UNIVERSIDAD DE CUENCA

Facultad de Filosofía, Letras y Ciencias de la Educación

Maestría en Lingüística Aplicada a la enseñanza del Inglés como Lengua Extranjera

"VAK-based activities to increase vocabulary in EFL college students"

Trabajo de Titulación previo a la obtención del Título de Magíster en Lingüística Aplicada a la Enseñanza del Inglés como Lengua Extranjera

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Cuenca – Ecuador

2018

Resumen

Este estudio indaga la relación entre la adaptación de actividades en clase, al estilo de aprendizaje dominante Visual, Auditivo y Kinestésico (VAK) de estudiantes universitarios de inglés como lengua extranjera, y la adquisición de su vocabulario. Hubo 23 participantes, de los cuales 65% eran mujeres. Un t test para muestras relacionadas determinó que, sin importar el estilo de aprendizaje de los estudiantes, hubo un efecto positivo de la intervención en el nivel de vocabulario, usando el Test de Nivel de Vocabulario (VLT, por sus siglas en inglés) de Schmitt como pre y postest. Sin embargo, una regresión lineal sugirió que dicho efecto era limitado.

Palabras clave: VAK, estilos de aprendizaje, EFL, tamaño de vocabulario, adquisición de vocabulario.

Abstract

This study addresses the relationship between the adaptation of classroom activities -to match the dominant Visual, Auditory and Kinesthetic (VAK) learning style of English as a Foreign Language (EFL) college students, and vocabulary acquisition. There were 23 participants, of which 65% were female. A t-test for related samples determined that, regardless of the learning style of students, there was a positive effect of the intervention on the vocabulary level, using Schmitt´s Vocabulary Level Test (VLT) as the pre and posttest. However, a linear regression suggested that such effect was limited.

Key words: VAK, learning styles, EFL, vocabulary size, vocabulary acquisition.

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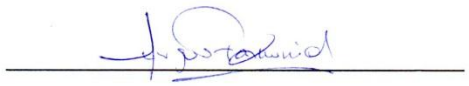

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ACKNOWLEDGMENT

My deepest gratitude goes to my thesis director, Anne Carr, Ed. D., whose guidance and patience were fundamental in the elaboration of this work.

I would also like to thank the Institute of Languages of the University of Cuenca for the opportunity provided to carry out the investigation.

Last and foremost, I would like to acknowledge my family's support. Specially that of my parents Aure and Cumi, and my sister Cristina, who with unconditional love have encouraged me to overcome any difficulties encountered throughout this journey. I could have not achieved this goal without you.

This work is dedicated to my beloved children, Gaby and Dany, whose kindhearted love constantly challenges me to improve myself.

Introduction

Second Language Acquisition (SLA) is influenced by different factors. As described by Ortega (2009, Pg.9), some of them are "universal influences that help shape the nature, pace, route and finish line in the path towards learning a second language" (L2). A good example of this type of influence is environment. There are also social dimensions, like negative feedback, that help determine what is learned or not, and why. Other aspects are more specific to the individual learner, such as language anxiety, and are the ones that basically determine the rate and ultimate attainment of L2 learning. After all, it is evident from simple observation that not every student in the same classroom acquires a second language at the same speed or with the same success of his classmates. As a result of decades of research on the subject, this variation in L2 learning success can mainly be attributed to individual differences (IDs) (Dörnyei, 2010).

The implication would be that L2 students' learning would benefit from teaching that takes IDs into account. However, the empirical research on the influence of IDs on SLA has been centered around a few individual factors, namely aptitude and motivation. This paper would like to contribute to a body of research that focuses on a different ID, learning styles, which refer to an individual's preferred way of learning (Nation, 2013).

Furthermore, this study focuses on the learning styles based on sensory preferences: visual, auditory, or kinesthetic (VAK); and how they can be used in an English as a Foreign Language (EFL) classroom to increase the students' L2 learning. Specifically, this paper is interested in whether adapting learning materials to match the learners' VAK preference has

an effect on their English vocabulary acquisition since vocabulary knowledge has been shown to be a key predictor of language proficiency (Alderson, as cited on González-Fernández & Schmitt, 2015). The need for this kind of relationship (learning material-vocabulary) is also acknowledged by McDonough, Shaw and Masuhara (2013), who mentioned the existence of too many unknown words in a text as a reason to adapt materials in communicative learning teaching.

For this purpose, a group of 23 Spanish-speaking college students underwent a 7-week-long intervention, for which the learning material was adapted to match the group's predominant VAK learning style. Their English vocabulary base was measured before and after the intervention to see whether the intervention had a positive effect on their L2 vocabulary learning.

The details of the study have been arranged in seven chapters. First, an introductory chapter explains the extent of the study and gives an overview of the variables included. It also states the three research questions that guided the approach of this study. Then, the relevant research that has been done regarding learning styles and vocabulary acquisition is encompassed in Chapter 2, Literature Review. The information is presented in three sections, one for learning styles, another for vocabulary, and a third relating the previous two. The third chapter integrates the theoretical framework that supports this work by defining and describing learning styles and vocabulary learning as a process. In addition, it presents a model that combines learning styles and vocabulary learning as necessary steps to obtain vocabulary acquisition. Chapter 4 covers the methodology used along with a more detailed explanation of the intervention itself and the group of students. The results are presented in the fifth chapter while the pertinent analysis and discussion are offered in Chapter 6. Finally, the conclusions, suggestions for further research and recommendations are presented in the seventh chapter.

1 Scope of the Study

1.1 Introduction: Background, Rationale, Research purpose

Vermeer (as cited by Chacón-Beltrán (2014, Pg. 2) noted that "the main concern, if a high level of proficiency in the L2 is to be acquired, should be vocabulary". However, acquiring this knowledge through formal instruction is a complex process influenced by many factors (Pavičić, 2008). Some of these factors are related to the students themselves, like their intelligence level. Others are related to the content, such as the linguistic features of lexical items (e.g: word length). Neither of these aspects is directly under the teacher's control. What is in the teacher's hands are the classroom materials that are to be used. Since previous studies have shown that IDs are consistent predictors of L2 learning success (Dörnyei, 2010), it would make sense for L2 teachers to expose their students to material that has been selected considering one of the group's predominant IDs. In particular, this study seeks to establish a relationship between the type of learning materials that are given to EFL students based on their sensory learning preference (one of the possible IDs) and English vocabulary acquisition.

1.2 Statement of the Problem, Research Question

To be clear, the relationship between language learning materials and SLA has been explored, but as Tomlinson (2010) pointed out, more research is needed. Furthermore, limited research has been conducted about material adaptation to match VAK learning styles in order to increase vocabulary of EFL students, and even the few available studies on the subject have been restricted to Asia. In addition, their results offer no conclusive evidence to support a relationship between VAK learning styles and vocabulary (see literature review for a more

detailed explanation). One of them found a positive relationship, another one concluded that such a factor is irrelevant for vocabulary instruction, and one had mixed results.

It follows that more research, like this paper, would help establish if there is an effect of VAK learning styles on vocabulary acquisition and if such relationship is significant. It also offers a view from the perspective of EFL learners whose first language is Spanish.

1.3 Research Question

Specifically, this paper addresses the following research questions:

1. To what extent do students improve their vocabulary base if in-class activities are tailored to the group's dominant learning style?
2. How do students who do not share the dominant learning style perform those activities?
3. How does the type of vocabulary to be learned influence the performance of the students?

1.4 Research Objectives

The general objective of this work was to determine the effect of in-class activities tailored to the dominant learning style of EFL college students upon their vocabulary base. Furthermore, these were its specific objectives:

- To identify the dominant learning style of the intervention group.
- To make and categorize learning material according to the overall group's dominant learning style, i.e. tailor it to match the learning style of the majority of students in the class.
- To examine the students' performance when they are exposed to material that does not match their learning style.

In order to show that adapting classroom materials to match the predominant learning style of a group of students could increase their L2 vocabulary learning success, an intervention was performed on a group of 23 students at the University of Cuenca. They were part of the second level on the intensive program at the Institute of Languages. Such intervention took place during 32 sessions, of two hours each, within the academic period of September 2016 – November 2017. Namely, it started on September with a vocabulary pretest and an assessment of the students' preferred VAK learning style and ended on November with a vocabulary posttest.

To better understand the elements of this study, the operationalization of the variables is presented in Table 1.

Table 1 Operationalization of the Variables

Variable	Concept or dimensions	Indicators
Dependent: Vocabulary acquisition	Improvement in the vocabulary size (as measured by the number of words that can be correctly identified in the test).	Change in the number of words that can be recalled in the test.
Independent: VAK-based activities	Activities that stimulate the main sensory channels: visual, auditory and kinesthetic.	Number of class sessions in which VAK-based activities were used.

After using inferential statistics, the results showed that the intervention achieved its objective. Once the VAK style of the group was determined to be kinesthetic, and the classroom activities were adjusted accordingly to match this style, the average score for the group increased. The corresponding t-test substantiated this result as statistically significant. The following pages offer the details about the theoretical background, methodology, results, and analysis that led to this conclusion.

2 Literature Review

This chapter deals with pertinent research done about the main two areas covered in this study, learning styles and vocabulary. In order to facilitate the understanding of the articles available in the relevant areas, the literature review has been divided into three sections: research regarding learning styles, research linked to vocabulary, and research that has related specifically VAK styles to vocabulary.

2.1 Learning Styles

As stated by Oxford (2011), there are different dimensions that have been researched in language learning regarding learning styles: sensory, social and processing styles. Associated with sensory styles, Laird (1985) mentioned that 75% of what adults know is learned visually and 13% is learned by hearing. The author used these data to support the Sensory Stimulation Theory that effective learning occurs when the senses are stimulated. Of the five sensory channels, sight and hearing are considered the most relevant to L2 acquisition. However, different learning styles models also acknowledge a kinesthetic style.

It is of special interest to explore learning styles with respect to ESL/EFL classes since, as Peacock mentioned, "learners will have more confidence… in their EFL teachers, and a more positive attitude to English" (as cited in Kaminska, 2014, p. 102), when there is a match between teaching and learning styles. Different studies have been carried out to analyze learning styles in English classes. Rodríguez, Valenzuela and Vásquez (2013) studied the impact of the teaching style on students' performance at a university in Baja California. For this purpose, 37 Spanish speaking students, divided into two groups of EFL classes, were asked to answer Oxford's Style Analysis Survey (SAS), which assesses the general approach to both learning and working styles. Therefore, the students and their teacher completed the

survey in order to identify their preferred learning and working style. For group A, there was a mismatch in styles since the teacher was kinesthetic while approximately half of the class was auditive. Conversely, in group B both the teacher and the majority of students were visual. Based on the comparison of the average grade for each class (8.5 for group A and 9.23 for group B out of 10 points), they concluded that matching of VAK styles of teachers and students does have an impact in language learning.

Likewise, Alavinia and Sadeghi (2013) researched whether there is a significant difference between the effect of *Differentiated Instruction* on L2 acquisition. The participants were 47 EFL freshmen at a Turkish university. As a pretest, a TOEFL test was administered. As the basis for the differentiated instruction, Chislett and Chapman's *VAK Learning Styles Self-Assessment Questionnaire* was used. The content of instruction was the same, but the experimental group was exposed to activities that were tailored to match the predominant learning style of the students. For example, visual learners only performed activities with visual input. On the other hand, the control group only followed the tasks provided in the textbook, without considering the students' learning style. The intervention lasted a whole semester. When it finished, another version of the TOEFL was used as a posttest. The average grade of the control group went down from 75.17 to 69.39 out of 140 points. For the experimental group, even though there was some improvement in performance (from 69.62 to 70.33), the results showed that there was no statistically significant difference.

2.2 Vocabulary

The consensus about the importance of vocabulary for learning an L2 seems to be summarized in what Wilkins (as cited in Schmitt, 2010) expressed: "without grammar very little can be conveyed, without vocabulary nothing can be conveyed". Flohr (2008) also

highlighted the importance of vocabulary as a component of any language course. For her, vocabulary needs to be taught in context in order to convey meaning and be understood in a foreign language. Considering that English is thought to be the language with the largest vocabulary (Crystal, as cited in Min, 2013), it becomes essential to pay particular attention to the vocabulary base of EFL students. Indeed, the lexical coverage needed for a non-native person to understand English is estimated at 98%. This equates to about 8,000-9,000 word families for reading and 6,000-7,000 for listening (Nation, as cited in Schmitt et al, 2017).

Aktekin and Guven (2007) found a positive correlation between the instruction of learning strategies and vocabulary learning of 70 Turkish EFL college students. The intervention, which was applied to the study group and not to the control group, entailed vocabulary learning strategies training during a 10-week period. In order to assess the kind of strategies students were using, a survey on strategy frequency was adapted from Oxford, Cohen and Chi. In addition, they used Schmitt's Vocabulary Level Test (2001) to pretest and posttest the vocabulary size of the participants. The score of the study group improved significantly more than that of the control group.

Furthermore, Nation (as cited in Chacon-Beltran, 2014) affirmed that L2 learners can acquire basic vocabulary better in an incidental way while explicit learning has more value for upper levels. In fact, as reported by Ponniah (2011, p. 3), "incidental learning is more effective in terms of vocabulary acquisition per unit of time". To support this claim, he conducted a study with 50 EFL Chinese students divided into two groups. The experimental group read a short story (incidental learning) and the control group learned from reading the meaning in the dictionary of a list of 77 words that were included in the short story provided to the other group (explicit learning). In the pretest, the participants were asked to write the

meaning of 20 words and in the posttest they were required to use those 20 words in a sentence. The study group outperformed the control group, confirming that there are limits in retaining and using consciously learned words.

2.3 VAK and Vocabulary

Some studies have specifically included VAK tests when assessing vocabulary learning in ESL/EFL classes. For instance, Kassaian (2007) studied the effect of two types of teaching methods on the retention of unfamiliar words. The author concentrated on visual and auditory learners. He concluded that visual learners did retain more vocabulary that was learnt visually. In contrast, auditory students did not show better retention for items they learnt aurally.

In alignment with the previous ideas, Fu (2009) investigated whether there was a mismatch of teaching and learning styles at an elementary school in China. In addition, she analyzed the strategies used for vocabulary instruction. To identify the 253 students' learning style, Chislett and Chapman's VAK questionnaire was applied. For the 21 teachers, Grasha's *Teaching Styles Inventory* was used instead. The vocabulary instruction methodology was reviewed with the *Questionnaire on English Vocabulary Teaching Strategies*. According to the results, there was a mismatch between teaching and learning styles that lead to disappointing results in vocabulary learning. The author mentioned how teachers devoted a lot of time to teaching vocabulary in a verbal way while most students preferred a visual approach.

Abdollahzadeh and Amiri (2009) examined the effect of students' VAK learning styles on the efficacy of the use of semantic maps for vocabulary instruction. In this study, 196 intermediate EFL students from different language institutes in Iran participated. The pretest

entailed the resolution of Schimitt's Vocabulary *Levels Test.* To assess the students' learning styles, a modified version of Reid's *Perceptual Learning Style Preference Questionnaire* was administered. The experimental group participated in semantic mapping activities to learn new vocabulary from the assigned readings. In contrast, the control group would learn vocabulary by studying the definition of it, with the use of synonyms or simply direct translation. When comparing the results of the posttest (another version of the pretest), it was evident that the experimental group outperformed the control group. Nevertheless, when analyzing the experimental group according to the different VAK styles, the data showed that there were no significant differences among the auditory, visual, kinesthetic or multisensory learners. This was interpreted as an indication that vocabulary learning benefit from the use of semantic maps regardless of the learning style.

On the other hand, Cetin (2009) advocated the simultaneous practice of all VAK styles when teaching vocabulary. This author took the relationship of VAK learning styles and vocabulary learning one step further and collected material that integrated visual (e.g. a picture), auditory (e.g. pronunciation with phonetic transcription) and kinesthetic (e.g. a suggested activity) aspects. The purpose of his paper was to present examples of how teachers could use the notion of VAK learning styles to prepare more engaging material that will help students retain the vocabulary they learn. His work was based on the idea that the teacher's ability to use all three styles would positively affect the students' learning skills.

