatment. On the other hand, this test has several weaknesses. First, although it is a depth measure, one cannot tell that a word is fully learned by a single sentence or synonym. Second, the number of items that can be covered by such a method is rather limited. Third, the consistency of the items is questionable; that is, the question words in each level do not seem to test the same thing. Knowing is not the same as seeing, and a learner might know a word (its pronunciation) but have not seen it (Waring, 2002). Finally, scoring is rather complex.

Another test that measures vocabulary depth is the Word Associates Test (WAT) (Read, 1993). It uses word associations to measure depth of knowledge receptively. On this test, a test-taker is given a target word and then eight words, four of which are related to the target word. These words may be collocations or have similar meanings. The test-taker then has to circle the four words that are most closely related in meaning to the target word. While this method can be a good indicator of lexical knowledge, it might work best only with advanced learners because knowledge of word associates is not something that seems to appear at the initial stages of learning a language.

Vocabulary knowledge by native language

To the best of the researcher knowledge, there is no study showing how much English vocabulary a particular language group, at a certain level, possesses—which is one of the goals of the current study. Nevertheless, there is evidence that the mere virtue

of being a speaker of one specific language allows its speakers to know more English vocabulary than other language groups. One of the main premises of the Contrastive Analysis Hypothesis (CAH) is that some linguistic components could be harder or easier for learners to acquire than others. The degree relies heavily on whether that linguistic element in the learners L1 is similar or dissimilar to that of the target language. That is, in case of similarities between the L1 and the target language in certain features, learning of those features will be easier. In contrast, dissimilarity will lead to challenges in learning the given features. According to Folse (1999), this assumption is not always valid. One example is with the negating system in English. Spanish seems to have a similar negating system to that of English as compared to Japanese. Yet, Spanish-speaking students tend to commit many more negation errors in English than their Japanese counterparts (Folse, 1999).

However, there are numerous other studies that prove the accuracy of this prediction by the CAH. One such study is by Ard and Homburg (1992). These researchers tested the hypothesis that lexical similarities between two languages result in a better vocabulary retention in the second language. The two languages investigated were Arabic and Spanish ($N=294$). Data were compiled from the vocabulary section of the Michigan Test of English Language Proficiency. While 60 percent of the words tested were similar to Spanish words, only 1 percent of the items resembled Arabic words in form and meaning. Consequently, the results showed that more Spanish speakers were able to supply the correct meaning of a given set of words than their Arabic peers. For example, the word spacious is espacioso in Spanish, which gave the Spanish speaking students the advantage of knowing its meaning. This finding might not be surprising.

What was unexpected, however, was that Spanish speakers outscored the Arabic speakers even when there was no similarity between the English word and its Spanish equivalent. Spanish speakers scored better than their Arabic counterparts in the test as a whole, even when the words completely had no relevance to Spanish. In explaining this facilitative effect of the native language, Ard and Homburg (1992) claimed that the L1 could also influence the rate of progress in the L2. Therefore, while the Arabic speakers are busy learning the words that resemble Spanish, Spanish speakers, learn those words easily which will allow them to spend more time on learning the “harder” words (Ard and Homburg, 1992).

This literature review examined how crucial vocabulary is for language proficiency. The chapter presented an overview of research findings on the optimal amount of vocabulary to be acquired by ESL learners, along with methodologies used to measure vocabulary breadth and depth. Additionally, differences between measuring types, tokens, and word family were discussed. Finally, the literature review concluded with a discussion on the influence that the first language could have on the acquisition of second language vocabulary. This leads to two logical questions: (1) Is there any variability in vocabulary size among intermediate L2 learners in an IEP? The literature has demonstrated that vocabulary size does play a considerable role in successful language learning (reading, writing, listening, and speaking). Therefore, any significant variation in vocabulary size could affect language teaching. (2) Are there any differences in IEP intermediate L2 learners’ vocabulary size based on their native language? The proposed research seeks to answer these two main questions.

CHAPTER THREE: METHODOLOGY

This study examined to what extent vocabulary size varies among 79 academic ESL learners at the intermediate proficiency level in an intensive academic English program. It also sought to identify whether first language is related to any vocabulary variability in the target language. To examine the variability of vocabulary size among these learners, the VLT (Schmitt, Schmitt & Clapham, 2001) was administered. Information obtained through an earlier pilot study ensured that variables such as the time allotted to finish the test and the procedures for conducting and administering the test were appropriately accounted for.

The pilot study

In the final week of the Fall semester 2014, a version of the VLT was administered to an ESL class of beginners ($N=12$) at the Center for Multilingual Multicultural Studies (CMMS) at the University of Central Florida. The students were allotted 40 minutes to complete the test. In addition, the students were instructed to leave the test room once they finished the test, as it was thought that this would reduce noise distractions for the remaining students.

The results of the pilot study

The most important results of this pilot study were not about how students scored on the VLT but rather how the procedures went. The primary purpose of the pilot study was to create a similar environment to that of the actual study through which the

researcher could test the accuracy of the procedures. After the pilot study, the following points warranted further consideration:

(1) Total time needed to complete the study: The study was administered in a regular CMMS class period. Based on these results, however, it was concluded that 35 minutes would be sufficient time for the whole study, including introducing the study to the students.

(2) Allowing student to leave the room upon completing the VLT: In the pilot study, one student left the test room as early as after just 12 minutes. Two more left in 20 minutes. Therefore, it was clear that students were tempted by the offer to leave the room after completing the VLT. To ensure that all students would take the VLT seriously and to facilitate more accurate scores, it was concluded that students in the actual study should not be informed that they could leave once they finished the test. Furthermore, it is was concluded that it was very important that students understood how the study could benefit them. For example, students could be told that the study would provide an estimate of their vocabulary size which would in turn help them not only to know what their current vocabulary size is but also to identify which level of vocabulary (e.g., words at the 3K frequency level) they should work on, and how mastering a specific vocabulary level could enable them to perform certain language functions such as understanding 80% of an academic book.

The study

Participants and sampling

The study participants were 79 intermediate level students at CMMS. However, we cannot claim that the students are fully at the intermediate level for all of the daily classes (i.e., reading, writing, listening/speaking, and grammar). CMMS uses a class-based assignment rather than a level assignment. In other words, CMMS students are allowed to study in different proficiency levels based on their ability in that particular skill area. For instance, a student can have intermediate reading and speaking/listening but advanced writing and grammar. For the purposes of the current study, all of the participating students were at the intermediate level in reading. Since the study's vocabulary measure is a test of the receptive, not productive, vocabulary knowledge, it makes sense to concentrate on students' reading skill ability since it relies heavily on receptive vocabulary, as compared to, say, writing which requires employing productive vocabulary.

The total number of participants used in this study is 79, all of whom were enrolled in an intermediate reading course at CMMS. This course was further divided into two sub-levels, B and A. All classes in both B and A used the same reading textbook. However, students in A had completed the first half of the book and moved on to the second half, while students in B were still studying the first half of the reading book. Thus, technically we can say that we were using two sub-levels (A and B) within the same intermediate level. These students, when put back into their own classrooms, came from seven different classes, four of which were in level B and three in level A.

Each class was studying the same textbook, but each class has a unique learning environment with different learners, different atmospheres, and different teachers. Because these differences are also potential contributing variables, the variability of vocabulary in each of the seven classes was examined. Therefore, the final study sample was examined by level (i.e., two intermediate levels A and B) as well as individual classes (i.e., seven classes which make up both levels). Table 1 shows full demographic information of the study's whole sample.