3 Theoretical Framework

This second chapter outlines all the concepts that serve as the theoretical basis for the intervention and analysis. The relevant theory is explained in terms of 1) learning styles, which are progressively narrowed down to Barbe, Swassing and Milone (1979) VAK Modalities, 2) L2 Vocabulary Learning as a process, based on Krashen`s theory (1982), and 3) Stern's SLA model (as cited in Pavičić, 2008) that helps relate these three components together.

3.1 Learning Styles

3.1.1 Definition and importance

Wong (2015) defined cognitive learning styles as "the general ways people prefer to have information presented in order to problem solve, process, learn and remember new information" (p. 5). Since the seventies, learning styles have been researched, finding at least five different models with their respective instruments that assess students' learning styles (Hawk & Shah, 2007). From the research done based on these models, Pritchard (2009) concluded that there is enough support for the following:

- Students learn in different ways.
- Students' performance is related to how each one of them learn.
- When teaching, approaches and materials complement the students' particular learning style, and their achievement increases significantly.

In addition, Skehan (as cited in Dörnyei, 2010) highlighted the importance of learning styles by including them in the list of individual differences that influence second language learning.

3.1.2 Learning Styles and Intelligences

It is worthwhile to clarify a common misconception regarding learning styles and intelligences. Gardner (as cited in Torresan, 2007, p. 1) distinguished both by stating that "intelligence refers to the capacity specifically linked to content while learning styles point to various ways of doing certain tasks, which could be transversal with regards to different contents". Therefore, intelligence is perceived as a deeper cognitive process while a style is considered a more superficial one. In other words, the use of specific resources, such as images, music or movements, is not enough to develop an intelligence because it requires a cognitive operation involving that intelligence. Those same resources, however, can be more appealing to certain people who have a preference for that particular style of learning. For that reason, an activity can be used to motivate people to learn in a specific way (learning style), but it will not necessary enhance a student's intelligence unless that technique entails a cognitive mental process (learning intelligence).

3.1.3 VAK Learning Styles

Learning styles have been specified based on personality, information processing, social interaction and instructional preferences criteria, like Myers-Briggs' (personality approach) and Kolb's (information processing), according to McCarthy (2010). Both models offered instruments to measure the dimensions they proposed; thus, they have been widely used in academic research. However, the learning styles that are based on the senses have provided one of the models that is preferred in research for its clarity and simplicity: VAK, which stands for Visual, Auditory and Kinesthetic.

The idea that people learn better when presented with information through their preferred sensory channel has been around for a long time. There are studies about auditory and visual

learning before 1970, but the notion of using the three elements of VAK in research seems to have started with Barbe et al (1979). They identified three modalities - channels through which perception occurs: vision, audition, and kinesthesia, and used them to study relationships among modality strengths, learning, and other aspects of development. For them, sensation, perception and memory altogether create a modality.

Parting from the idea that learning styles are key variables affecting language learning, Oxford (2003) includes sensory preferences as the first of "four dimensions of learning style that are likely to be among those most strongly associated with L2 learning."

The following explanations of each style are based on Sprenger (2008).

3.1.3.1 Visual

Visual people have a preference for observable input. Therefore, traits like those listed below could be an indication that a person has this learning style.

- Follows you around the room with his/her eyes.
- Loves handouts, work on board, and visual presentations in general.
- Often speaks rapidly.
- Will usually retrieve information by looking up.

As a result, these students would benefit specially from reading.

3.1.3.2 Auditory

For auditory learners, learning becomes real when they are able to talk about it. Group projects and activities provide an opportunity for them to talk through the material. Common characteristics are:

- May answer rhetorical questions
- Talks a lot and may even talk to self

- Gets easily distracted by sound
- Enjoys listening and speaking activities
- Likes to have material read aloud

Therefore, songs and speaking would serve as an appealing input mean for instruction.

3.1.3.3 Kinesthetic

People with this learning style prefer body movement. Kinesthetic learners can be hands-on, whole body or doodlers learners. Typical features would include:

- Sits very comfortably
- Speaks very slowly
- Uses comfortable clothes

Thus, writing would be the preferred skill to be developed with these learners.

3.2 L2 Vocabulary Learning as a Process

Loewen (2014) highlighted the need to understand what is involved in learning vocabulary. In other words, the increase in vocabulary knowledge needs to be understood as a process. This task could not be possible without exploring Krashen's (1982) SLA theory first.

3.2.1 Krashen's SLA Theory

Stephen Krashen is an American linguist who has done extensive research in SLA since the seventies (Spangler and Mazzante, 2015). Krashen's main contribution was to introduce the communicative approach to L2 teaching (Pavičić, 2008).

Krashen's Monitor Theory outlined the following five core hypotheses:

1) Acquisition-Learning Hypothesis: Krashen made a distinction between acquisition and learning. For him, acquisition is an unconscious and intuitive process whereas learning is a conscious and deliberate action of studying grammar and vocabulary. Furthermore, he

considered acquisition to be the only way to become competent in a second language. Learning, on the contrary, could hinder fluency since learners may constantly check the rules before expressing an idea (Keck and Kim, 2014).

2) Monitor Hypothesis: learning grammar or any language rules can only serve as a way to monitor or edit the learner´s output. Only if the learner consciously knows the rule, has time to think about the rule and focuses on form, can explicit instruction have an effect. Therefore, direct instruction would not lead to long term acquisition but only serve as proficiency practice. Even for pronunciation, explicit instruction can only influence acquisition if no more than one sound is taught at a time, and monitoring is provided (Krashen, 2013).

3) Comprehension Hypothesis: states that SLA benefits from comprehensible input that is just above the student's current level. This is frequently characterized by the expression i + 1, where *i* denotes the current level of knowledge and 1 symbolizes the next level. If the input is beyond that next level, it would only generate frustration on the learner (Krashen, as cited in Wheeler, 2013).

4) Natural Order Hypothesis: rules of language are acquired in a predictable order, depending on the target language. For example, in English, the irregular past is acquired before the regular past. This order has been proven to apply not only to native children speakers but also to adult L2 learners (Krashen, 1982). Nevertheless, the sequence in which these language rules are acquired naturally might differ from the one followed in class instruction (Liu, 2016). An example for the latter would be if the regular past is taught before the irregular past in an EFL class.

5) Affective Filter Hypothesis: highly motivated students would be more successful at acquiring a second language. Such motivation along with attitude and level of anxiety

become affective factors that can either raise or lower the affective filter, which directly affects SLA performance Lin, Chao and Huang (2015).

3.2.2 Krashen's Theory and Vocabulary Learning

Despite some criticism, there are still some aspects of Krashen's theory that have proven to be useful (Ellis, Loewen, Elder, Reinders, Erlam, and Philp, 2009). The main implications for vocabulary learning are explained below.

3.2.2.1 Acquisition-Learning Hypothesis

Following Krashen's notion of conscious and unconscious learning, a distinction is made between incidental and explicit vocabulary learning. Researchers have concluded that these are two separate ways of processing information, and both are important for L2 vocabulary acquisition (Ellis et al, 2009).

Incidental learning implies acquiring vocabulary, for example, by focusing on activities or words that are not the original target (Loewen, 2015). This type of learning has proved to be helpful at learning a word in its contextual form or one that cannot be taught explicitly because of time constraints (Schmitt, 2010). Therefore, it would be easier for an EFL learner to learn words like "the" or "of" implicitly.

On the other hand, explicit learning of vocabulary entails intentionally directing one's attention to particular words. This deliberate action does not need to be performed by the L2 learner; it can come from the instructor, which is known as explicit teaching (Chacón-Beltrán, 2010). The advantages of this type of learning are that it leads to faster learning and better retention (Schmitt, 2010). For example, explicitness would be more efficient for an EFL learner to understand the meaning of words such as "empowering" or "wilderness".

3.2.2.2 Monitor Theory

Monitoring, in the form of explicit teaching, is needed for vocabulary acquisition. This can be done by prioritizing vocabulary learning in L2 classrooms, as advocated by Nation (as cited in González-Fernández & Schmitt, 2015). In addition, L2 teachers can help L2 students connect new words to already known terms, and make sure that the targeted vocabulary is encountered in listening, reading, speaking, and writing (Graves, as cited in González-Fernández & Schmitt, 2015).

This also means that teachers should make sure that words are recycled and rehearsed at appropriate times. In fact, according to Schmitt, (2010) in order to consolidate a word to long-term memory, recycling vocabulary is necessary, which involves reviewing what has been learned. However, the author emphasized the importance of how a word is revised. This means that an L2 learner should frequently revise newly acquired words in order to prevent forgetfulness and also gradually increase the interval between reviews to avoid overlearning a word in neglect of others. In a classroom, this task would be performed by the teacher.

Therefore, an EFL teacher does not necessarily need to show the students that the target vocabulary for a unit includes the word “ball”. However, the teacher’s guidance is needed to ensure that the students encounter it multiple times by preparing multiple activities centered around the word: reading a story about a boy playing with a ball, playing a game with a ball, writing a sentence that includes the word, etc.

3.2.2.3 Comprehension Hypothesis

According to Schmitt (2010), the connection between form and meaning has been found to be the first step in L2 vocabulary acquisition. Therefore, L2 learning should start with

establishing the form-meaning link first before moving on to other aspects of the word. It implies then that this connection should be targeted at the early stages of the vocabulary learning process while leaving other aspects of the word for later. This can be more easily achieved by substantial and frequent exposure to the target vocabulary.

In other words, an L2 learner should advance in word-depth from i to (i+1) only once level i is mastered. In this sense, a Spanish-speaking EFL learner should focus on understanding what the word "you" means in its basic form (knowing that it is the equivalent of "tú") instead of worrying where to place it in a sentence (collocation) when asking a question.

3.2.2.4 Natural Path

Research has shown that to increase L2 vocabulary knowledge it is necessary to acquire it in terms of word breadth (number of words), word depth (knowing a word at different levels), and making word connections (Cremer, Dingshoff, Beer, & Schoonen, as cited in Gonzalez-Fernandez & Schmitt, 2015). L2 learners usually expand their vocabulary knowledge by increasing their vocabulary breadth before improving their word depth, which proves to be more difficult to acquire regardless of proficiency level (Schmitt, 2014). In addition, receptive knowledge of a word precedes its productive mastery since the latter involves understanding the word in its many aspects in order for it to be used properly.

In addition, as Schmitt (2010) asserted, there is an incremental nature to acquiring words. In terms of spelling, for example, an L2 learner would go from not knowing the word at all, to knowing a few letters, to knowing similar words regarding spelling, to fully knowing the correct spelling. A simplified way to illustrate this would be an EFL learner going from not knowing the word "brother", to spelling it like "broder" to eventually spelling it the right way.

3.2.2.5 Affective Hypothesis

Motivation is an important factor when acquiring L2 vocabulary. In fact, Graves (as cited in González-Fernández & Schmitt, 2015), encourages L2 teachers to use activities that are of interest to the students and require their involvement. Furthermore, a study by M, T and Schmitt (2008) mentioned by the author demonstrated how crucial motivation is for vocabulary learning due to its involvement in all the stages of the process. In addition, Nation (as cited in González-Fernández & Schmitt, 2015), asserted that for a comprehensive and meaningful input approach to be effective, besides knowing most of the words used in the activities, the students need to be motivated and interested in the activity.

For example, a shy advanced EFL learner would not be motivated to participate in a debate, even if adequately knowledgeable in terms of vocabulary and/or subject, which would deprive the student of the opportunity to move along the receptive-productive vocabulary knowledge.

The resulting product of vocabulary learning is vocabulary acquisition, which is defined as any improvement in vocabulary base, regardless of how this knowledge is acquired. This description allows for an easier way of measuring vocabulary knowledge in empirical research.

3.3 SLA Model

After reviewing what learning styles (individual characteristic) are, how vocabulary is acquired (learning process), and vocabulary acquisition as a measurable variable (learning outcome), it is necessary to put the three concepts together using an SLA model that can allow to relate them at a quantitative level, so they can be analyzed as interacting variables later.

A complete SLA model proposed by Stern (1986) and cited by Pavičić (2010) proves useful in this respect. In it, there are 5 sets of variables that are needed to examine L2 learning:

1) Social Context: sociolinguistic, sociocultural, and socioeconomic.
2) Learner Characteristics: age, cognitive characteristics, affective characteristics, personality characteristics.
3) Learning Conditions: for example, for EFL, objectives, content, material, evaluation (in contrast, for ESL would be exposure to target language in natural setting).
4) Learning Process: Strategies, techniques, and mental operations.
5) Learning Outcomes: L2 competence, proficiency.

Where social context determines learner characteristics, which together with learning conditions affect the learning process, and this in turn affects directly the L2 outcome. Figure 1 relates this model to what has been done in this study.

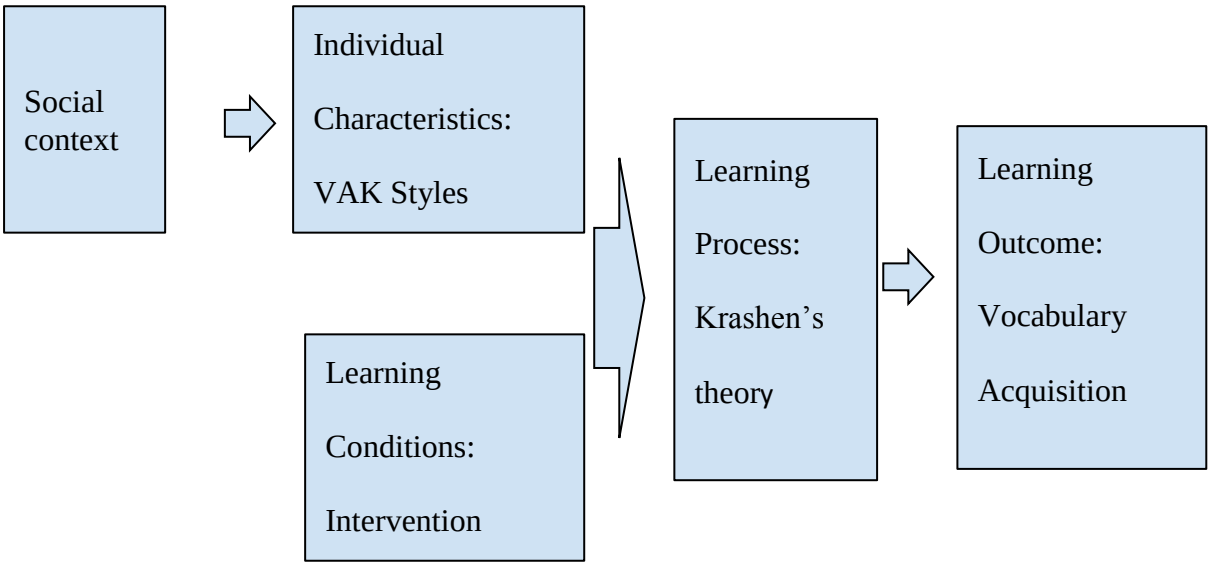

Figure 1 Adaptation of Stern's Model to this Study

4 Methodology

This quantitative study addressed the adaptation of material to students' learning styles, (independent variable) as a way to increase the vocabulary size (dependent variable) of EFL college students. In this approach, a quantitative vocabulary pretest and posttest were applied to address the research questions. The participants were not chosen randomly, leading to a quasi-experimental relational study. In fact, the group was assigned by the Institute of Languages at the University of Cuenca, where the study was conducted.

4.1 Context

The University of Cuenca is located in the capital city of the province of Azuay. Two of the modalities for EFL classes offered by its Institute of Languages are credit and intensive courses. Credit courses are only available to current university students. Their total of 96 hours is spread throughout 16 weeks, entailing 6 weekly hours of instruction. Their schedule depends on the requirements set by each college within the university. Intensive courses, on the other hand, are taught every day for two hours, for 7 weeks. These classes are open to the general public and have three possible schedules: 7am-9am, 1pm-3pm, or 7pm-9pm. The eight levels range from beginners (A1[1]) to advanced (B2). People who enroll in the intensive classes are mostly workers who want to learn English to improve their job options.

The study took place during thirty two 2-hour sessions within the academic period of September – November 2016, in the second level of an intensive course. It is important to specify that the original number of hours assigned to the class are seventy; nevertheless, the first week was only used for the initial evaluation in order to have a more consistent number of participants since the drop-off period had passed.

[1] According to the Common European Framework of Reference (CEFR)

In addition, it needs to be clarified that the researcher was not the teacher of the class, and therefore was involved in class instruction in terms of material selection in collaboration with the main teacher, and guiding the part pertaining to vocabulary. For example, it was not the researcher's decision which topics to cover, but together with the teacher decided in which unit to introduce specific vocabulary, and in which way, including activities and material.

4.2 Participants

In terms of sampling, within the universe of EFL students at University of Cuenca, an English intensive second level course from the *Instituto Universitario de Lenguas* (University Institute of Languages) served as a convenience sample (as opposed to a random sample). For this purpose, a formal request to do the intervention needed to be presented to the board of the mentioned institute (see Appendix 1 for the authorization issued by the board).

All students registered for the class were included in the study, provided they had signed a written consent form (Appendices 2 and 3). Consequently, 25 participants were originally part of this research. Nevertheless, two of them dropped the class within the first week of the academic period.

As a result, the participants were 23 students whose ages ranged from 19 to 54 years old. The majority, 65%, were female. Their initial level was A1 according to the Common European Framework of Reference (CEFR), but they were expected to achieve the A2 level by the end of the course.

4.3 Design

The design of this thesis was quasi-experimental. It was experimental to the extent that it involved a pretest, an intervention, and a posttest. It was not completely experimental because there was no study vs. control group. In other words, the same class served as its own control

group. This option, commonly referred to as repeated-measures or within-subject design, was preferred to the between-subjects design due to its advantages. In fact, Gravetter and Wallnau (2009) indicated that the main benefit of using the same individuals is the lower risk of obtaining biased results. For example, when using two groups, it could happen that members of one group are systematically different than those of the other group. Therefore, the authors concluded that a within-subject design leads to more statistically significant results.

4.4 Instruments

The study required the adaptation of materials to match the predominant VAK learning style of the class to increase vocabulary knowledge. To that effect, an instrument to identify the students' learning style and another to measure their vocabulary improvement were needed. Each instrument included written detailed instructions, which also had to be explained verbally in order to avoid delays and misunderstandings that could result in the lack of utility of the results.

4.4.1 VAK Learning Style Questionnaire

From the second chapter, Literature Review, it can be said that Chislett & Chapman´s VAK Learning Questionnaire (2005), Appendix 4, is the most recurring instrument when assessing VAK Learning Styles. Two of the benefits are its practicality and simplicity. Because of the students' English level and the length of the questionnaire, 4 pages, a Spanish version (Appendix 5) was preferred.

This instrument consists of thirty questions with three possible answers each. Students can only choose one answer per question. At the end, answers are tabulated and the learning style with more responses is considered to be the dominant preferred style of the student.

4.4.2 Schmitt´s Vocabulary Level Test (Appendix 6)

To evaluate the vocabulary level, Schmitt´s Vocabulary Level Test (VLT) was used. Schmitt, Schmitt and Clapham (2001) showed evidence of validation of such test. They also described it as "designed to give an estimate of vocabulary size for second language (L2) learners of general or academic English" (op cit, p. 1).

Besides its validity, the appeal of this instrument is its rationale. Based on research, as explained in the second chapter, the vocabulary size of an ESL/EFL student should be of at least 95% of the input, which represents roughly 2,000 words for basic texts. The next level of frequency words is of around 3,000, which would allow students to start reading authentic texts. The next levels, of 5,000 and 10,000 words would incrementally allow students to not only infer novel words from more complex authentic texts but even interact in an environment at a college level. Complementing this information to that of Meara (as cited in Milton, 2010), the CEFR correspondence with vocabulary size is as follows:

Table 2 Vocabulary Size for each CEFR Level

CEFR LEVEL	VOCABULARY SIZE
A1	Up to 1,500
A2	1,500 – 2,500
B1	2,750 – 3,250
B2	3,250 – 3,750
C1	3,750 – 4,500
C2	From 4,500 up

Because students who complete the second level of English in the institute are expected to reach an A2 level, then it follows that Schmitt´s 2,000 words VLT was the appropriate version for this study.

This instrument consists of 30 vocabulary questions in which 6 possible words for a target definition are provided. Half of the target words were nouns, 30% were verbs, and the remaining 20% were adjectives. Students need to choose the word they identify as the one being defined. In order to avoid word guessing, the participants are told not to answer if they are not sure that the word chosen is actually the correct one. To this end, they were reassured from the beginning that the scores would only be used as a reference and would not have any effect on their final grade. For interpretation purposes, it needs to be explained that if no word was selected then it would be marked as wrong. At least 21 questions had to be answered correctly for a student to be considered to have mastered the level.

4.5 Intervention

At the beginning, an assessment of the students' learning styles and of their initial vocabulary size was conducted. This vocabulary pretest used the first version of Schmitt's VLT. This was done on the second day of classes. The intervention itself, however, started the second week for the reasons mentioned earlier in the context section.

Based on the results of the VAK questionnaire, the intervention entailed adapting material that appealed to the dominant learning style of the overall group. For example, if the majority of the students were visual, then the material for the whole class would have consisted of images, videos, colors, etc. On the other hand, if most of them were auditory, then the appropriate material would have included audio recordings of conversations, oral interviews,

etc. Since in this group the majority was kinesthetic, then movement was the main aspect to be incorporated to all the activities.

In addition, from what was learned in the theoretical framework, an incidental learning approach is more effective for vocabulary acquisition at the beginning stages of SLA. Thus, incidental learning was used as basis for vocabulary instruction. In other words, students were not aware of the specific list of words to be learned and they were presented in a contextualized manner. The target vocabulary was the list of all 30 words from the vocabulary pretest. In turn, these words were assigned to the most relevant unit outlined in the syllabus, and material was adapted not only to the dominant VAK style of the group but to the skill (i.e. reading, listening, writing and speaking) to be developed in a particular class.

In order to favor consistency, the class time followed a general structure that allowed for differences in specific activities according to the unit to be covered. This general structure is illustrated in Table 3 (see Appendix 7 for the structure of each unit).

On the last day of class, along with their regular class final exam, students were evaluated again on vocabulary applying the same version of the pretest (posttest 1) and a variation of it (posttest 2, Appendix 8). The main difference between the two posttests was that they contained different words. The reason for evaluating the students' vocabulary knowledge using two different versions was that the target vocabulary used in the intervention was taken directly from the pretest. Using the same list for the pretest, intervention, and post evaluation could be biased since the participants had been deliberately exposed to those words. It would have been the equivalent of preparing them for a test rather than helping them develop their vocabulary up to the required level. The purpose of the second version, therefore, was to

gauge whether the students' vocabulary level had increased, independently of the version used for the evaluation.

Table 3 General Class Structure

<table>
<tr><td></td><td colspan="5">UNIT</td></tr>
<tr><td></td><td colspan="5">SKILL TO BE DEVELOPED</td></tr>
<tr><td>TIME</td><td>VOCABULARY</td><td>READING</td><td>LISTENING</td><td>WRITING</td><td>SPEAKING</td></tr>
<tr><td>7:00 - 7:05</td><td colspan="5">Calling roll</td></tr>
<tr><td>7:05 - 7:30</td><td rowspan="2">Quiz of previous unit</td><td colspan="3">Introduction of the topic to be learned</td><td rowspan="2">Preparation of role play, applying what has been learned in the unit about grammar and vocabulary</td></tr>
<tr><td>7:30 - 7:55</td><td colspan="3">Worksheets to practice the structure learned</td></tr>
<tr><td>7:55 - 8:05</td><td colspan="5">RECESS</td></tr>
<tr><td>8:05 - 8:15</td><td colspan="4">Brainstorming of new vocabulary for the unit and specific topic of the day</td><td>Performance of role play</td></tr>
</table>

<table>
<tr><td>8:15 - 8:25</td><td colspan="4">Choosing body movements to mimic the new words learned</td></tr>
<tr><td rowspan="2">8:25 - 8: 35</td><td rowspan="2">Making sentences with the mimics</td><td rowspan="2">Reading, using hand movements (circle, underline, put in brackets) to identify new vocabulary</td><td rowspan="2">Listening, using hand movements (stand up, turn around, raise 2 hands) to identify new vocabulary</td><td rowspan="3">Writing an essay about a proposed topic, using new vocabulary (writing itself is a body movement)</td></tr>
<tr><td>8:35 - 9:00</td><td colspan="3">Games that require physical movement</td></tr>
</table>

4.6 Analysis

With the use of the statistical program SPSS, the quantitative data was analyzed by means of inferential statistics in order to analyze the effectiveness of the material adaptation on vocabulary acquisition, and to compare the results of the four different VAK groups of students. EXCEL was used to generate tables, charts and figures to report the results. Due to ethical considerations, the information was coded.

The main objective of this thesis was to determine if VAK-based activities have an effect on the vocabulary acquisition of EFL college students. Therefore, the mean score of the vocabulary pretest with that of the posttest was compared. It is necessary, however, to first

summarize the data providing descriptive statistics, i.e. mean and standard deviation, and then proceed to calculate inferential statistics using hypothesis testing and a linear regression.

The analysis of the data is based on the following information generated with SPSS:

- T-test for related samples
- Linear regression

4.6.1 Hypothesis testing

In order to determine if the intervention had an effect, a t-test for related samples was used. The choice of such statistical tool is due to the fact that the sample acted as its own control group. This statistical process compares the mean score of the pretest with the one from the posttest. If the difference is 0, then it can be inferred that the intervention had no effect. For this purpose, a null hypothesis is proposed.

Null Hypothesis (Ho): the difference in the mean of the pretest with respect to that of the posttest equals 0, i.e. the use of VAK-based activities does not have an effect on vocabulary acquisition, represented by:

Ho: $\mu_D = 0$

Alternative hypothesis (H1): the difference in the mean of the pretest with respect to that of the posttest is different than 0, i.e. the use of VAK-based activities does have an effect on vocabulary acquisition, shown as:

H1: $\mu_D \neq 0$

The confidence level was fixed at 95% ($\alpha = 0.05$).

The null hypothesis should be rejected if the mean of the t-test falls within the confidence interval, as calculated by SPSS. In contrast, if the mean reported in the t-test is outside that range, the null hypothesis should not be rejected.

4.6.2 Linear Regression

The purpose of running a linear regression was to complement the results obtained by the hypothesis testing. In fact, while the t-test gave information regarding whether the intervention had or not an effect on vocabulary acquisition, the linear regression could give a measure of such effect and a comparison across VAK-style-groups.

Nevertheless, to run a regression using only the intervention as the independent variable would be misleading since it would assume that the vocabulary level depends solely on that variable. In other words, such regression would overestimate the correlation between the variables. Quite the contrary, different authors have mentioned other factors.

According to Pavičić (2008, Pg. 17), regarding vocabulary learning, "the influence of other factors that account for individual differences, such as the affective ones (motivation, attitudes towards vocabulary, fear of failure) or the language learning aptitude, should not be neglected." In this study, the pre-test score could be used as an indicator of the latter. Similarly, Dörnyei (2010) pointed out that age and gender, although problematic because of their interconnectedness with various individual characteristics, are very important IDs (especially age) for L2 learning success. In fact, the SLA model by Stern (as cited in Pavičić, 2008) explicitly included age as an individual characteristic. Likewise, Ellis (as cited in Pavičić, 2008) incorporated gender as an individual factor affecting SLA learning outcomes. As a practical matter, it is possible that when taken together, age and gender influence a student's level of engagement in a particular activity, which relates to motivation, as explained by the Affective Hypothesis. For example, if the target English word is "duck", an old female could see reading a story about this animal as a more motivating activity; conversely, a young boy would be more inclined to participate in the game duck, duck,

goose. As a result, although evidence showing a strong correlation between each of these variables and vocabulary acquisition was not found, the researcher concluded that there was not a solid reason to eliminate any of them either.

From Figure 1, learning styles (and other individual characteristics) in combination with VAK-adapted material (and other learning conditions) influence the learning process, which in turn directly affects EFL vocabulary acquisition.

A general form of a complete model would be stated as:

VA = Individual characteristics + Learning conditions

Because of the previous reasons and considering that they were the only two additional elements that could be accurately measured in this study, both gender and age were explicitly included as predictor variables in the regression. Furthermore, Table 4 shows both implicit (were the same for all participants) and explicit variables (were different for each participant) that are included in this study.

Table 4 Variables Included in this Study

CATEGORY	VARIABLE	IMPLICIT / EXPLICIT
INDIVIDUAL CHARACTERISTICS	Learning Styles	Explicit
	Age	Explicit
	Gender	Explicit
	Current Knowledge (Pretest score)	Explicit
	L1	Implicit

LEARNING CONDITIONS	Intervention	Explicit
	Environment	Implicit
	Type of content	Implicit
	Teaching style	Implicit

Four linear regressions were generated; one considering the vocabulary size as the dependent variable and the other three2 using vocabulary acquisition instead. This was done to make a distinction between the effect of the variables on the total score (VLT score) and on the change of that score (improvement). However, the intervention was aimed at increasing the level of vocabulary. This implies that it would be more appropriate to establish the relationship between the intervention and the change in score rather than with the final score itself. In this way, the effect of the VAK-based activities on the expected improvement, i.e. vocabulary acquisition, would be better appreciated.

As a result, the regression with the highest explanatory power, as measured by the R^2 coefficient, was chosen. Table 5 details the variables used.

Table 5 Variables Included in the Linear Regression

VARIABLES	INDICATORS	FINAL VALUES	TYPE OF VARIABLES
Vocabulary acquisition (VA)	Change in the number of correct answers in the VLT.	Points over 30.	Discrete numeric.

[2]The results of the other three regressions are presented in Appendix 9

Gender (GEN)	Gender of each participant	0 for males 1 for females	Nominal
Age (AGE)	Age of each student	Number of years of how old the student is	Discrete numeric
VAK-based activities (INT)	Count of class sessions where activities performed using the dominant VAK style were applied.	Number of days each student participated in a class session.	Discrete numeric
Pretest Score (PT)	Number of words that can be recalled in the pretest VLT.	Points over 30.	Discrete numeric
Visual Learning Style (V)	Visual style	0 for non-visual students 1 for visual students	Nominal
Auditory Learning Style (A)	Auditory style	0 for non-auditory students 1 for auditory students	Nominal
Visual-kinesthetic Learning Style	Visual-kinesthetic style	0 for non-visual-kinesthetic students	Nominal

(VK)		1 for visual-kinesthetic students	

Consequently, the regression was of the form:

$VA = a + b_1 GEN + b_2 AGE + b_3 INT + b_4 PT + b_5 V + b_6 A + b_7 VK$, where

a = constant, the expected change in the score of a kinesthetic student who has not participated in any of the proposed activities, whose gender, age and initial score is unknown.

b_1 = coefficient for gender; since the default is set as male, this value represents the increase or decrease in score due to the fact of being a female.

GEN = gender

b_2 = coefficient for age, the expected change in score for every additional year in age.

AGE = age

b_3 = coefficient for the intervention, the expected increase in score as a result of participating in one day of class when the intervention was used.

INT = intervention, the number of classes using VAK-based activities in which a student participated.

b_4 = coefficient for the pretest, the expected change in score dependent on the initial score.

PT = pretest, the number of correct answers in the initial VLT.

b_5 = coefficient for visual style, the expected difference in score for a visual learner, compared to a kinesthetic learner.

V = visual style

b_6 = coefficient for auditory style, the expected difference in score for an auditory learner, compared to a kinesthetic learner.

A = auditory style

b_7 = coefficient for visual-kinesthetic style, the expected difference in score for a visual-kinesthetic learner, compared to a kinesthetic learner.

VK = visual-kinesthetic style

5 Results

In this chapter, the results obtained from EXCEL, SPSS and the structured interview are presented. The first two tools were used for the quantitative part and are discussed in the first section. The respective analysis is covered in the next chapter.