Table 1: *Students' demographic information*

First Language	Level B	Level A
Arabic	28	18
Spanish	12	2
Chines	5	2
Portuguese	2	3
Japanese	1	2
Korean	1	1
Gujarati	1	
Vietnamese	1	
Total Number	51	28

Instrument for collecting data

Data were collected using a revised version of the VLT (Schmitt et al., 2001). This instrument is a vocabulary measure for examining a learner's knowledge of words from a specific level. This test, as explained in the previous chapter, involves testing the 2K, 3K, 5K, 10K levels, in addition to the Academic word list. For the purpose of the current study, it was not feasible to test the 10K level as it was considered far above the participating students' level. Similarly, the Academic vocabulary list was excluded as it

contains words from the other lists. This leaves us with the 2K, 3K and 5K levels which are well within the participants' level and the scope of the current study.

The 2K level tests the most frequent 2,000 word families, the 3K level tests the 3rd most frequent 1,000 word families, and the 5K level tests the 5th most frequent 1,000 word families. Therefore, each level represents knowledge of 1,000 word families at a corresponding level, except for the 2K level, which reflects knowledge of 2,000 word families. However, since the researcher was trying to obtain a total vocabulary size estimate, not just vocabulary size at a specific level, the missing 4K level had to be filled first. I did this by replicating what Laufer (2010) did in her study. I averaged the scores received on the 3K and 5K levels. For example, if a student scored 25 on the 2K level, 14 on the 3K level, and 6 on the 5K level, his score would be $25 + 25 + 14 + 10 + 6 = 80$. Note that the score 25 appeared twice because it reflects 2,000 words, while each of the rest represents 1,000 words. The score of 10 is the average of 14 (from the 3K level) and 6 (from the 5K level).

Since each level has 30 items, the maximum score, which would measure knowledge of 5,000 words (i.e., 1,000 words per each of the five levels), would be $30 \times 5 = 150$. The vocabulary size estimate in our previous example would be $80 \times 5,000 / 150 = 2,666$ word families. The final outcome of this test is a total vocabulary size (e.g. 4200 words family) and three scores at each of the tested levels (2K, 3K and 5K) for each of the students. (For a detailed overview of this test and other tests, see Chapter Two, Literature Review, in the section "Instruments for Measuring ESL Vocabulary.")

Study design and data analysis

This study aimed to answer two distinct questions; the first one measured the variability in vocabulary size while the second one examined whether L1 could potentially cause any variability in vocabulary size. Descriptive statistics were used to arrive at the mean and the standard deviation of each of the four variables, i.e., total vocabulary size as well as scores at the 2K level, 3K level and 5K level). In addition, a causal comparative research design was used to determine whether students' vocabulary size varied based upon their first language.

Each research question warranted different statistical procedures:

1. Is there any variability in vocabulary size among intermediate L2 learners in an IEP?

This research question was addressed using descriptive statistics (mean and standard deviation). After inputting all data into the SPSS software, the sample was divided into two different categories: level and class. The two levels were B (low-intermediate) and A (high-intermediate). For each of these two levels, the SPSS calculated the mean total vocabulary size, the mean score in the 2K level, the mean score in the 3K level, and the mean score in the 5K level. In addition, the standard deviation was also reported for each of the variables in question.

Next, the same descriptive statistics analysis was applied to the sample but as individual classes. In the SPSS, the seven classes were labeled as Class 1B for the first class in level B; Class 2B for the second class in level B; Class 3B for the third class in level B; Class 4B for the fourth class in level B, Class 5A for the first class in level A;

Class 6A for the second class in level A; and finally, Class 7A for the third class in level A.

2. Are there any differences in IEP intermediate L2 learners' vocabulary size based on their native language?

A causal comparative research design was used to determine whether students' vocabulary size varied based upon their first language. This design was chosen because it aims to explore possible causative relationship between the independent variable (L1 language) and the dependent variable (vocabulary size) on occasion where the researcher cannot manipulate the independent variable.

Since the majority of the participants were speakers of either Arabic or Spanish, these two language groups were chosen to investigate vocabulary variability. None of the other L1 groups had more than four native speakers. An independent-samples t-test was used to compare the mean scores of the Arabic-speaking students to those of the Spanish-speaking students. This procedure was necessary to ensure that the variability in their vocabulary size is large enough to reach statistical significance.

Procedures

The study took place in the spring term of the 2015 academic year after permission was granted from the UCF Human Subject Review Board to work with CMMS students. The researcher also contacted the intermediate reading class teachers at CMMS to seek their permission to collect data in their classes and ensure that the students would not be given the option to leave after the test finished. The data collection

process took about a full week, with one class being visited each day for about 35 minutes. This time included the researcher introducing the study as well as the students completing it.

The students were not informed that this test involved comparing their L1 because telling them that the study was comparing vocabulary size based on native language might make them worry about their results or put in extra effort by trying to guess the meaning of unknown words. Obtaining reliable scores depends completely on the actual vocabulary size of the participants, which would be obtainable only when the participants felt comfortable while answering and not while they felt they were in a contest trying to outscore the other language groups. Instead, they were told that the study examined only the vocabulary size of their level. That is, the study aimed to identify how much vocabulary intermediate level students knew. The researcher assured them that participation in the study was voluntary and that none of the students would be judged on the results. Participants were also told that they should not guess unless they thought they knew the meaning of the given words. Because the test was to measure students' actual vocabulary knowledge, they were instructed to skip any item whose meaning was unknown. After a brief introduction to the vocabulary measure, each student received a booklet which contained: (1) demographic information to be completed by the students, (2) a practice question the students had to complete which was identical to the form and layout of the actual questions, and finally (3) the three sections of vocabulary measure (2k level, 3k level, and 5k level). None of the students needed more than 35 minutes, and those who finished earlier stayed in the class and were working on other class assignments. (See Appendix B for a copy of the booklet.)

Students were assured that after the study ended, the scores of the vocabulary measure test would be sent directly to their emails, which they had supplied when completing the demographic information. This particular step increased students' interest in the test. They felt very curious to know their vocabulary level. Some of them actually came to the researcher asking for copies of the test, while others asked for the researcher's email address. Similarly, one of the classroom teachers inquired if he could discuss the vocabulary test items with his students. Neither the students nor the teacher who asked to see the vocabulary test was given a copy of the test, but everyone was assured that at the conclusion of the study, a copy of the vocabulary test would be sent to them.

CHAPTER FOUR: RESULTS

This study used quantitative methods in investigating the variability of vocabulary size among 79 ESL students taking reading classes at the intermediate level. It also explored the possible L1 influence on second language vocabulary size. Descriptive statistics were used to address vocabulary variability and an independent t-test to address L1 influence. In this chapter, the results are presented after each of the study research questions.

Research Question 1

Is there any variability in vocabulary size among intermediate L2 learners in an IEP?

The mean total vocabulary size among the students in group B ($N= 51$) was 3031.71 word families. The Total Vocab measure had a standard deviation of 905.130. With regard to each of the sub-levels, the scores of group B showed a mean of 22.78 in the 2K level, 16.47 in the 3K level, and 13.63 in the 5K level. It is important here to remember that the total number (3,031 word families) is out of a possible total of 5,000 word families. In addition, the scores in the sub-levels are out of a maximum possible score of 30. Table 2 shows the standard deviation of each of the sub-levels tested. Figures 1, 2, 3 and 4 show the results distribution.