In terms of demographics, the class used in this study would be best represented by a female student in her early thirties with a preference for a kinesthetic learning style.

5.1 Learning Styles

When dividing the class into groups, based on their learning style, it becomes evident that more than half of the class was kinesthetic (52%), followed by visual (21.74%), and not too far behind, auditory learners (17.39%). Only two students (almost 9%) were equally visual and kinesthetic.

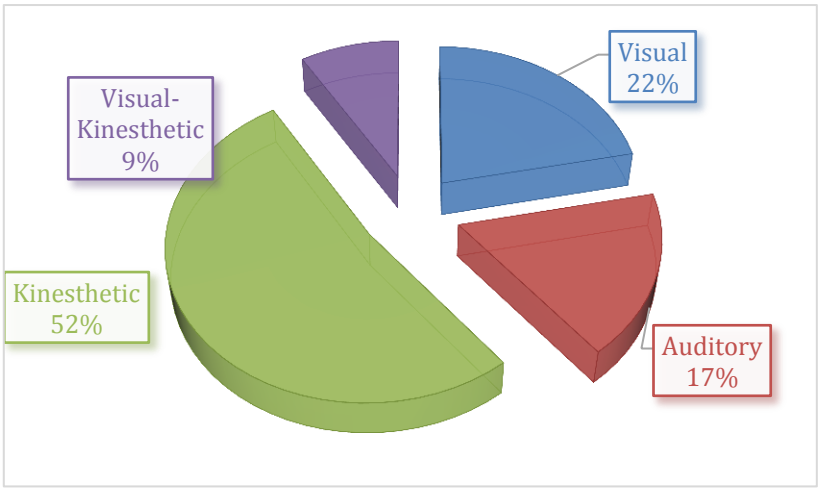

Figure 2 Results of Learning Styles of the Class

5.2 Other Factors

As it was stated in the previous chapter, factors such as gender and age are expected to have an impact on vocabulary size and acquisition. Therefore, it is important to describe the class in terms of these characteristics.

In the group, 65% of the participants were female, and the average age was 31. We usually expect to find younger students attending college. However, considering that a morning schedule is more appealing to those who work, it is not surprising to see many older adults taking this 7-to-9-am English class.

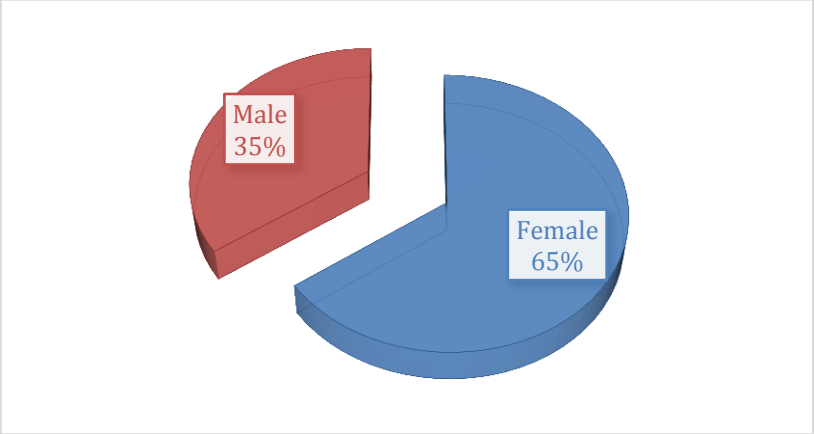

Figure 3 Gender of Participants

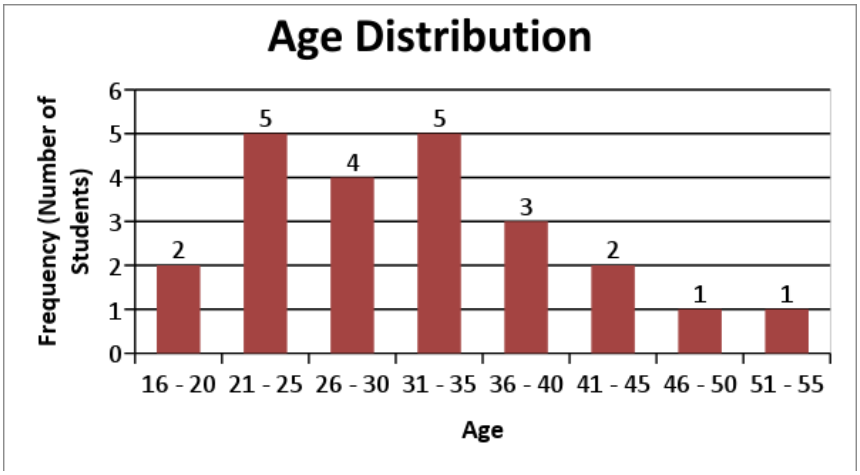

Figure 4 Age Distribution of the Participants

5.3 Test Scores

In this section, a closer look is taken at the students' English vocabulary knowledge before and after the intervention, considering the class as a whole first and then dividing them into

learning styles groups. This information is provided for the pretest, posttest 1 and posttest 2, in that order, before presenting the correlational results.

5.3.1 Pretest Scores

The average score of the pretest for the overall group was 9 out of 30 points. The maximum, which was obtained by a visual-kinesthetic female student, was of 18 points. The minimum of 2 points corresponded to an auditory female student.

Visual-kinesthetic students had a higher value for the three descriptive measures, average, maximum and minimum, which were 14, 18 and 9, respectively. Even though the intervention was adapted for kinesthetic students, the only result that was more favorable for them was the standard deviation, which at 3,79 was lower than for the other groups.

Table 6 Pretest Results

	Overall	Visual	Auditory	Kinesthetic	Visual-Kinesthetic
AVERAGE:	9	9	8	8	14
MAXIMUM	18	14	13	15	18
MINIMUM	2	4	2	3	9
STD DEV	4,11	3,85	4,55	3,79	6,36

5.3.2 Posttest 1 Scores

The average score of the posttest 1 for the overall group was 15 out of 30 points. The maximum, which was obtained by a visual female student, was of 23 points. The minimum of 6 points corresponded to the same auditory female student who got the lowest score in the pretest.

Table 7 Posttest 1 Results

	Overall	Visual	Auditory	Kinesthetic	Visual-Kinesthetic
AVERAGE:	15	16	13	15	20
MAXIMUM	23	23	17	18	21
MINIMUM	6	11	6	9	19
STD DEV	4,05	4,93	4,65	3,23	1,41

In the posttest 1, visual-kinesthetic learners obtained the highest average and minimum, which were 20 and 19, respectively. The highest maximum, however, was attained in the visual group, with 23. The less dispersed group was the visual-kinesthetic, with a standard deviation of 1,41.

5.3.3 Posttest 2 Scores

The average score of the posttest 2 for the overall group was 17 out of 30 points. The maximum, which was obtained by an auditory male student, was of 27 points. The minimum of 6 points corresponded to a visual male student.

In the second version of the posttest, visual-kinesthetics had the highest average, 20, the highest minimum, 18, and the lowest standard deviation, 2,12. The highest maximum, 27, was achieved by auditory students. Again, kinesthetic participants did not show a clear advantage in terms of the results obtained.

Table 8 Posttest 2 Results

	Overall	Visual	Auditory	Kinesthetic	Visual-Kinesthetic
AVERAGE:	17	17	17	17	20
MAXIMUM	27	22	27	25	21
MINIMUM	6	6	11	13	18
STD DEV	4,68	6,57	7,55	3,32	2,12

5.3.4 Correlational Results

It can be seen that the average pretest score for the class was 9 out of 30. This score increased to 15 when the same version of the pretest (posttest 1) was used and to 17 when a second version (posttest 2) was used. The dispersion, as measured by the standard deviation, went down with the first version, and went up with the second version.

Table 9 Results for the Overall Class

	Pretest	Posttest 1	Posttest 2	Improvement 1	Improvement 2
AVERAGE:	9	15	17	6	8
MAXIMUM:	18	23	27	13	18
MINIMUM:	2	6	6	1	1
STD DEV	4,11	4,05	4,68	3,50	4,72

For visual learners, the average pretest score was also 9 out of 30. This group's average increased to 16 when given posttest 1, and to 17 when given posttest 2. The dispersion went up with both versions of the posttest, but with the second version it increased by more than 2 points.

Table 10 Results for Visual Learners

	Pretest	Posttest 1	Posttest 2	Improvement 1	Improvement 2
AVERAGE:	9	16	17	7	8
MAXIMUM:	14	23	22	9	12
MINIMUM:	4	11	6	6	2
STD DEV	3,85	4,93	6,57	1,30	4,10

The average pretest score for auditory learners was lower, but just by one point: 8 out of 30. This increased to 13 when the same version of the pretest was used and to 17 when the second version was used. The dispersion went up with both versions of the posttest, but with the second version it increased by 3 points.

Table 11 Results for Auditory Learners

	Pretest	Posttest 1	Posttest 2	Improvement 1	Improvement 2
AVERAGE:	8	13	17	5	9
MAXIMUM:	13	17	27	6	14
MINIMUM:	2	6	11	4	3
STD DEV	4,55	4,65	7,55	1,00	4,51

Kinesthetic students obtained the same average pretest score as their auditory peers, which was 8 out of 30. They did better on both posttests. Their average score increased to 15 when they took posttest 1 and to 17 when they took posttest 2. The dispersion went down with both versions of the posttests.

Table 12 Results for Kinesthetic Learners

	Pretest	Posttest 1	Posttest 2	Improvement 1	Improvement 2
AVERAGE:	8	15	17	7	9
MAXIMUM:	15	18	25	13	18
MINIMUM:	3	9	13	1	1
STD DEV	3,79	3,23	3,32	4,36	5,45

The last group, comprised of visual-kinesthetic students, had an average pretest score of 14 out of 30, which increased to 20 on both posttests. The dispersion went down with both versions of the posttests. Because there were only 2 students with this learning style, the results might not be very significant. For instance, the standard deviation is the lowest of all groups. In addition, both happened to be female and 36-year old, so gender and age do not contribute with additional explanation for the difference in performance. Also, one of these participants was the one with the highest pretest score in the whole class.

Table 13 Results for Visual-Kinesthetic Learners

	Pretest	Posttest 1	Posttest 2	Improvement 1	Improvement 2
AVERAGE:	14	20	20	7	6
MAXIMUM:	18	21	21	10	9
MINIMUM:	9	19	18	3	3
STD DEV	6,36	1,41	2,12	4,95	4,24

5.3.5 T-Test

With respect to the t-test for related samples, the results are within the lower and upper limits in all groups; therefore, the increase in vocabulary size is statistically significant at the 95% confidence level, and the intervention had an effect in such increase.

Table 14 Results for T-Test for Related Samples

GROUP	MEAN OF DIFFERENCE	STANDARD DEVIATION	LOWER LIMIT	UPPER LIMIT	P-VALUE
OVERALL	-5,65	3,5	-8,17	-5,14	0,000
VISUAL	-7,8	1,3	-9,42	-6,19	0,000
AUDITORY	-4,5	1	-6,09	-2,91	0,003
KINESTHETIC	-6,92	4,36	-9,69	-4,15	0,000
VISUAL-KINESTHETIC	-6,5	4,95	-50,97	37,97	0,314

5.4 Type of Vocabulary

As it was detailed in the methodology chapter, the VLT consisted of 30 words. This list included 15 nouns (50%), 9 adjectives (30%), and 8 verbs (20%). In this section, the variations in results, according to the type of vocabulary included in the test, are presented. First, the percentage of correct answers for each participant is displayed in a table. This information is given for the overall class. Then, a graph for the whole class, as well as for each VAK group, summarizes the type of words in which students performed better. This structure is shown for the pretest, posttest 1 and posttest 2.

5.4.1 Pretest

Based on the average percentage of correct answers, the participants recognized a higher percentage of adjectives, followed by nouns and verbs, in that order. The same pattern was evident for all VAK groups; the only difference was the exact percentage.

Table 15 Percentage of Correct Answers by Type of Vocabulary - Pretest

STUDENT	VAK	PERCENTAGE OF NOUNS IDENTIFIED CORRECTLY	PERCENTAGE OF VERBS IDENTIFIED CORRECTLY	PERCENTAGE OF ADJECTIVES IDENTIFIED CORRECTLY
1	A	40%	0%	50%
2	V	20%	0%	17%
3	K	27%	11%	33%
4	VK	60%	33%	100%
5	K	40%	11%	33%
6	VK	40%	0%	50%
7	K	53%	22%	83%
8	K	27%	22%	67%
9	K	20%	0%	0%
10	K	20%	0%	33%
11	K	20%	11%	17%
12	K	40%	0%	50%
13	A	40%	0%	33%

14	K	67%	22%	0%
15	A	7%	0%	17%
16	V	33%	0%	17%
17	V	27%	11%	67%
18	V	60%	11%	67%
19	K	27%	0%	17%
20	K	27%	0%	17%
21	V	47%	0%	50%
22	K	47%	11%	83%
23	A	47%	11%	83%
AVERAGE		36%	8%	43%
MAXIMUM		67%	33%	100%
MINIMUM		7%	0%	0%

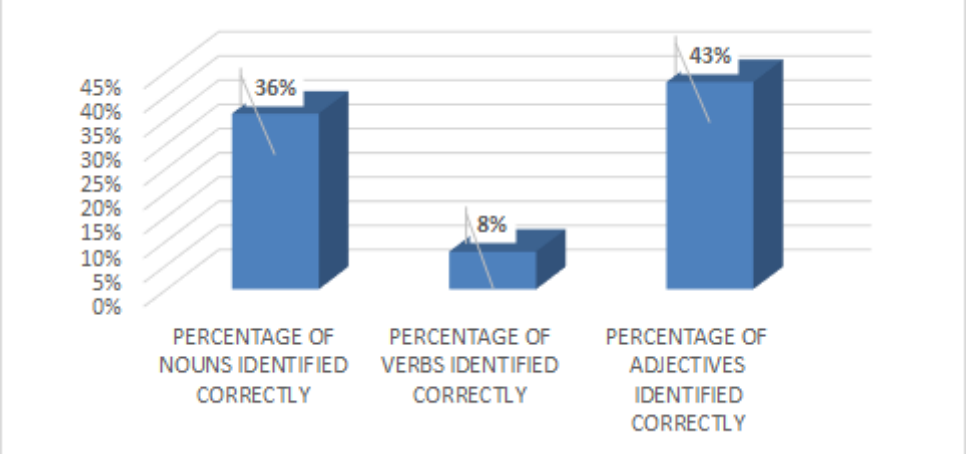

Figure 5 Correct Answers by Type of Vocabulary - Pretest (Overall)

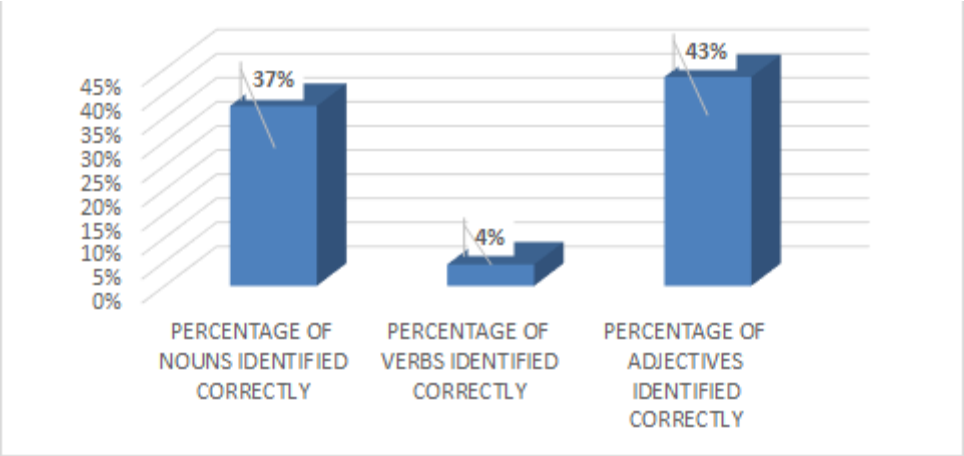

Figure 6 Correct Answers by Type of Vocabulary - Pretest (Visual)

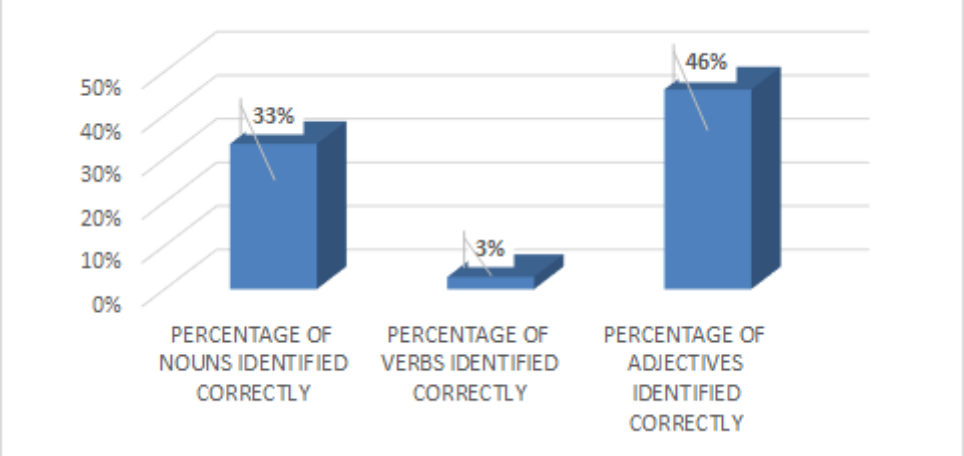

Figure 7 Correct Answers by Type of Vocabulary - Pretest (Auditory)

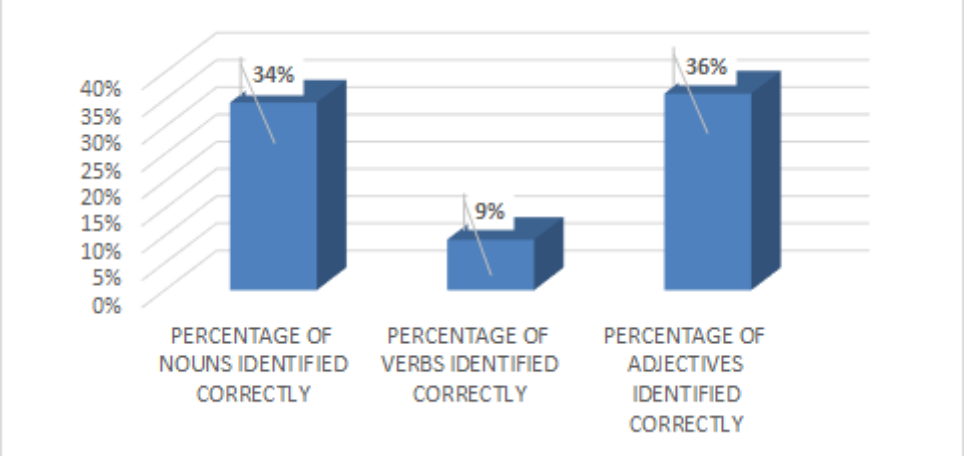

Figure 8 Correct Answers by Type of Vocabulary - Pretest (Kinesthetic)

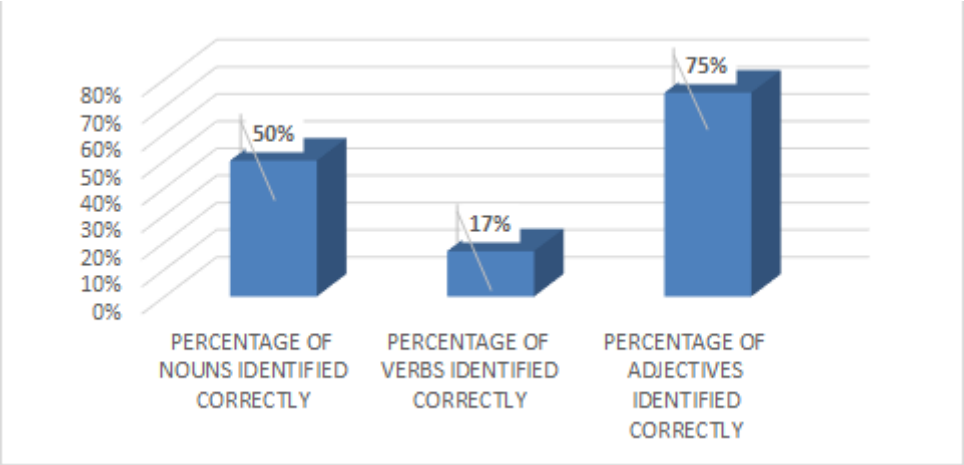

Figure 9 Correct Answers by Type of Vocabulary - Pretest (Visual-Kinesthetic)

5.4.2 Posttest 1

In the first version of the posttest, the class as a whole did better in adjectives, then in nouns; the lowest percentage was for verbs. Individual VAK groups exhibited the same tendency, but with different percentages.

Table 16 Percentage of Correct Answers by Type of Vocabulary - Posttest 1

STUDENT	VAK	PERCENTAGE OF NOUNS IDENTIFIED CORRECTLY	PERCENTAGE OF VERBS IDENTIFIED CORRECTLY	PERCENTAGE OF ADJECTIVES IDENTIFIED CORRECTLY
1	A	47%	22%	83%
2	V	33%	22%	67%
3	K	53%	56%	83%
4	VK	67%	56%	100%
5	K	53%	56%	83%
6	VK	67%	44%	83%
7	K	60%	33%	83%
8	K	47%	22%	33%
9	K	33%	22%	67%
10	K	27%	0%	83%
11	K	67%	22%	83%
12	K	60%	11%	67%
13	A	67%	11%	50%
14	K	67%	44%	67%
15	A	7%	22%	50%
16	V	40%	11%	83%
17	V	60%	56%	67%

18	V	80%	67%	83%
19	K	47%	56%	67%
20	K	67%	33%	83%
21	V	67%	33%	83%
22	K	53%	22%	67%
23	A	73%	33%	50%
AVERAGE		54%	33%	72%
MAXIMUM		80%	67%	100%
MINIMUM		7%	0%	33%

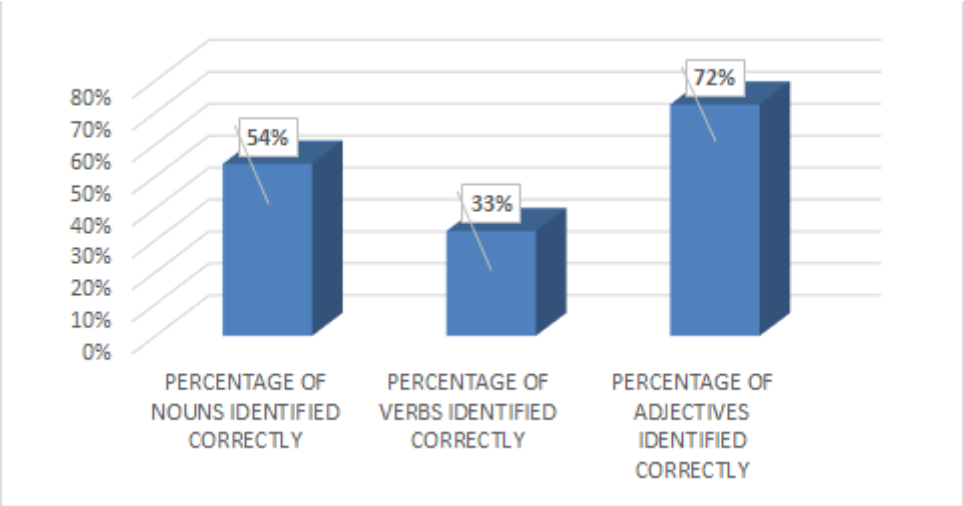

Figure 10 Correct Answers by Type of Vocabulary - Posttest 1 (Overall)

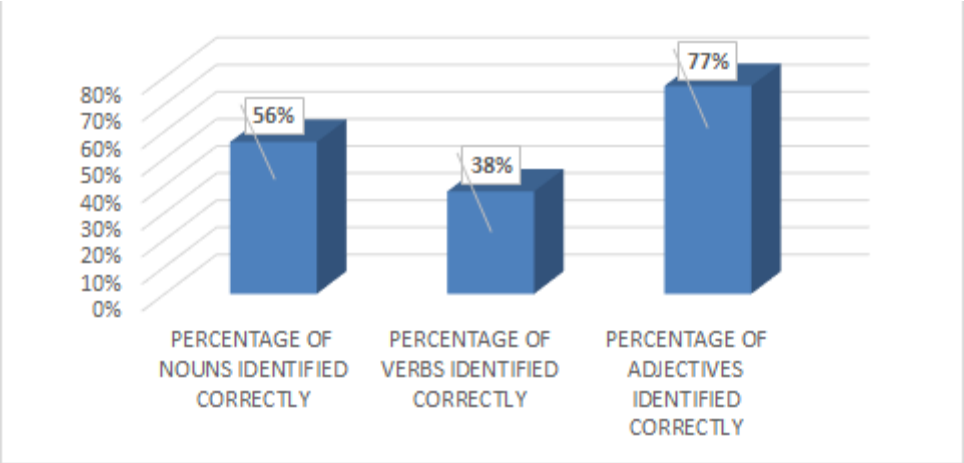

Figure 11 Correct Answers by Type of Vocabulary - Posttest 1 (Visual)

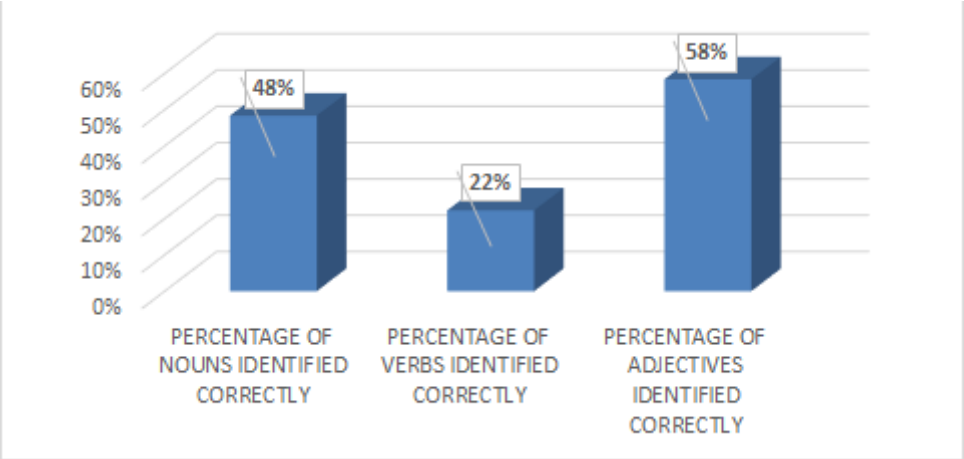

Figure 12 Correct Answers by Type of Vocabulary - Posttest 1 (Auditory)

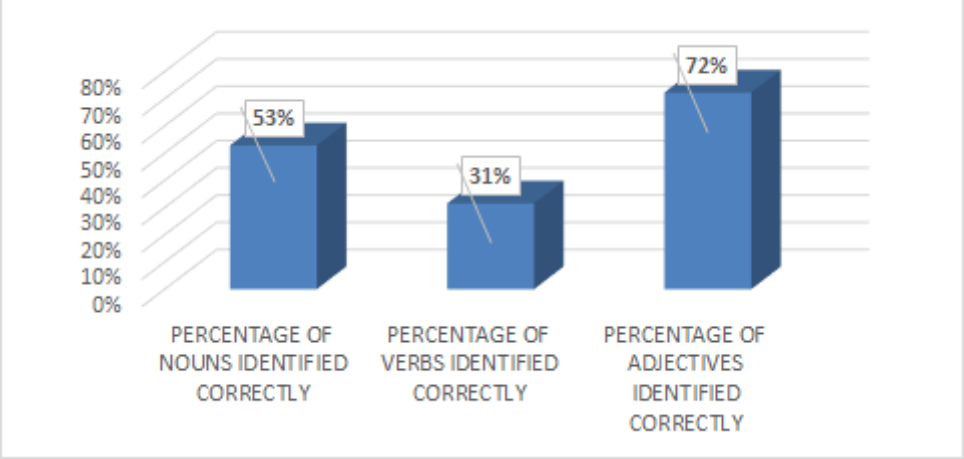

Figure 13 Correct Answers by Type of Vocabulary - Posttest 1 (Kinesthetic)

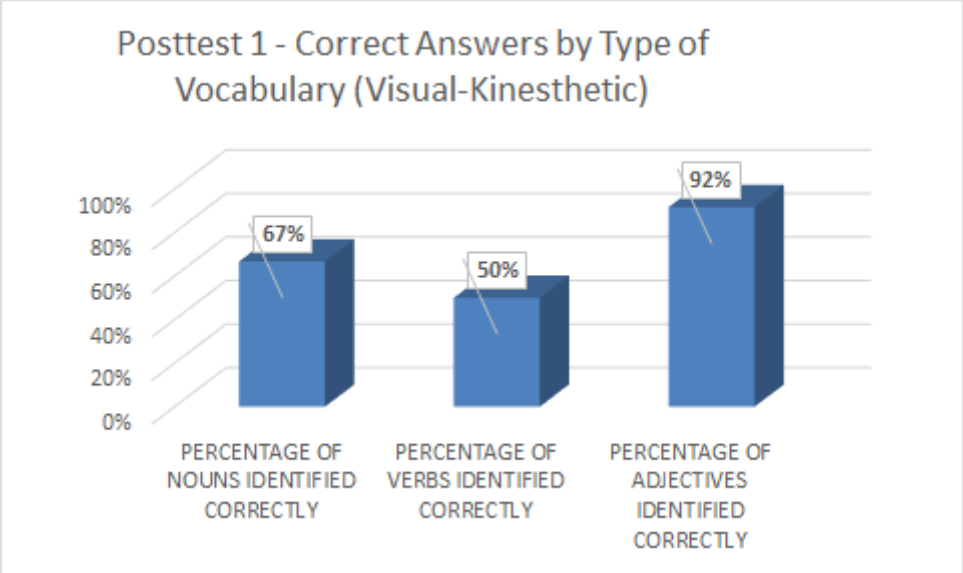

Figure 14 Correct Answers by Type of Vocabulary - Posttest 1 (Visual-Kinesthetic)

5.4.3 Posttest 2

In the second version of the posttest, adjectives had the highest percentage of correct answers of the class. Nouns had the second highest value, but it was closely followed by verbs; in fact, there was only 1point difference. The same was true for visual and kinesthetic students, except that the difference between nouns and verbs was higher. Auditory learners, percentage wise, identified as many adjectives as verbs. Both were 2 points higher than nouns. Although visual-kinesthetic participants also identified a higher percentage of adjectives, they identified correctly a higher percentage of verbs than of nouns.