Table 2: *Descriptive Statistics for group B*

	N	Mean	Std. Deviation
TotalVocab	51	3031.71	905.130
SecondK	51	22.78	4.747
ThirdK	51	16.47	6.133
FifthK	51	13.63	6.776

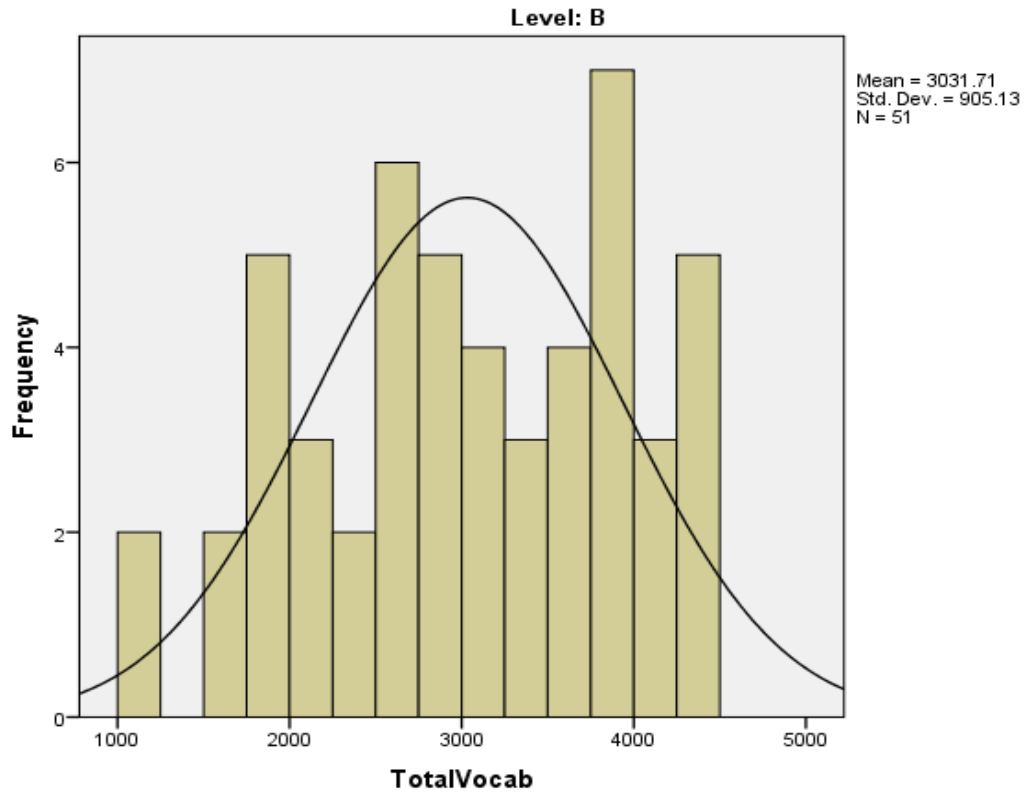


Figure 1: Total vocabulary size distribution within the low-intermediate group

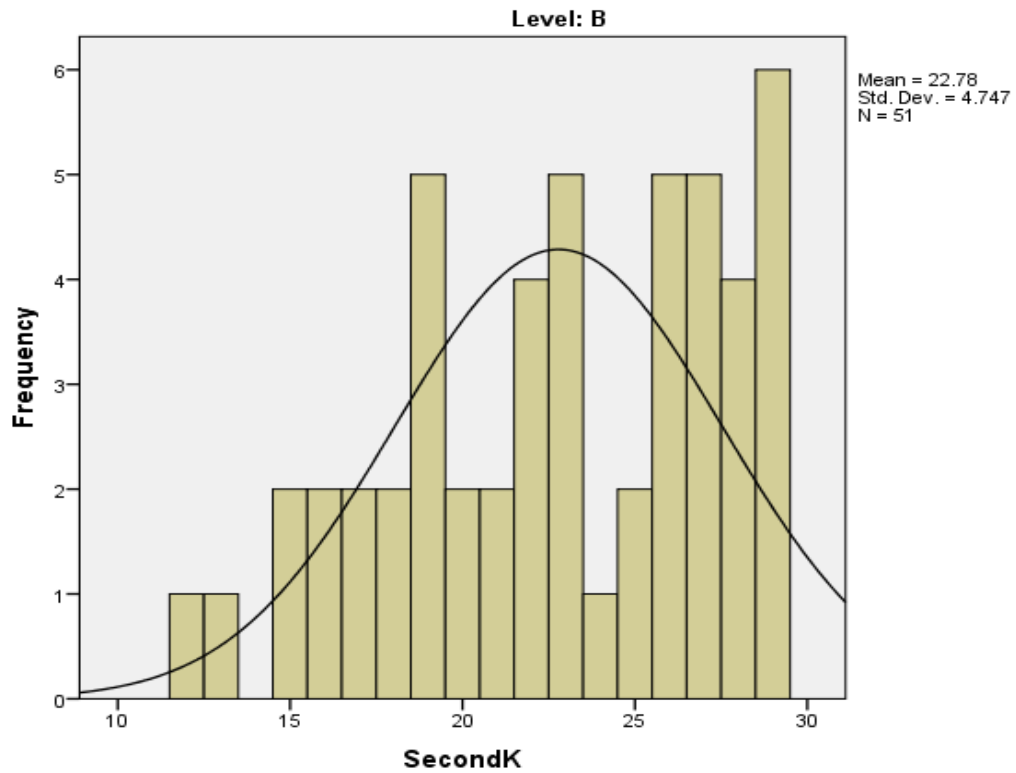


Figure 2: 2K results distribution within the low-intermediate group

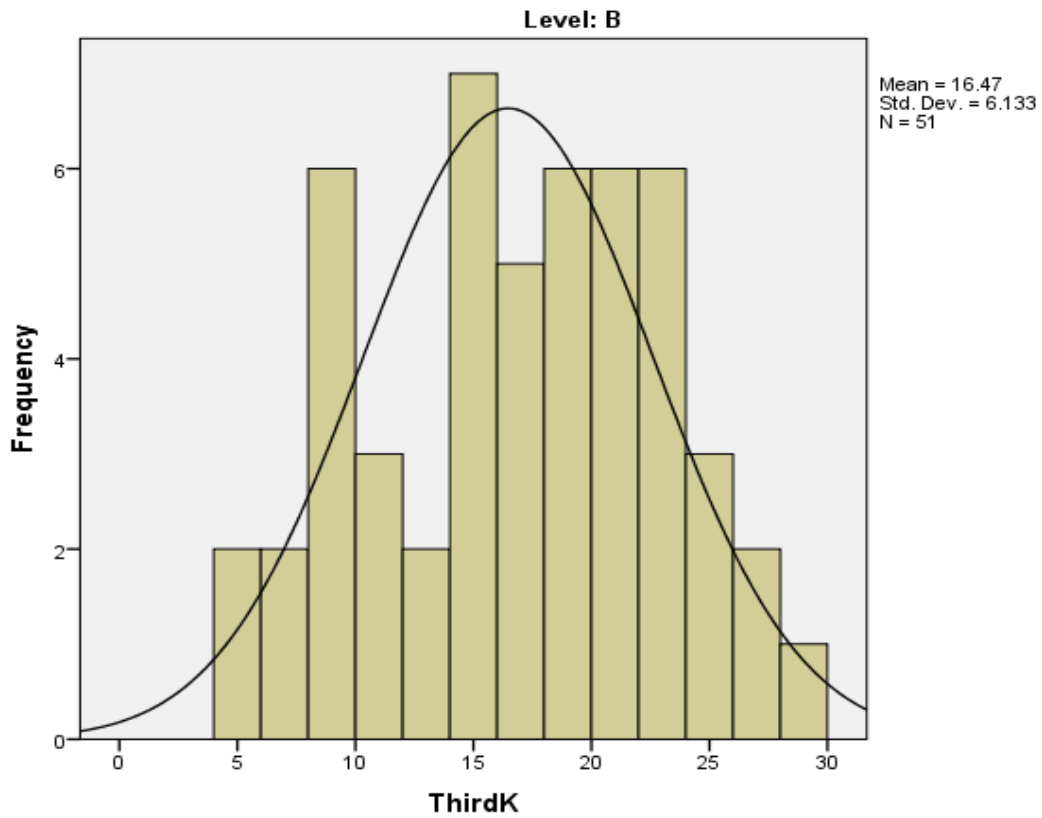


Figure 3: 3K results distribution within the low-intermediate group

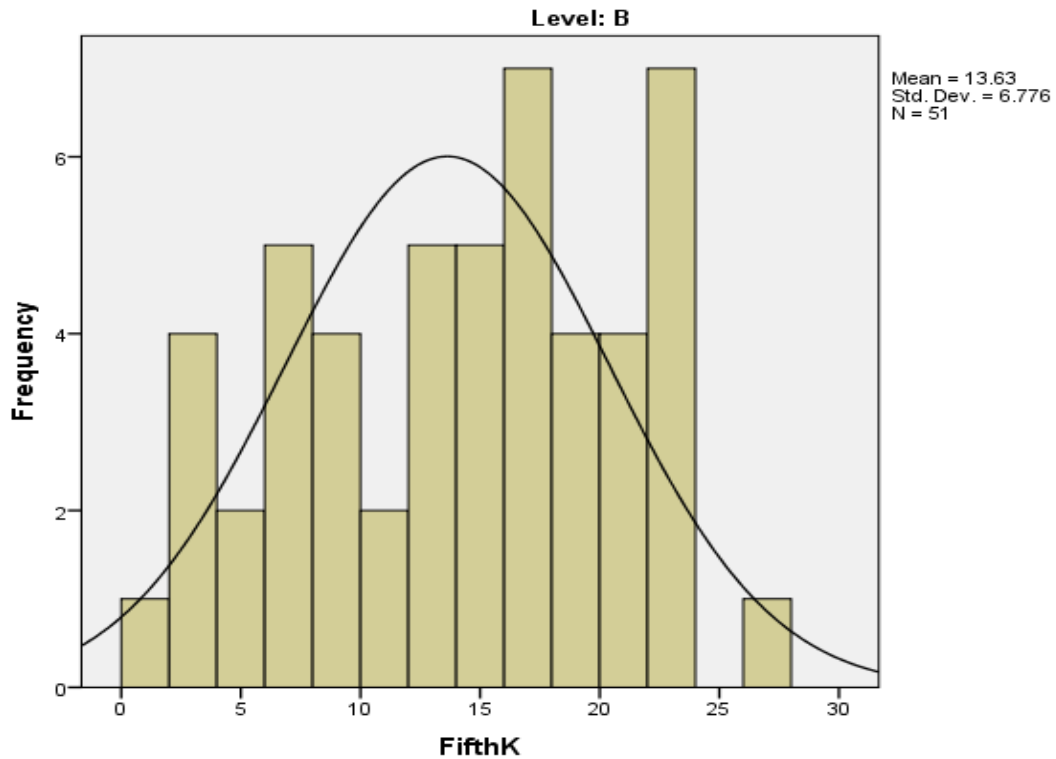


Figure 4: 5K results distribution within the low-intermediate group

The second group in the intermediate level is group A ($N= 28$). Their mean total vocabulary size was 3152.04 word families. The standard deviation was 789.250. As seen in Table 3, their mean scores in the sub-levels gradually decreased as the levels' difficulty increased ($24 \rightarrow 17 \rightarrow 14$). The SD in the 5K ($SD =5.130$) was expected to be higher than that of 3K ($SD= 6327$), since 5K contains less frequent vocabulary, and thus would cause large-scale distributed scores. Figures 5, 6, 7 and 8 show the results distribution.

Table 3: *Descriptive Statistics for group A*

	N	Mean	Std. Deviation
TotalVocab	28	3152.04	789.250
SecondK	28	23.68	4.128
ThirdK	28	17.21	6.327
FifthK	28	14.11	5.130