Table 17 Percentage of Correct Answers by Type of Vocabulary - Posttest 2

STUDENT	VAK	PERCENTAGE OF NOUNS IDENTIFIED	PERCENTAGE OF VERBS IDENTIFIED	PERCENTAGE OF ADJECTIVES

		CORRECTLY	CORRECTLY	IDENTIFIED CORRECTLY
1	A	53%	44%	83%
2	V	13%	11%	50%
3	K	80%	78%	100%
4	VK	53%	78%	100%
5	K	33%	56%	83%
6	VK	60%	44%	83%
7	K	67%	44%	67%
8	K	67%	22%	67%
9	K	53%	56%	67%
10	K	47%	33%	50%
11	K	53%	56%	83%
12	K	47%	44%	83%
13	A	27%	44%	50%
14	K	53%	56%	83%
15	A	33%	56%	17%
16	V	47%	56%	100%
17	V	60%	56%	67%
18	V	73%	67%	83%
19	K	53%	44%	83%
20	K	73%	67%	83%

21	V	73%	67%	83%
22	K	40%	44%	67%
23	A	93%	89%	83%
AVERAGE		54%	53%	75%
MAXIMUM		93%	89%	100%
MINIMUM		13%	11%	17%

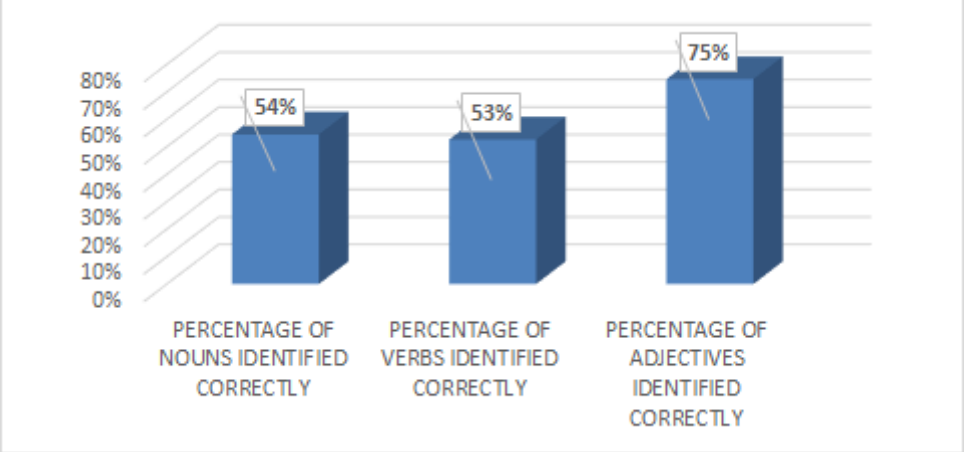

Figure 15 Correct Answers by Type of Vocabulary – Posttest 2 (Overall)

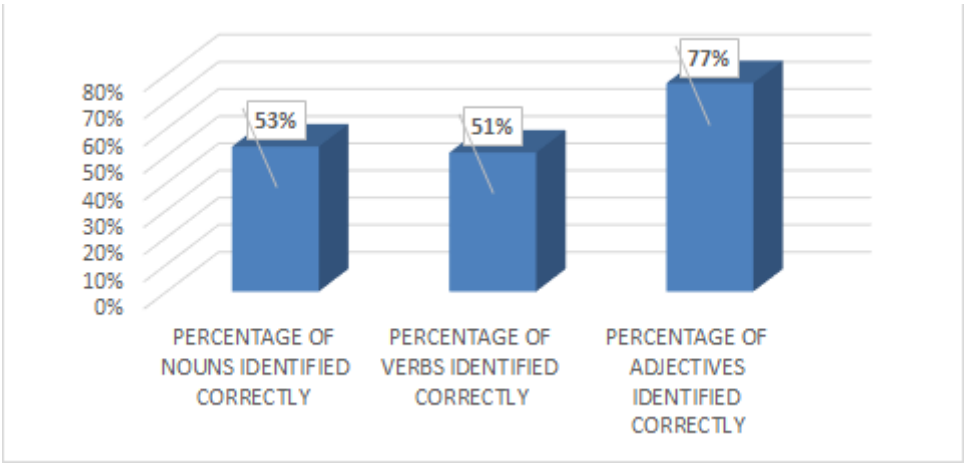

Figure 16 Correct Answers by Type of Vocabulary – Posttest 2 (Visual)

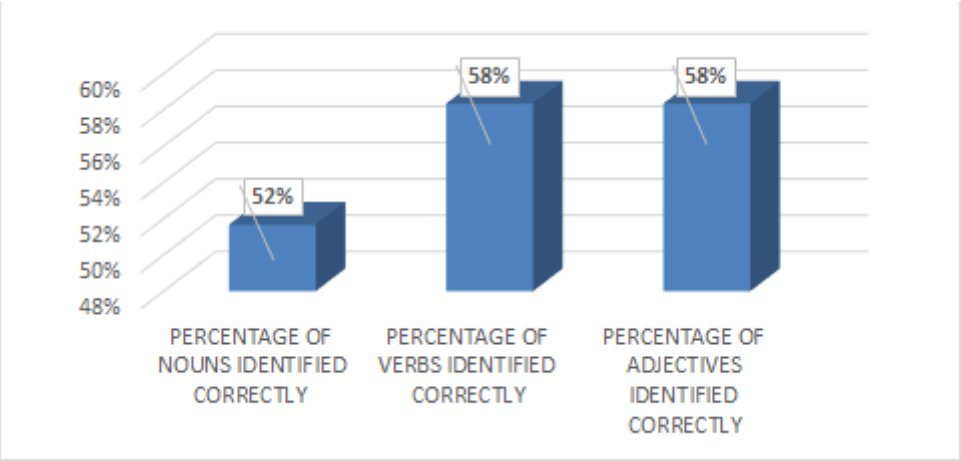

Figure 17 Correct Answers by Type of Vocabulary – Posttest 2 (Auditory)

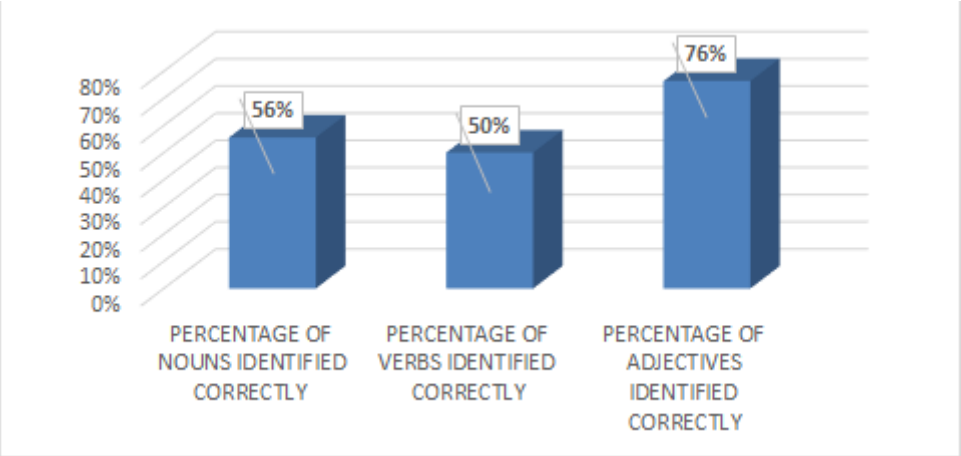

Figure 18 Correct Answers by Type of Vocabulary – Posttest 2 (Kinesthetic)

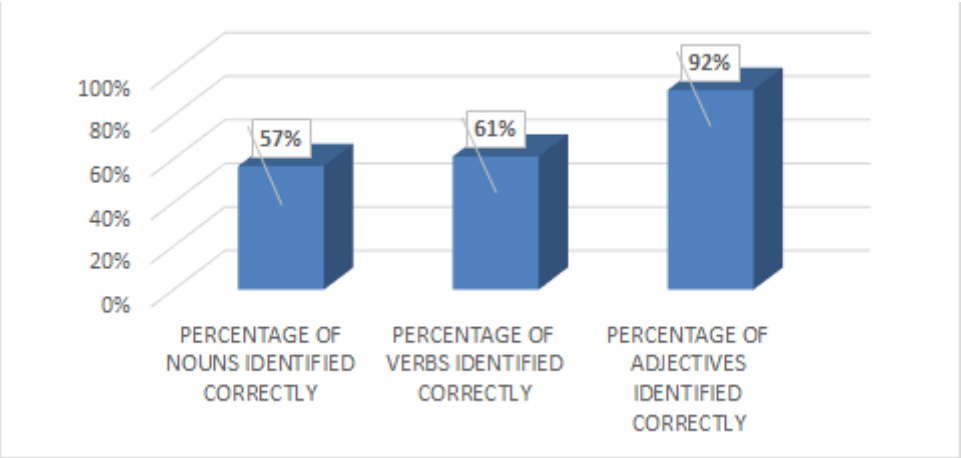

Figure 19 Correct Answers by Type of Vocabulary - Posttest 2 (Visual-Kinesthetic)

1.1.1 Linear Regressions

In order to capture the effect of the intervention, four types of linear regressions were run using SPSS. Only that with the highest explanatory power, as evidenced by R^2, is specified in this section. The relationship between vocabulary acquisition, as measured by the difference in score in the vocabulary pre and posttest, and the intervention should be captured by the generated linear regression.

In this version, the initial vocabulary level (PT), as an indicator of previous knowledge, was added as a predictor, i.e. the score in the pretest was expected to have an impact on the improvement in the score. In other words, it was used as a possible measure of cognitive individual characteristics affecting vocabulary acquisition, as stated in the theoretical framework. VAK styles were also included as a predictor. The kinesthetic style was considered the default because the majority of the students shared that style; in that way, the coefficients for the other groups could be interpreted in relation to the kinesthetic group.

Although the possible implications of the values are discussed in more detail in the next chapter, a brief explanation is presented in Table 18.

The regression was set as:

$VA = a + b_1\ GEN + b_2\ AGE + b_3\ INT + b_4\ PT + b_5\ V + b_6\ A + b_7\ VK$

$VA = -5{,}993 - 1{,}72GEN - 0{,}091AGE + 0{,}9\ INT - 0{,}453\ PT + 0{,}332\ V - 3{,}843\ A + 3{,}296\ VK$

($R^2 = 0.502$)

Table 18 Interpretation of the Linear Regression Variables

VARIABLES	COEFFICIENT	VALUE	INTERPRETATION
Constant	a	-5,993	The base change in score for any student, regardless of gender, age and the number of activities is a decrease of 5,993 points.
Gender (GEN)	b_1	-1,72	The fact of being a female decreases the change by 1,72 points.
Age (AGE)	b_2	-0,091	For each additional year in age, the change in score decreases in 0,091 points.
VAK-based activities (INT)	b_3	0,900	Every time a student participates in a class session during the intervention, the change in score increases in 0,9 points.
Score in Pre-Test (PT)	b_4	-0,453	For every additional point in the initial score, the change for the final score decreases by 0,453 points.
Visual Learning Style (V)	b_5	0,332	The change in score of a visual learner is 0,332 points more than that of a kinesthetic learner.
Auditory Learning Style	b_6	-3,843	The change in score of an auditory learner is 3,843 points less than that of

(A)			a kinesthetic learner.
Visual-Kinesthetic Learning Style (VK)	b_7	3,296	The change in score of a visual-kinesthetic learner is 3,296 points more than that of a kinesthetic learner.

Finally, the R^2 shows that 50.2% of the change in score is explained by this regression.

6 Analysis

This chapter deals with the interpretation and possible implications of the results presented in the previous chapter. It is important, however, to mention that the results of the learning styles questionnaire have been omitted in this part because they were relevant only to design the intervention.

The statistical analysis showed that not only the group improved the vocabulary level but that such improvement was due to the intervention. In fact, the average score of the VLT increased for all VAK groups, and the t-test for related samples[3] confirmed that the higher results could be attributed to the intervention.

Nevertheless, linear regressions showed that there are other factors that need to be accounted for other than the ones already, either explicitly or implicitly, included in the model in its current version. The vocabulary acquisition of the students could have benefitted from other factors. Indeed, the value of R2 confirmed this claim.

6.1 Test Scores

Whether the group is considered as a whole or divided by the students' learning style, the test score increased after the intervention. This can be interpreted as the intervention having a positive effect on the vocabulary level. This is in alignment with the findings of Abdollahzadeh and Amiri (2009), who concluded that regardless of the students' learning styles, they benefited from a particular learning strategy. In this study, the participants benefited from the incidental learning approach.

Nevertheless, only two people got a score high enough to say that they got up to the appropriate vocabulary level according to their expected CEFR level. Indeed, the overall

[3] See Table 14, in the previous chapter.

group mean went from 9 to 15, but they needed at least 21 out of 30. In other words, the general improvement of the students was insufficient to grant them the vocabulary level they should have at this stage of learning. On the other hand, an average of 9 would require an average improvement of 12 points, which represents almost half of the maximum possible. This apparent low level of progress could be associated with the slow nature of incidental learning, as anticipated by Schmitt (2010).

6.1.1 Test Scores across Learning Styles

Table 19 indicates that there is not much difference when comparing the learning style groups. It can be said, however, that visual learners performed slightly better in the pretest as well as in the posttest. In contrast, auditory learners got the lowest score in both tests. At the same time, the kinesthetic group appears to be more homogeneous, as its standard deviation is the lowest in the pre and posttests.

Table 19 Summary of Average Test Scores across Learning Styles

	Pretest	Posttest 1	Posttest 2	Improvement 1	Improvement 2
Overall	9	15	17	6	8
Visual	9	16	17	7	8
Auditory	8	13	17	5	9
Kinesthetic	8	15	17	7	9

Table 20 Summary of Standard Deviation across Learning Styles

	Pretest	Posttest 1	Posttest 2	Improvement 1	Improvement 2
Overall	4.11	4.05	4.68	3.50	4.72
Visual	3.85	4.93	6.57	1.30	4.10
Auditory	4.55	4.65	7.55	1	4.51
Kinesthetic	3.79	3.23	3.32	4.36	5.45

6.1.2 Test Scores across Versions of the Test

All groups had the same mean score in the second version of the posttest. More interesting is the fact that the score was higher than the one obtained in the posttest using the same version of the pretest. Then again, the standard deviation shows that the results of the second version are more dispersed than for the first version.

6.1.3 T-Test

The t-test for related samples shows that the intervention had an effect in the increase in vocabulary size. However, the statistical process does not take into account what kind of activities were done. In other words, since only the initial and final scores were compared, there is no way to know exactly what is being measured. It could be that the simple fact of devoting time to teach vocabulary is the cause for the improvement.

Moreover, as it was discussed in the theoretical background, social interaction (situational factor) and educational background (individual factor) could be playing a role in how the intervention was assimilated by each participant. In this particular group, for example, the majority of students was kinesthetic, implying a preference for movement. Considering that

sedentarization[4] is used as a disciplinary tool in academic instruction (Caruso, 2003), college students have been exposed to such an approach, which favors stillness and quietness, for about 12 years. Thus, it would not be surprising to notice some reluctance of English learners to freely participate in activities that require them to move. Dancing, for example, was quite uncomfortable for some students, according to their comments.

In the same way, older people may have acquired more interpersonal skills that would allow them to integrate easily to different type of scenarios because that is part of their daily life. Role playing is a good example for this. Whereas for some students who were in their thirties or more it was a rather spontaneous activity, for younger participants it was a real challenge because they were trying to memorize or read dialogues.

6.2 Type of Vocabulary

The percentage of words correctly identified by students confirmed the impression that the type of vocabulary would have an impact in the performance of the students. The most evident improvement took place in the category of verbs. Although the minimum percentage of correct answers did not change, the number of students who got that minimum went down from 12 to 1. Moreover, the maximum went up by 34 percentage points, higher than the results obtained for nouns and verbs.

Now, verbs represent actions and therefore could be more in alignment with a kinesthetic learning style. To that extent, this improvement can be associated with the intervention. The second-best improvement was in adjectives while nouns had the least improvement. This is not surprising because half of the vocabulary list encompassed nouns and therefore would

[4] The author explains that the simple fact that students are required to sit down during class is an example of how sedentarization is needed for academic instruction, but it also serves as means for discipline.

require a bigger number of words in order to equate the same percentage of the other categories.

Table 21 Percentage of Nouns Correctly Identified by Students

	PRE-TEST	POST-TEST	CHANGE[5]
MINIMUM	7%	7%	no change
MAXIMUM	67%	80%	increased in 13 percentage points
RANGE	60 percentage points	73 percentage points	increased in 7 percentage points (positive)

Table 22 Percentage of Verbs Correctly Identified by Students

	PRE-TEST	POST-TEST	CHANGE
MINIMUM	0%	0%	no change
MAXIMUM	33%	67%	increased in 34 percentage points
RANGE	33 percentage points	73 percentage points	increased in 34 percentage points (positive)

Table 23 Percentage of Adjectives Correctly Identified by Students

	PRE-TEST	POST-TEST	CHANGE
MINIMUM	0%	33%	increased in 33 percentage points
MAXIMUM	100%	100%	no change

[5] The interpretation of the change should be as follows: an increase in minimum or maximum is positive, and a decrease is negative. For the change in range, it depends on what happened with the minimum and maximum. If the minimum did not change, and the maximum did not change or went up, an increase in range is positive, and a decrease is negative. If the maximum is already at its highest, a decrease in the range is positive.

RANGE	100 percentage points	67 percentage points	decreased in 33 percentage points (positive)

6.3 Linear Regression

As it was mentioned earlier, the data obtained from the linear regression revealed that more information is needed. Consequently, the results from the hypothesis testing could not be confirmed.

The impact of the relevant6 independent variables that were explicitly included in the regression is as follows[7]:

The coefficient for the intervention was calculated as of 0,9, being the highest of all the variables. Every time a student participated in a class during the intervention, his or her improvement increased by 0,9 points.

The pretest coefficient of -0,453 suggested that the higher the initial score, the lower the improvement in vocabulary. Every additional point in the pretest reduced the change in score by 0,453 points. This makes sense considering that someone with a lower score would have more room for improvement than someone with an already high score. In fact, the person who got the highest grade in the pretest, 18 out of 30, only improved by 3 points, which is half of the average improvement of the whole class. Therefore, the extent of progress attributable to the intervention was limited by the initial level of vocabulary size.

The coefficients of the VAK styles indicated that visual and visual-kinesthetic learners had an advantage in relation to kinesthetic learners. The advantage was higher for visual-

[6]Relevant in terms of the research questions of this study.
[7] In order of the size of the effect.

kinesthetic participants. The results for visuals were at odds with the findings of Fu (2009). According to the author, a mismatch would lead to detrimental vocabulary learning outcomes; that was not the case in this study. On the other hand, auditory students were at a disadvantage. This disadvantage could be associated to the mainly visual (written VLT) and kinesthetic (requires hand movement) nature of the evaluation instrument.

Finally, even when including the score of the pretest as a variable, a maximum of about 50% of vocabulary acquisition could be explained by the linear regression. Consequently, there is evidence for at least one of the following options:

1) other aspects that were not accounted for played a significant role in the results (e.g. level of education, socioeconomic status, motivation),

2) the relationship of the variables is not of a linear nature (e.g. the effect of certain variables can be compounded and need to be elevated to the power of 2),

3) related to the previous option, there is an additional relationship between independent variables (e.g. gender is possibly affecting vocabulary acquisition independently, but also affecting indirectly through the pretest score).

4) the current variables might not be the best way to represent the individual characteristics or learning conditions (e.g. the mismatch of student's learning styles with the teaching style could better capture the effect of the intervention than measuring the latter by the number of days of participation).

7 Concluding Chapter

This final chapter encompasses the concluding remarks about the research done and it also covers other considerations and suggestions for further research. To facilitate its understanding, it follows a sequence according to the research questions posted at the beginning of this document.

7.1 Conclusions

In general, there was a positive effect of the intervention on the vocabulary level and the vocabulary acquisition of the students; however, the extent of this effect can be better explained by other factors, such as anxiety. In addition, there is no evidence that students who shared the dominant learning style of the group learned more than those who did not share that learning style. Indeed, kinesthetic participants did not outperform the other groups. A possible explanation can be that the activities chosen were not the appropriate ones, affecting their motivation, which is one of the IDs mentioned in Theoretical Framework. For example, as it was mentioned in the previous chapter, dancing was not necessarily an action that students felt comfortable doing.

7.1.1 To what extent do students improve their vocabulary base if in-class activities are tailored to the group's dominant learning style?

The hypothesis testing proved (with a 95% confidence level) that, regardless of the preferred learning style of the person, tailoring the material and activities to match the group's dominant learning style increased the vocabulary size of a student in an average of 6 points. Bearing in mind that the instrument used to evaluate the vocabulary level is graded out of 30 points that represent 30 common words for the correspondent CEFR English level,

it can be inferred that on average, a participant increased his or her vocabulary base by 6 words belonging to his or her level of English.

Considering the incidental learning approach of the intervention, these results are in alignment with those obtained by Ponniah (2011), which were detailed in the Literature Review.

Given the low average initial score, 8 or 9 depending on the learning style group, the improvement does not entail having the appropriate vocabulary level that would be expected for the comparable CEFR English level.

7.1.2 How do students who do not share the dominant learning style perform those activities?

The dominant learning style was kinesthetic; therefore, the answer to this question is focused on visual and auditory learners in comparison with the kinesthetic group. According to the results, these groups were close to the average improvement of the class. Visual students improved just as much as the kinesthetic students, 7 points, which is 1 point above the average. Auditory people improved 1 point less than the average, i.e. 5 points. Furthermore, the standard deviation showed that the improvement of auditory and visual students, in that order, was less dispersed than that of the kinesthetic group. In terms of the score, however, the results of kinesthetic students were more consistent. Nevertheless, visual students scored higher than the other groups while auditory people scored lower, in the posttest. This shows that kinesthetic people did not have an advantage over the other students. These results contrast what Fu (2009) anticipated based on mismatching between the teaching style (in this case evidence in the material and activities) and students' learning styles.

7.1.3 How does the type of vocabulary to be learned influence the performance of the students?

The type of vocabulary had an impact on the performance of students. Specifically, students improved more in verbs. Since verbs are more of kinesthetic nature because they represent actions, it is not surprising that the highest improvement was in this category.

7.2 Other considerations

As it was mentioned in the previous chapter, there are factors that should be taken into account in order to better explain the level of vocabulary size and vocabulary acquisition. It cannot, therefore, be concluded that because this intervention had a positive effect, VAK-based-tailored classroom material is the best way to teach English vocabulary.

In addition, it is not known to which extent other aspects influenced the outcomes of the research. For example, having limited flexibility to integrate vocabulary items to the topics included in the syllabus may have interfered with the frequency of exposure to those items. What is more, being restricted by the four skills could have limited the nature of adaptation of the material. For instance, reading is mainly a visual activity; there is only so much that can be adapted to match a kinesthetic style.

In the same way, because the teacher did not share the dominant learning style of the group, there could have been an unintentional bias on how certain activities were presented.

7.3 Suggestions for further research and recommendations

This research could be replicated with groups where the dominant learning styles is visual or auditory. Even variations can be considered. For example, providing techniques that are appealing to a specific type of learners only to those learners, i.e. visual techniques to visual

students, auditory techniques to auditory learners, and kinesthetic techniques to kinesthetic people, all at the same time.

Another variation could extend the length of the intervention period to allow incidental learning to consolidate. In this way, students could take advantage of longer exposure and the expected benefits of this approach could be better represented (Schmitt, 2010).

As upper levels are considered as subjects of a similar study, careful attention to the appropriate combination of incidental and explicit learning should be taken. This practice would be in accordance with the hypothesis proposed by Ellis (1995), i.e. both are necessary for vocabulary acquisition, but one is more effective than the other, depending on the EFL vocabulary learning stage.

It is not clear whether the low pretest score is the reason for not achieving the proper vocabulary level or if the effect of the intervention is not appropriate. In other words, are the 6 points of improvement a good measure so it is a shortcoming of the initial level of the students, or are the 6 points simply not a good measure? More research could be done regarding the best way to evaluate vocabulary acquisition as a result of this kind of intervention.

It would also be helpful to have a more complete model to explain both vocabulary size and vocabulary acquisition. Certainly, the value of R^2 indicates that more factors should be included as predictors. Moreover, there is also a high possibility that the relationship between the current variables is not linear. Since to generate a model was never the intention of this paper, further research in this aspect is suggested. This would better guide teachers on how to approach vocabulary teaching.

A qualitative perspective could add to the understanding of how participants react to material that matches or mismatches their VAK learning style. For instance, do visual participants feel uncomfortable when performing activities that are mainly kinesthetic? A structured interview or a questionnaire are advised to achieve this purpose.

Considering the results for auditory learners obtained in this study, and those reported by Kassaian (2007), a recommendation is put forward to consider evaluation instruments that accommodate for that specific learning style.

Finally, it is recommended to use material and activities that encompass all three learning styles. In that way, any negative effect from mismatching between the teacher and students' styles would be reduced. Another benefit would be the inclusive nature of the teaching approach, without neglecting a particular group. In fact, the anxiety (another ID) of those students who do not share the learning style of most of the class would be reduced if they identify with the activities and material used. In other words, they would not be (and would not feel) overlooked based on their learning style.

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Appendices

Appendix 1: Authorization of the Board

Cuenca, 12 de enero de 2016
Oficio Nº 001-08-01-2016-UIL

Sra.
María Augusta Zhunio Cruz
Ciudad.-

De mi consideración:

Con un cordial saludo y por medio del presente me permito comunicar que el H. Consejo Académico del Instituto Universitario de Lenguas, en su sesión de fecha 08 de enero de 2016, conoció la solicitud de fecha 07 de enero de 2016, presentada por usted, en la cual solicita la autorización para realizar la intervención de su tesis en el Instituto Universitario de Lengua, según el detalle que en una foja adjunta.

El Consejo Académico tomando en consideración que es necesario apoyar estas actividades de los estudiantes, ya que las mismas resultan beneficiosas para el Instituto, por unanimidad resolvió: 1.- Aceptar favorablemente y dar paso a la solicitud de la estudiante María Augusta Zhunio Cruz, para que realice la intervención de su tesis en el Instituto. 2.- Solicitar a la estudiante que la investigación que vaya a realizar, se ajuste previamente a los sílabos correspondientes, para lo cual en su momento se deberá coordinar con los profesores respectivos.

Particular que comunico para los fines pertinentes.

Atentamente,

Ab. Diana Cunalata Vázquez.
SECRETARIA DEL CONSEJO.

Instituto Universitario de Lenguas
SECRETARÍA

Universidad de Cuenca

Appendix 2: Consent Form

Consent to Participate in a Research Study

Title of Study: VAK-BASED ACTIVITIES TO INCREASE VOCABULARY IN EFL COLLEGE STUDENTS

Investigator

Name		**Phone**	
:	Ma. Augusta Zhunio Cruz	**:**	410 1501

Introduction

- You are being asked to be in a research study of Learning Styles and Vocabulary.
- You were selected as a possible participant because you enrolled in an intensive intermediate EFL class.
- We ask that you read this form and ask any questions that you may have before agreeing to be in the study.

Purpose of Study

- The purpose of the study is to assess the effectiveness of adapting material according to the students' learning style.
- Ultimately, this research may be included in a Master's thesis.

Description of the Study Procedures

- If you agree to be in this study, you will be asked to do the following things: take a VAK questionnaire, two vocabulary tests, write a journal, and participate in the activities proposed in class.

Risks/Discomforts of Being in this Study

- The study may cause discomfort. First, as a student, you might not enjoy all the activities performed in class.
- There are no reasonable foreseeable (or expected) risks. There may be unknown risks.

Benefits of Being in the Study

- The benefits of participation are the increased level of English vocabulary, and the fact that you will be more aware of your preferred learning style.

Confidentiality

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

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Payments

- There will be no payment and/or reimbursement.

Right to Refuse or Withdraw

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

Right to Ask Questions and Report Concerns

- You have the right to ask questions about this research study and to have those questions answered by me before, during or after the research. If you have any further questions about the study, at any time feel free to contact me, Augusta Zhunio at mzhunio@cedei.org.

Consent

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

Subject's Name (print): _____

Subject's Signature: _____ Date: _____

Investigator's Signature: _____ Date: _____

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Appendix 3: Consent Form (Spanish Version)

Consentimiento para participar en un estudio de investigación

Título del Estudio:	VAK-BASED ACTIVITIES TO INCREASE VOCABULARY IN EFL COLLEGE STUDENTS

Investigador

Nombre :	Ma. Augusta Zhunio Cruz	**Teléfono :**	410 1501

Introducción

- Se le solicita participar en un estudio de Estilos de Aprendizaje y Vocabulario.
- Ud. fue seleccionado como un posible participante porque se matriculó en un nivel intensivo de inglés como lengua extranjera.
- Se le pide que lea este formulario y haga cualquier pregunta que necesite antes de aceptar ser parte del estudio.

Propósito del Estudio

- El propósito del estudio es evaluar la eficacia de adaptar el material de acuerdo al estilo de aprendizaje de los estudiantes.
- Finalmente, esta investigación será incluida en una tesis de masterado.

Descripción de los procedimientos del estudio

- Si ud. acepta estar en este estudio, se le pedirá que haga lo siguiente: tome un cuestionario VAK, dos exámenes de vocabulario, escriba un diario, y participe en las actividades propuestas en clase.

Riesgos/incomodidad de estar en este estudio

- El estudio puede generar incomodidad. Primero, como estudiante, ud. posiblemente no disfrutará todas las actividades realizadas en clase.
- No hay riesgos que puedan ser razonablemente anticipados. Pudiera haber riesgos desconocidos.

Beneficios de participar en el estudio

- Los beneficios de la participación son el incremento del vocabulario en inglés, y el hecho de que ud. estará más conciente de su estilo de aprendizaje preferido.

Confidencialidad

- Este estudio es anónimo. No se recolectará ni mantendrá ninguna información relacionada con su identidad.

Pago

- No habrá ningún pago ni devolución monetaria.

Derecho de Rechazar o Retirarse

- La decisión de participar en este estudio depende completamente de ud. Usted puede negarse a ser parte del estudio en *cualquier momento* sin que eso afecte su relación con la persona investigadora ni con la universidad. Su decisión no va a resultar en ninguna pérdida ni beneficio a los que no esté sujeto de otra manera. Usted tiene el derecho de no responder ninguna pregunta, así como de retirarse completamente en cualquier momento durante el proceso; adicionalmente, ud. tiene el derecho de pedir que el investigador no use nada del material generado por ud.

Derecho a hacer preguntas y reportar inquietudes

- Ud. tiene el derecho a hacer preguntas sobre este estudio de investigación y a obtener respuestas a sus preguntas antes, durante o después de la investigación. Si ud. tiene inquietudes adicionales sobre el estudio, en cualquier momento siéntase en la libertad de contactarme a mí, Augusta Zhunio a mzhunio@cedei.org.

Consentimiento

- Su firma indica que ha decidido ser participante voluntario en este estudio, y que ud. ha leído y entendido la información dada anteriormente. Se le dará una copia firmada y con fecha de este formulario, así como otro material impreso que se considere necesario.

Nombre del participante (letra imprenta): _____

Firma del participante: _____ Fecha: _____

Firma del investigador: _____ Fecha: _____

Appendix 4: VAK Questionnaire

VAK Learning Styles Self-Assessment Questionnaire

Circle or tick the answer that most represents how you generally behave.

(It's best to complete the questionnaire before reading the accompanying explanation.)