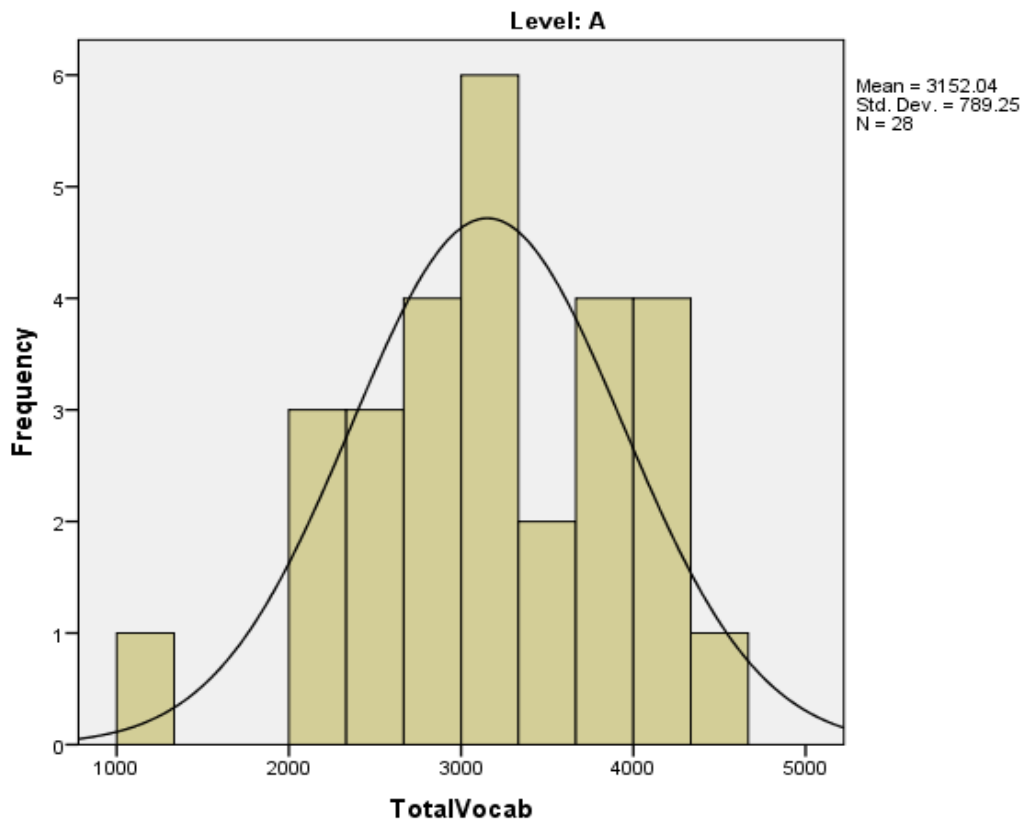


Figure 5: Total vocabulary size distribution within the high-intermediate group

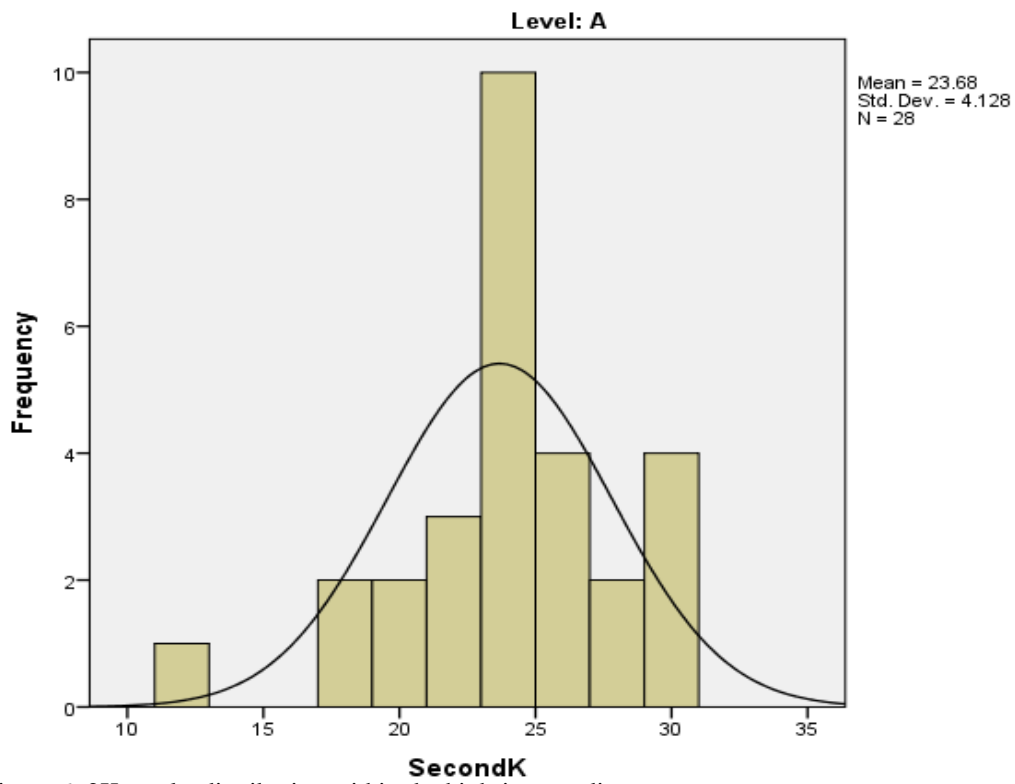


Figure 6: 2K results distribution within the high-intermediate group

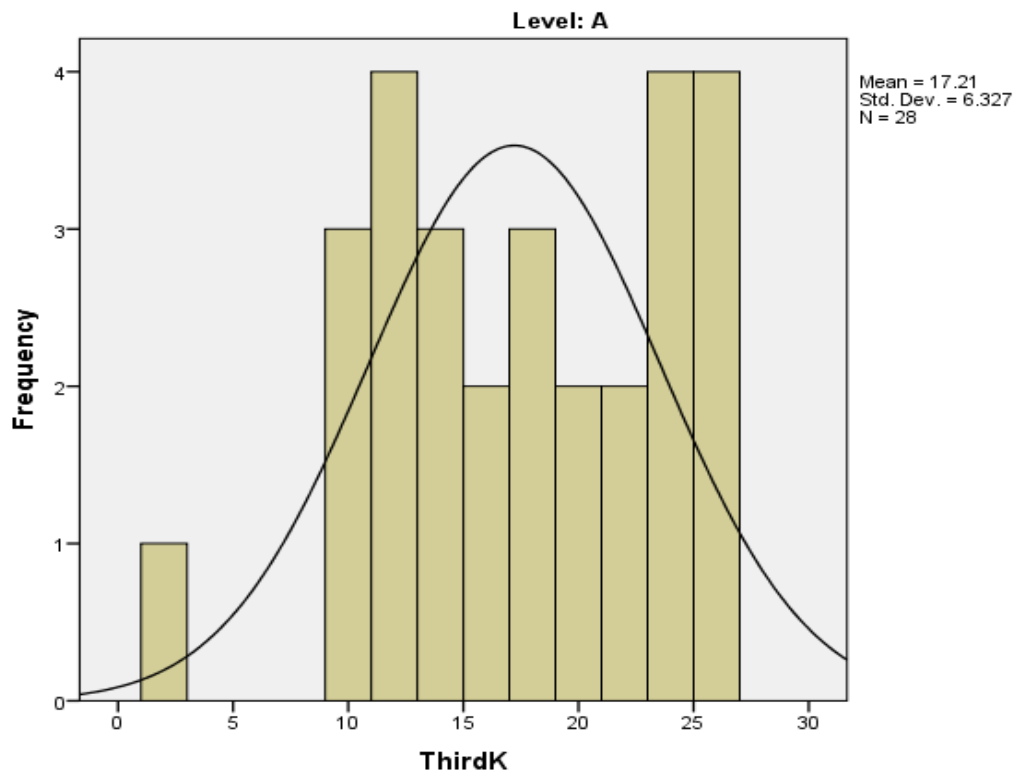


Figure 7: 3K results distribution within the high-intermediate group

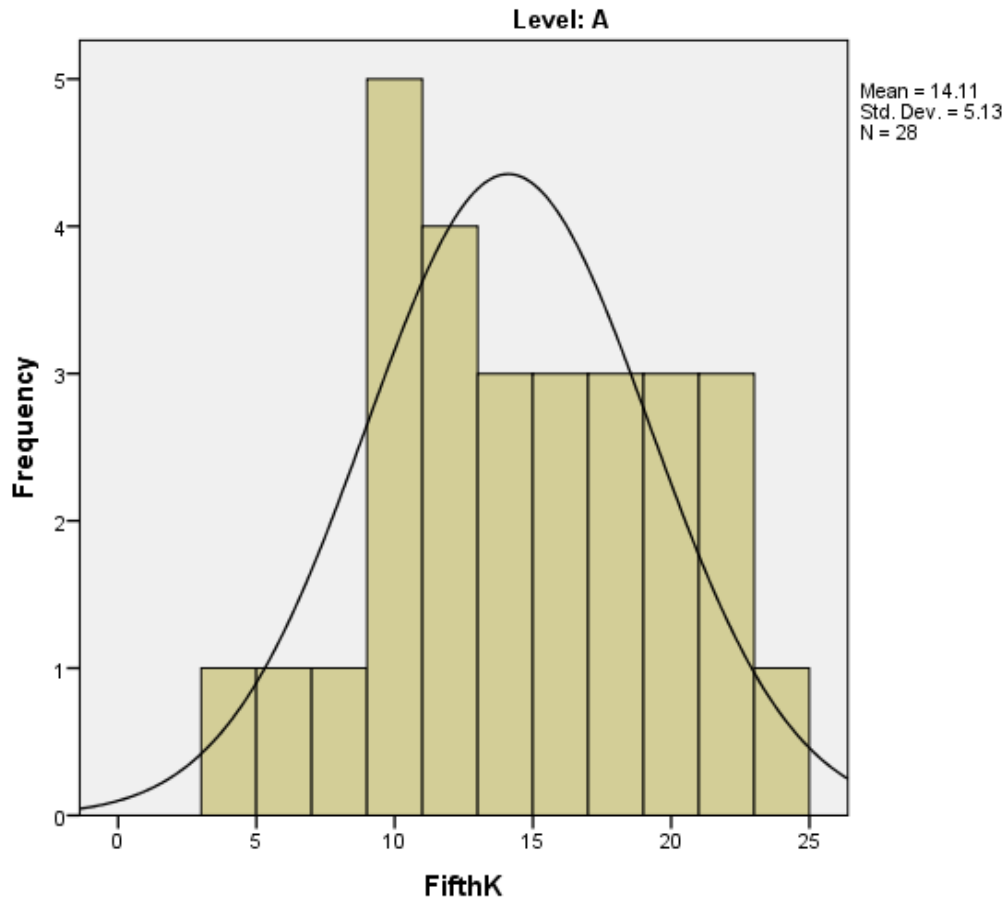


Figure 8: 5K results distribution within the high-intermediate group

The aforementioned results pertain to the intermediate level students when categorized by sub-levels (B and A). Another view of the vocabulary variability among the students can be seen by analyzing each individual class (seven classes, four of which are in group B and three in group A).

Class 1B ($N=12$) showed a standard deviation of 615.550 in their total vocabulary size with a mean of 2246.92 word families. The group's mean scores were 18.67 ($SD = 3.916$) in the 2K level, 11.08 ($SD = 3.528$) in the 3K level, and 8.83 ($SD = 5.237$) in the 5K level. (See Table 4.)

Table 4: *Descriptive Statistics for class 1B*

	N	Mean	Std. Deviation
TotalVocab	12	2246.92	615.550
SecondK	12	18.67	3.916
ThirdK	12	11.08	3.528
FifthK	12	8.83	5.237

As shown in Table 5, class 2B had a mean total vocabulary size of 3,506. Their scores in the sub-levels were as expected since the means decreased as the levels progressed (25 → 19 → 17).

Table 5: *Descriptive Statistics for class 2B*

	N	Mean	Std. Deviation
TotalVocab	15	3506.33	785.741
SecondK	15	25.27	3.615
ThirdK	15	19.33	5.753
FifthK	15	17.00	5.916

The third class in level B showed the largest standard deviation in the 5K level ($SD = 7,245$). Their total vocabulary size greatly varied, too ($SD = 853$). (See Table 6.)

Table 6: *Descriptive Statistics for class 3B*

	N	Mean	Std. Deviation
TotalVocab	11	3229.91	852.986
SecondK	11	23.91	4.346
ThirdK	11	17.55	5.241
FifthK	11	14.91	7.245

The last class in level B (class 4B) showed a mean total vocabulary size of 3,041, with a standard deviation of 898. The mean scores in the sub-levels flowed as expected (23 → 17 → 13). (See Table 7.)

Table 7: Descriptive Statistics for class 4B

	N	Mean	Std. Deviation
TotalVocab	13	3040.77	897.813
SecondK	13	22.77	4.799
ThirdK	13	17.23	6.547
FifthK	13	13.08	6.525

Now we consider the variability in vocabulary in the classes in level A. The first class in this level is class 5A ($N= 8$). Their total vocabulary was widely distributed ($SD = 818$). Their scores in the sub-levels behaved consistently ($20 \rightarrow 12 \rightarrow 10$). (See Table 8.)

Table 8: Descriptive Statistics for class 5A

	N	Mean	Std. Deviation
TotalVocab	8	2508.13	818.053
SecondK	8	20.50	4.811
ThirdK	8	12.38	6.413
FifthK	8	10.38	4.627

The second class in level A is class 6A. They had a mean total vocabulary size of 3,494 word families ($SD = 588$). Their scores in the sub-levels were 25 ($SD = 2.954$) \rightarrow 20 ($SD = 4.434$) \rightarrow 15 ($SD = 5.125$). (See Table 9.)

Table 9: Descriptive Statistics for class 6A

	N	Mean	Std. Deviation
TotalVocab	12	3494.00	587.726
SecondK	12	25.00	2.954
ThirdK	12	20.75	4.434
FifthK	12	15.58	5.125

In Table 10, the last class in level A (Class 7A) had a mean vocabulary size of 3,283 word families with a SD of 705. As expected, the means for each of the three K levels decreased ($24.9 \rightarrow 16.8 \rightarrow 15.6$) as the levels progressed. The SD, however, did not behave as expected in that we would expect the SD for 5K to be higher than for 3K.

Table 10: *Descriptive Statistics for class 7A*

	N	Mean	Std. Deviation
TotalVocab	8	3283.00	704.795
SecondK	8	24.88	3.563
ThirdK	8	16.75	5.825
FifthK	8	15.63	4.069
Valid N (listwise)	8		

These tables and figures clearly indicated a considerable variation in vocabulary size. Students in both groups and within each individual class exhibited remarkable gaps in vocabulary as evidenced by the high standard deviations in almost all instances.

Research Question 2

Are there any differences in IEP intermediate L2 learners' vocabulary size based on their native language?

When looking at the difference between Arabic-speaking students and Spanish-speaking students in their total vocabulary size, as predicted, an independent t-test indicated that Spanish-speaking students ($M = 3471$, $SD = 471$, $N = 12$) had a larger total vocabulary size than their Arabic speaking counterparts ($M = 2825$, $SD = 1006$, $N = 28$). The difference in total vocabulary size was large enough to reach statistical significance, $t(38) = -2.764$, $p < .05$, two-tailed, and the partial eta-squared ($\eta^2 = .105$) was of medium to large size. However, this difference was not consistent across the three vocabulary size measures, with the largest gaps occurring at the 3k and 5k levels. The Spanish speakers significantly outperformed the Arabic speakers in the 3K level, $t(38) = 2.991$, $p < .05$, and partial eta squared ($\eta^2 = .113$) was of medium to large size; and in the 5K level, $t(36) = 3.812$, $p < .05$, and partial eta squared ($\eta^2 = .191$) was of large size; but not in the 2K

level, $t(32) = 1.150$, $p > .05$, and partial eta squared ($\eta^2 = .024$) was of small size. The Spanish speakers mean score in the 2K level ($M = 23.92$, $SD = 3.343$) was close to that of the Arabic speakers ($M = 22.32$, $SD = 5.271$). (See Table 11 and 12.)

Table 11: *Group Statistics*

	Language	N	Mean	Std. Deviation	Std. Error Mean
TotalVocab	Arabic	28	2825.89	1006.073	190.130
	Spanish	12	3471.92	471.058	135.983
SecondK	Arabic	28	22.32	5.271	.996
	Spanish	12	23.92	3.343	.965
ThirdK	Arabic	28	14.89	7.130	1.347
	Spanish	12	19.58	2.778	.802
FifthK	Arabic	28	11.68	6.810	1.287
	Spanish	12	17.92	3.502	1.011

Table 12: *Independent Samples Test*

		Levene's Test for Equality of Variances		t-test for Equality of Means								
		F	Sig.	t	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		Partial Eta Squared	Power
									Lower	Upper		
TotalVocb	Equal variances assumed	8.296	.006	2.115	38	.041	-646.024	305.391	1264.256	-27.792	.105	.541
	Equal variances not assumed			2.764	37.563	.009	-646.024	233.753	1119.414	-172.634		
SecondK	Equal variances assumed	5.552	.024	-.965	38	.341	-1.595	1.654	-4.943	1.753	.024	.156
	Equal variances not assumed			1.150	32.088	.259	-1.595	1.387	-4.420	1.229		
ThirdK	Equal variances assumed	11.561	.002	2.195	38	.034	-4.690	2.137	-9.016	-.365	.113	.571
	Equal variances not assumed			2.991	37.857	.005	-4.690	1.568	-7.865	-1.516		
FifthK	Equal variances assumed	8.360	.006	2.993	38	.005	-6.238	2.085	-10.458	-2.018	.191	.831
	Equal variances not assumed			3.812	36.494	.001	-6.238	1.637	-9.556	-2.921		

CHAPTER FIVE: DISCUSSION AND CONCLUSION

The focus of the current study has been on the variability of vocabulary size among 79 students enrolled in an intermediate reading class at CMMS. In addition to overall variability among all the students, this study also investigated L1 influence on second language vocabulary size. After data was collected, descriptive statistics were analyzed and independent t-tests were run to answer this study's two research questions:

1. Is there any variability in vocabulary size among intermediate L2 learners in an IEP?
2. Are there any differences in IEP intermediate L2 learners' vocabulary size based on their native language?

Discussion

Research Question 1

It turned out that the 51 students taking low-intermediate reading (level B) know approximately 3,031 word families. However, those who are in the high-intermediate reading (Level A) know approximately 3,152 word families. This difference of 121 word families is not surprising since Level A students have been assigned to the class just above Level B. In practical curriculum terms, Level A students study the second half of the reading textbook, while level B students are working with the first half.

A logical question then arises here of whether this vocabulary amount is enough. This question can be informed by a question posed earlier in Chapter 2: What do students

need to accomplish? For Laufer (1992), 3,000 word families is the minimum adequate comprehension (threshold), which would yield a score of about 56% on a standardized reading test. Thus, for her students, reading and comprehending a passage was their goal. For the students in our sample, this threshold, in a way, seems logical since students at the lower level (beginners) might not achieve the minimum comprehension in reading. Intermediate level students, on the other hand, could attain the minimum comprehension. Advanced level students will probably accomplish a better overall comprehension and not just a minimum comprehension. Additionally, and based on Nation's (2006) findings, our sample is able to read graded-readers as knowledge of 3,000 word families will provide a coverage of 98% in this type of reading. However, reading novels or newspapers would require much more than that, perhaps 8,000 to 9,000 words.

The more critical issue here that directly addresses the research question is whether students' vocabulary size features a large variation or not. After all, the total vocabulary size reported earlier for both levels is simply the mean, while there are students who know less or more, but we are interested in how much less and how much more.

When the descriptive statistics were run on students in level B ($N= 51$) and level A ($N= 28$), a large vocabulary gap was revealed. As seen in Table 13, the SD for level B is fairly high: 905. This figure indicates that the difference in vocabulary size between students in this level is about 900 word families. Even when looking at the individual measure levels (2K, 3K and 5K), a large variation exists. For example, in the 5K level, their scores ranged from 0 to 25 (out of 30), which reflects a serious vocabulary challenge. Level A also exhibited almost the same vocabulary variation. When students

were first assigned to their levels at CMMS, it was assumed that they shared similar language proficiency based on the placement test they had to complete. However, even if they might have similar grammar, which is an important part of the CMMS placement test, their vocabulary was obviously not as similar. It is true that this study did not show whether this variation in vocabulary led to differences in reading performance, but previous studies have shown a strong correlation between vocabulary size and reading comprehension (e.g., Laufer, 1997; Rashidi & Khosravi, 2010; Qian, 1999). In fact, Schmitt et al. (2011) found a straightforward linear relationship between the amount of words known in a text and comprehension of that text. Therefore, the findings of the current study would seem to call for considering adding a separate and explicit vocabulary section to the placement test at CMMS to place students more accurately.

Table 13: *Descriptive Statistics for group B*

	N	Mean	Std. Deviation
TotalVocab	51	3031.71	905.130
SecondK	51	22.78	4.747
ThirdK	51	16.47	6.133
FifthK	51	13.63	6.776

Great vocabulary variation continues to exist even in each of the individual classes. Unlike the variation of vocabulary in the entire level, variation per classroom raises even more issues. After all, a teacher will never teach a whole level, but a teacher will certainly teach at least one class. Teachers when choosing, say, a language activity will expect all or at least most students to be able to perform similarly. However, such variability in vocabulary can cause some students to be left behind or feel anxious because they are not as ready. Teachers at CMMS should be, if not already, aware of the existence of such tremendous vocabulary variation within any class. Although teachers

believe that they are teaching students who at least have similar lexical knowledge, they are in fact teaching a class of students whose vocabulary varies by about 600 to 900 word families per student, which is a massive and debilitating difference.

Research Question 2

It was noticed from the previous research question that students at CMMS exhibited large variation in vocabulary size. It was intuitive then to investigate if L1 had a role in such vocabulary size differences. The majority of the study sample consisted of either Arabic-speaking students or Spanish-speaking students. Despite the fact that these students of different L1s (Spanish $N=12$; Arabic $N=28$) tested into the same proficiency level according to the placement tools at CMMS, a serious lexical gap existed between these two L1 groups at the total vocabulary size, 3k, and 5k, thus indicating that Arabic speakers are at a lexical disadvantage when compared with their Spanish-speaking counterparts even when placement tests would seem to indicate similar proficiency levels.

However, there is only one level where variation did not occur, the 2K, a fact that is also important. The first 2,000 word families are from the General Service List (West, 1953). These words are the most frequent and easiest to acquire, especially when compared to other words from the more advanced levels (e.g., 3K or 5K). Thus, it is no wonder that both Arabic-speaking students and Spanish-speaking students had similar proficiency in the first 2000 word families. In fact, it would be surprising and difficult to interpret if variation existed even within the 2k level since vocabulary differences tend to occur in the less frequent words. Students at this level are expected to know these

words. If we had used Level 1 or Level 2, then we might have seen some variation in the 2K words.

The groundwork for the Spanish-speakers' advantage in learning English vocabulary was also laid out in the previous chapter in the discussion of Ard and Homburg's (1992) study. The Spanish language lexicon has much more resemblance to English, which helps Spanish speakers in two ways. First, they will be able to acquire these similar items, or cognates, with much less effort. Second, they can therefore devote most of their learning time on the "harder" or dissimilar items, as they did not have to spend much time on the similar items (Ard & Homburg, 1992). Therefore, Spanish-speaking ESL students automatically receive an advantage over other language groups whose lexicon does not exhibit such similarity with the English one, i.e., Arabic in the case of this study.

Nevertheless, we cannot attribute the large variation that appeared in the individual classes or in the whole level B merely to L1 differences because such variation occurred even among the Arabic speakers' group alone ($SD = 1006$). On the other hand, the scores for the Spanish speakers' group are more clustered ($SD = 471$) which indicates that there is an underlying similar vocabulary knowledge perhaps triggered by the mere virtue of being a native Spanish speaker and not, say, due to idiosyncratic differences.

Suggestions for ESL teachers and ESL programs.

While this study took place in one particular ESL program (CMMS), its findings can be considered by many other programs that share parameters similar to those of the current study.

Based on the results of this study, implications for ESL teachers include:

1. Teachers should keep in mind that while grammar knowledge might be similar among students (because they passed a placement test which mostly depended on grammar), vocabulary knowledge can vary strongly. L1 can explain some of the variation, but variation in vocabulary may exist because the placement test does not attempt to control for it. Therefore, teachers should be aware of what their students' placement test actually tested.
2. Teachers should administer the VLT at the beginning of a teaching semester to determine which vocabulary level(s) warrant instruction and by which students.
3. Teachers can use this information to assign certain particular vocabulary lists (e.g., General Service List, the 3rd most frequent 1000 words, and the 5th most frequent 1000 words). This targeted lexical focus can be done instead of arbitrarily assigning the same vocabulary list to the whole class based on the false assumption that all students have the same vocabulary needs. Such lists (and much more) can be found in this website <http://www.lextutor.ca/>

Implications can extend to reach ESL programs:

1. One obvious implication would be the introduction of some form of vocabulary measure as a deciding factor in placing students at a certain level.
2. According to the Assistant Director at CMMS, Arabic speakers make up about 70% of the whole students population, and the current study sample is predominantly Arabic speakers. At the same time, there are also a considerable number of Spanish speakers. Therefore, it might be prudent for CMMS directors and any ESL program that share

similar context to provide the Arabic speakers with words from the higher frequency lists (e.g., 3K level and 5K level) as a boost to help them catch up with their Spanish peers.

Recommendations for future research

This study has shown that Spanish first-language speakers have considerably higher vocabulary size than Arabic first-language speakers. However, the study did not examine whether this variation in vocabulary could lead to variation in reading performance or other skill area. In other words, yes, variation exists, but are there any concrete ramifications? Therefore, future research could be conducted to examine reading comprehension among Spanish and Arabic speakers and any connection with both groups' lexical knowledge.

Future research could also use more than one ESL program (and of course a larger sample size) in investigating vocabulary variation among Spanish and Arabic first language speakers since this can serve as a better representativeness of the targeted populations

Conclusion

This study showed that students who were assumed to share similar language proficiency and thus were placed at the same proficiency level based on the placement test are in fact experiencing extensive vocabulary variation. In some instances, their vocabulary varied by 600 to 900 word families per student. While vocabulary size can provide much more text coverage, which in turn increases reading comprehension, which

is one of the most important academic skills, vocabulary knowledge is not being considered as a deciding factor in assigning students to their proficiency levels. The study has also showed that great variation can exist between two distinct language groups. Spanish speakers, whose first language lexicon carries greater resemblance to that of English, significantly outperformed their Arabic speakers peers in all vocabulary variables (except for the 2K level). The study, therefore, raises questions about the efficiency of teaching a class where Spanish and Arabic speakers are a majority of the students.

APPENDIX A: IRB APPROVAL LETTER



University of Central Florida Institutional Review Board
Office of Research & Commercialization
12201 Research Parkway, Suite 501
Orlando, Florida 32826-3246
Telephone: 407-823-2901 or 407-882-2276
www.research.ucf.edu/compliance/irb.html

Approval of Exempt Human Research

From: **UCF Institutional Review Board #1**
FWA00000351, IRB00001138

To: **Anas Alkhofi**

Date: **December 01, 2014**

Dear Researcher

On 12/01/2014, the IRB approved the following activity as human participant research that is exempt from regulation.

Type of Review	Exempt Determination
Project Title	An Analysis of the Lexical Knowledge of a Typical Class of Adult ESL Students at the Intermediate Proficiency Level
Investigator	Anas Alkhofi
IRB Number	SBE-14-10777
Funding Agency:	
Grant Title:	
Research ID:	N/A

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

In the conduct of this research, you are responsible to follow the requirements of the Investigator Manual.

On behalf of Sophia Dziegielewska, Ph.D., L.C.S.W., UCF IRB Chair, this letter is signed by:

Signature applied by Joanne Muratori on 12/01/2014 12:27:28 PM EST

IRB Coordinator

APPENDIX B: THE VLT BOOKLET

Vocabulary Measure Test

You are participating in a study of the English vocabulary knowledge of international students. Your participation in this study is voluntary, so we thank you for taking part in today's activity.

In a few minutes, you will complete a short test to measure your vocabulary knowledge in English, but first we will fill out information in the chart below such as your name, native language, and CMMS level, and then we will do a few practice questions.

How will this process benefit you? In a few days, we will e-mail you the results of your answers. These results will tell you your vocabulary level. It will give you information about how many words you know in English. It will also give you some websites that can help you improve your individual vocabulary based on the results of today's test.

First, we need you to complete some background information. Please answer the questions on this page. When everyone finishes, we will complete some example questions together.

BACKGROUND INFORMATION

Name:	Age:	Nationality:
First language:	Gender (male/female):	CMMS Level:
Are you a new student at CMMS? (Put x) <input type="checkbox"/> New <input type="checkbox"/> Continuing	PRINT your e-mail address VERY CLEARLY: _____	

DO NOT TURN THE PAGE UNTIL YOU ARE INSTRUCTED TO DO SO.

SAMPLE QUESTIONS

Here are some practice questions that we will do together. This is a vocabulary test. You must choose the correct word to go with each meaning. Write the number of that word next to its meaning.

You will see 6 words on the left, and you will see 3 meanings on the right. 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 should answer it in the following way.

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

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

The 2,000 word level

1 birth
2 dust
3 operation
4 row
5 sport
6 victory

_____ game
_____ winning
_____ being born

1 choice
2 crop
3 flesh
4 salary
5 secret
6 temperature

_____ heat
_____ meat
_____ money paid regularly for
_____ doing a job

1 cap
2 education
3 journey
4 parent
5 scale
6 trick

_____ teaching and learning
_____ numbers to measure with
_____ going to a far place

1 attack
2 charm
3 lack
4 pen
5 shadow
6 treasure

_____ gold and silver
_____ pleasing quality
_____ not having something

1 cream
2 factory
3 nail
4 pupil
5 sacrifice
6 wealth

_____ part of milk
_____ a lot of money
_____ person who is studying

1 adopt
2 climb
3 examine
4 pour
5 satisfy
6 surround

_____ go up
_____ look at closely
_____ be on every side

1 bake
2 connect
3 inquire
4 limit
5 recognize
6 wander

_____ join together
_____ walk without purpose
_____ keep within a certain size

1 burst
2 concern
3 deliver
4 fold
5 improve
6 urge

_____ break open
_____ make better
_____ take something to someone

1 original
2 private
3 royal
4 slow
5 sorry
6 total

_____ first
_____ not public
_____ all added together

1 brave
2 electric
3 firm
4 hungry
5 local
6 usual

_____ commonly done
_____ wanting food
_____ having no fear

The 3,000 word level

- 1 belt
- 2 climate _____ idea
- 3 executive _____ inner surface of your hand
- 4 notion _____ strip of leather worn
- 5 palm _____ around the waist
- 6 victim

- 1 acid
- 2 bishop _____ cold feeling
- 3 chill _____ farm animal
- 4 ox _____ organization or framework
- 5 ridge
- 6 structure

- 1 bench
- 2 charity _____ long seat
- 3 jar _____ help to the poor
- 4 mate _____ part of a country
- 5 mirror
- 6 province

- 1 boot
- 2 device _____ army officer
- 3 lieutenant _____ a kind of stone
- 4 marble _____ tube through which blood
- 5 phrase _____ flows
- 6 vein

- 1 apartment
- 2 candle _____ a place to live
- 3 draft _____ chance of something
- 4 horror _____ happening
- 5 prospect _____ first rough form of
- 6 timber _____ something written

- 1 betray
- 2 dispose _____ frighten
- 3 embrace _____ say publicly
- 4 injure _____ hurt seriously
- 5 proclaim
- 6 scare

- 1 encounter
- 2 illustrate _____ meet
- 3 inspire _____ beg for help
- 4 plead _____ close completely
- 5 seal
- 6 shift

- 1 assist
- 2 bother _____ help
- 3 condemn _____ cut neatly
- 4 erect _____ spin around quickly
- 5 trim
- 6 whirl

- 1 annual
- 2 concealed _____ wild
- 3 definite _____ clear and certain
- 4 mental _____ happening once a year
- 5 previous
- 6 savage

- 1 dim
- 2 junior _____ strange
- 3 magnificent _____ wonderful
- 4 maternal _____ not clearly lit
- 5 odd
- 6 weary

The 5,000 word level

- 1 balloon
- 2 federation
- 3 novelty
- 4 pail
- 5 veteran
- 6 ward

- _____ bucket
- _____ unusual interesting thing
- _____ rubber bag that is filled with air

- 1 alcohol
- 2 apron
- 3 hip
- 4 lure
- 5 mess
- 6 phase

- _____ stage of development
- _____ state of untidiness or dirtiness
- _____ cloth worn in front to protect your clothes

- 1 apparatus
- 2 compliment
- 3 ledge
- 4 revenue
- 5 scrap
- 6 tile

- _____ expression of admiration
- _____ set of instruments or machinery
- _____ money received by the Government

- 1 bulb
- 2 document
- 3 legion
- 4 mare
- 5 pulse
- 6 tub

- _____ female horse
- _____ large group of soldiers or people
- _____ a paper that provides information

- 1 concrete
- 2 era
- 3 fiber
- 4 loop
- 5 plank
- 6 summit

- _____ circular shape
- _____ top of a mountain
- _____ a long period of time

- 1 blend
- 2 devise
- 3 hug
- 4 lease
- 5 plague
- 6 reject

- _____ mix together
- _____ plan or invent
- _____ hold tightly in your arms

- 1 abolish
- 2 drip
- 3 insert
- 4 predict
- 5 soothe
- 6 thrive

- _____ bring to an end by law
- _____ guess about the future
- _____ calm or comfort someone

- 1 bleed
- 2 collapse
- 3 precede
- 4 reject
- 5 skip
- 6 tease

- _____ come before
- _____ fall down suddenly
- _____ move with quick steps and jumps

- 1 casual
- 2 desolate
- 3 fragrant
- 4 radical
- 5 unique
- 6 wholesome

- _____ sweet-smelling
- _____ only one of its kind
- _____ good for your health

- 1 gloomy
- 2 gross
- 3 infinite
- 4 limp
- 5 slim
- 6 vacant

- _____ empty
- _____ dark or sad
- _____ without end

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