1. When I operate new equipment I generally:
   a) read the instructions first
   b) listen to an explanation from someone who has used it before
   c) go ahead and have a go, I can figure it out as I use it

2. When I need directions for travelling I usually:
   a) look at a map
   b) ask for spoken directions
   c) follow my nose and maybe use a compass

3. When I cook a new dish, I like to:
   a) follow a written recipe
   b) call a friend for an explanation
   c) follow my instincts, testing as I cook

4. If I am teaching someone something new, I tend to:
   a) write instructions down for them
   b) give them a verbal explanation
   c) demonstrate first and then let them have a go

5. I tend to say:
   a) watch how I do it
   b) listen to me explain
   c) you have a go

6. During my free time I most enjoy:
   a) going to museums and galleries
   b) listening to music and talking to my friends
   c) playing sport or doing DIY

7. When I go shopping for clothes, I tend to:
   a) imagine what they would look like on
   b) discuss them with the shop staff
   c) try them on and test them out

8. When I am choosing a holiday I usually:
   a) read lots of brochures
   b) listen to recommendations from friends
   c) imagine what it would be like to be there

9. If I was buying a new car, I would:
   a) read reviews in newspapers and magazines
   b) discuss what I need with my friends
   c) test-drive lots of different types

10. When I am learning a new skill, I am most comfortable:
   a) watching what the teacher is doing
   b) talking through with the teacher exactly what I'm supposed to do
   c) giving it a try myself and work it out as I go

11. If I am choosing food off a menu, I tend to:
   a) imagine what the food will look like
   b) talk through the options in my head or with my partner
   c) imagine what the food will taste like

12. When I listen to a band, I can't help:
   a) watching the band members and other people in the audience
   b) listening to the lyrics and the beats
   c) moving in time with the music

13. When I concentrate, I most often:
   a) focus on the words or the pictures in front of me
   b) discuss the problem and the possible solutions in my head
   c) move around a lot, fiddle with pens and pencils and touch things

14. I choose household furnishings because I like:
   a) their colours and how they look
   b) the descriptions the sales-people give me
   c) their textures and what it feels like to touch them

15. My first memory is of:
   a) looking at something
   b) being spoken to
   c) doing something

16. When I am anxious, I:
   a) visualise the worst-case scenarios
   b) talk over in my head what worries me most
   c) can't sit still, fiddle and move around constantly

17. I feel especially connected to other people because of:
   a) how they look
   b) what they say to me
   c) how they make me feel

18. When I have to revise for an exam, I generally:
    a) write lots of revision notes and diagrams
    b) talk over my notes, alone or with other people
    c) imagine making the movement or creating the formula

19. If I am explaining to someone I tend to:
    a) show them what I mean
    b) explain to them in different ways until they understand
    c) encourage them to try and talk them through my idea as they do it

20. I really love:
    a) watching films, photography, looking at art or people watching
    b) listening to music, the radio or talking to friends
    c) taking part in sporting activities, eating fine foods and wines or dancing

21. Most of my free time is spent:
    a) watching television
    b) talking to friends
    c) doing physical activity or making things

22. When I first contact a new person, I usually:
    a) arrange a face to face meeting
    b) talk to them on the telephone
    c) try to get together whilst doing something else, such as an activity or a meal

23. I first notice how people:
    a) look and dress
    b) sound and speak
    c) stand and move

24. If I am angry, I tend to:
    a) keep replaying in my mind what it is that has upset me
    b) raise my voice and tell people how I feel
    c) stamp about, slam doors and physically demonstrate my anger

25. I find it easiest to remember:
    a) faces
    b) names
    c) things I have done

26. I think that you can tell if someone is lying if:
    a) they avoid looking at you
    b) their voices changes
    c) they give me funny vibes

27. When I meet an old friend:
    a) I say "it's great to see you!"
    b) I say "it's great to hear from you!"
    c) I give them a hug or a handshake

28. I remember things best by:
    a) writing notes or keeping printed details
    b) saying them aloud or repeating words and key points in my head
    c) doing and practising the activity or imagining it being done

29. If I have to complain about faulty goods, I am most comfortable:
    a) writing a letter
    b) complaining over the phone
    c) taking the item back to the store or posting it to head office

30. I tend to say:
    a) I see what you mean
    b) I hear what you are saying
    c) I know how you feel

Now add up how many A's, B's and C's you selected.

A's = B's = C's =

If you chose mostly A's you have a **VISUAL** learning style.

If you chose mostly B's you have an **AUDITORY** learning style.

If you chose mostly C's you have a **KINAESTHETIC** learning style.

Some people find that their learning style may be a blend of two or three styles, in this case read about the styles that apply to you in the explanation below.

When you have identified your learning style(s), read the learning styles explanations and consider how this might help you to identify learning and development that best meets your preference(s).

Now see the VAK Learning Styles Explanation.

Appendix 5: VAK Questionnaire (Spanish Version)

CÓDIGO: …… **FECHA:……**

GÉNERO:…… **EDAD:……**

Cuestionario de Auto-Evaluación de Estilos de Aprendizaje VAK

Escoja la respuesta que más representa cómo usted generalmente se comporta.

(Es mejor completar el cuestionario antes de leer la explicación adjunta.)

1. Al utilizar un equipo nuevo, por lo general:
a) primero leo las instrucciones de uso del equipo
b) escucho una explicación de alguien que ha usado el equipo antes
c) lo utilizo y a medida que lo hago, entiendo su funcionamiento

2. Cuando viajo y necesito saber una dirección, por lo general:
a) consulto un mapa
b) pido instrucciones de alguien que haya estado en el lugar antes
c) voy al lugar y en él busco la dirección

3. Cuando cocino un plato nuevo, me gusta:
a) seguir una receta escrita
b) llamar a un amigo para una explicación
c) seguir mis instintos para la cocina

4. Si estoy enseñando algo a alguien nuevo, tiendo a:
a) escribir las instrucciones para ellos
b) darles una explicación verbal
c) demostrar primero y luego dejar que ellos intenten la tarea

5. Tiendo a decir:
a) ve cómo lo hago
b) escucha y/o por favor explíqueme
c) lo hago y/o espero que lo haga

6. Durante mi tiempo libre me gusta más:
a) ir a museos y galerías
b) escuchar música y hablar con mis amigos
c) el deporte, jugar o hacer distintas actividades

7. Cuando voy a comprar ropa, tiendo a:
a) imaginar cómo se me vería puesto
b) solicitar la opinión del personal de la tienda
c) probarme diferentes prendas

8. Cuando estoy eligiendo dónde ir o qué hacer en un día de fiesta, por lo general:
a) leo un montón de folletos
b) escucho las recomendaciones de amigos
c) imagino lo que sería estar en distintos lugares haciendo distintas cosas

9. Para comprar un automóvil nuevo, yo:
a) leo comentarios en periódicos y revistas
b) discuto lo que necesito con mis amigos
c) pruebo distintos automóviles en lugares de venta

10. Cuando estoy aprendiendo una nueva habilidad, estoy más cómodo (a):
a) cuando veo que el maestro lo hace
b) cuando hablo con el profesor y me explica exactamente lo que debo hacer
c) cuando hago la tarea

11. Si estoy eligiendo un plato del menú, tiendo a:
a) imaginar cómo se verán los alimentos
b) hablar con mi pareja sobre las distintas opciones
c) imaginar cómo sabe el alimento

12. Cuando escucho a una banda, no puedo evitar:
a) observar los miembros del grupo y otras personas de la audiencia
b) escuchar las letras y los ritmos
c) moverme al compás de la música

13. Cuando me concentro en una tarea, con mayor frecuencia:
a) me enfoco en las palabras o las imágenes que tengo frente de mí
b) discuto mentalmente el problema que me plantea la tarea y las posibles soluciones
c) me muevo mucho, juego con lápices y toco las cosas

14. Puedo elegir muebles de la casa porque me gusta:
a) sus colores y su aspecto
b) las descripciones de las ventas y las opiniones que me da la gente
c) sus texturas y lo que se siente al tocarlos

15. Mis primeros recuerdos son de:
a) mirar algo
b) hablar algo
c) hacer algo

16. Cuando estoy ansioso (a):
a) visualizo el peor de los escenarios
b) hablo conmigo mismo (a) en mi cabeza respecto a lo que me preocupa más
c) no puedo quedarme quieto (a), me muevo constantemente

17. Me siento especialmente vinculado (a) a otras personas debido a:
a) cómo se ven
b) lo que me dicen
c) la forma en que me hacen sentir

18. Cuando tengo un examen, por lo general:
a) escribo un montón de notas de revisión y diagramas
b) hablo sobre mis notas, solo (a) o con otras personas
c) imagino en movimiento la fórmula o respuestas posibles

19. Si estoy explicando a alguien, tiendo a:
a) mostrar lo que significa
b) explicar en formas diferentes hasta que entiendan
c) alentar a tratar de darles mi opinión respecto a cómo lo hacen

20. Realmente me encanta:
a) ver películas, fotografía, arte y observar a la gente
b) escuchar música, la radio o hablar con amigos
c) participar en actividades deportivas o bailar

21. La mayoría de mi tiempo libre está dedicado a:
a) ver la televisión
b) hablar con amigos
c) hacer actividad física

22. Cuando por primera vez me contacto con una persona nueva, por lo general:
a) organizo una reunión cara a cara
b) hablo con ellos por teléfono
c) trato de hacer juntos algo al mismo tiempo, como una actividad o una comida

23. Lo que observo de la gente en primer lugar:
a) aspecto y vestimenta
b) su manera de hablar
c) cómo se mueve

24. Si estoy enojado (a), tiendo a:
a) visualizar en mi mente qué es lo que me ha disgustado
b) elevo mi voz y digo a la gente cómo me siento
c) Golpeo la mesa o doy un portazo

25. Me parece más fácil de recordar:
a) el rostro de alguien
b) los nombres de personas
c) las cosas que he hecho

26. Creo que se puede saber si alguien está mintiendo si:
a) evita mirarme
b) su voz cambia
c) su actitud me genera una mala vibra

27. Cuando me encuentro con un viejo amigo:
a) digo "es muy bueno verte!"
b) Digo "es muy bueno saber de ti!"
c) les doy un abrazo o un apretón de manos

28. Recuerdo las cosas mejor por:
a) tomar nota por escrito
b) repetir en voz alta palabras y puntos clave
c) hacer y practicar las actividades o imaginándolas

29. Si tengo que quejarme de los productos defectuosos, estoy más cómodo (a):
a) escribiendo una carta de reclamo
b) quejándome por teléfono
c) quejándome directamente con un supervisor en la oficina central

30. Me inclino a decir:
a) veo lo que quieres decir
b) he oído lo que está diciendo
c) sé cómo te sientes

Sumar la cantidad de A, B y C seleccionadas.
A = Si usted eligió mayoría A tiene un estilo de aprendizaje visual.
B = Si usted eligió mayoría B tiene un estilo de aprendizaje auditivo.
C = Si usted eligió mayoría C tiene un estilo de aprendizaje kinestésico.

Eres visual si… Aprendes, sobre todo, a través de la vista, con fotografías, esquemas, diagramas…

Eres auditivo si… La mayor parte de las veces aprendes escuchando y hablando. Memorizas por pasos, por secuencias.

Eres kinestésico si… Aprendes haciendo. Gesticulas, necesitas mucho contacto físico y tiendes a acercarte a las personas para comunicarte.

Appendix 6: Pretest and Posttest 1

CODE: …… **DATE:……**

VOCABULARY TEST

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

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

You answer it in the following way.

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

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

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

Universidad de Cuenca

Version 1 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

Appendix 7: Class Structure per Unit

	UNIT 1: FREE TIME				
	SKILL TO BE DEVELOPED				
TIME	VOCABULARY	READING	LISTENING	WRITING	SPEAKING
7:00 - 7:05	Calling roll				
7:05 - 7:30	Quiz of first week: REVIEW	Introduction to ANNOTATING and FINDING THE CORRECT DEFINITION OF A WORD	Introduction to MAKING INFERENCES and PREPOSITIONS OF TIME	Introduction to FREQUENCY ADVERBS and the use of "WITH" and "BUT"	In groups, preparation of a role play about places where people go to in order to enjoy their free time: cinema, restaurant, park, beach.
7:30 - 7:55		Exercises to practice ANNOTATING and FINDING THE CORRECT DEFINITION OF A WORD	Exercises to practice MAKING INFERENCES and PREPOSITIONS OF TIME	Exercises to practice FREQUENCY ADVERBS and the use of "WITH" and "BUT"	
7:55 - 8:05	RECESS				
8:05 - 8:15	Brainstorming of new vocabulary around the topic: how is a typical day in your life?	Brainstorming of new vocabulary around the topic: what sports do you practice?	Brainstorming of new vocabulary around the topic: what are your hobbies?	Brainstorming of new vocabulary around the topic: what people can and cannot do in the city, for fun?	Performance of the role play
8:15 -8:25	Choosing body movements to mimic the new words learned				
8:25 - 8: 35	Making sentences with the mimics	Reading "Going the extra mile" (circle nouns, underline verbs, put adjectives in brackets)	Listening of "What a hobby", using hand movements (stand up for nouns, turn around for verbs, raise 2 hands for adjectives)	Writing an essay about "What do I do on the weekends"	
8:35 - 9:00	Dice activity: for each number draw, students need to come up with an actvity that requires at least that many people	Matching game of words and definitions: the person with the word needs to find the person with the correct definition	Word Search with vocabulary about hobbies		

	UNIT 2: PLACES				
	SKILL TO BE DEVELOPED				
TIME	VOCABULARY	READING	LISTENING	WRITING	SPEAKING
7:00 - 7:05	Calling roll				
7:05 - 7:30	Quiz of Unit 1: FREE TIME	Introduction of COMPLETING A CHART and LABELING	Introduction to LISTENING FOR AND FOLLOWING DIRECTIONS	Introduction to PREPOSITIONS OF PLACE and CAPITALIZING LETTERS	In groups, preparation of a role play about a tourist who gets lost and needs to ask for help
7:30 - 7:55		Worksheets to practice COMPLETING A CHART and LABELING	Worksheets to practice LISTENING FOR AND FOLLOWING DIRECTIONS	Worksheets to practice PREPOSITIONS OF PLACE and CAPITALIZING LETTERS	
7:55 - 8:05	RECESS				
8:05 - 8:15	Brainstorming of new vocabulary around the topic: what is the best place to visit in Cuenca?	Brainstorming of new vocabulary around the topic: how is your neighborhood?	Brainstorming of new vocabulary around the topic: how can I get to your house?	Brainstorming of new vocabulary around the topic: landmarks	Performance of the role play
8:15 -8:25	Choosing body movements to mimic the new words learned				
8:25 - 8: 35	Making sentences with the mimics	Reading "Cool Neighborhoods" (circle nouns, underline verbs, put adjectives in brackets)	Listening to "Is it far?", using hand movements (stand up for nouns, turn around for verbs, raise 2 hands for adjectives)	Writing an essay about "My favorite place"	
8:35 - 9:00	Ordering the students according to whose favorite place is closer to the university.	Drawing your friend´s neighborhood according to the oral directions provided by him/her.	Dancing to the song "Follow the leader"		

	UNIT 3: TV SHOWS AND TRAVEL				
	SKILL TO BE DEVELOPED				
TIME	**VOCABULARY**	**READING**	**LISTENING**	**WRITING**	**SPEAKING**
7:00 - 7:05	Calling roll				
7:05 - 7:30	Quiz of Unit 2: PLACES	Introduction to COLLOCATING WITH GO	Introduction to SO and NEITHER	Introduction to BOTH AND NEITHER, and TRANSITION WORDS	In groups, preparation of a role play about: sitcom, soap opera, news, talk show, combining vocabulary about travel
7:30 - 7:55		Worksheets to practice COLLOCATING WITH GO	Worksheets to practice SO and NEITHER	Worksheets to practice BOTH AND NEITHER, and TRANSITION WORDS	
7:55 - 8:05	**RECESS**				
8:05 - 8:15	Brainstorming of new vocabulary around the topic: what is your favorite TV show?	Brainstorming of new vocabulary around the topic: what is a "reality TV"?	Brainstorming of new vocabulary around the topic: how is your favorite TV character?	Brainstorming of new vocabulary around the topic: where do you generally travel to on your vacation?	Performance of the role play
8:15 -8:25	Choosing body movements to mimic the new words learned				
8:25 - 8: 35	Making sentences with the mimics	Reading "Traveler types" (circle nouns, underline verbs, put adjectives in brackets)	Listening of the dialogue "I miss that show!", using hand movements (stand up for nouns, turn around for verbs, raise 2 hands for adjectives)	Writing an essay about "My ideal travel partner"	
8:35 - 9:00	Charades about TV shows and TV personalities.	Group competition of rearrangement of sentences.	Oral presentations		

	UNIT 4: PLANS				
	SKILL TO BE DEVELOPED				
TIME	VOCABULARY	READING	LISTENING	WRITING	SPEAKING
7:00 - 7:05	Calling roll				
7:05 - 7:30	Quiz of Unit 3: TV SHOWS AND TRAVEL	Introduction to THE SUFFIX -ER	Introduction to VERB + INFINITIVE	Introduction to LIKE, WOULD LIKE, BE LIKE	In groups, preparation of a role play about accepting or declining invitations
7:30 - 7:55		Worksheets to practice THE SUFFIX -ER	Worksheets to practice VERB + INFINITIVE	Worksheets to practice LIKE, WOULD LIKE, BE LIKE	
7:55 - 8:05	RECESS				
8:05 - 8:15	Brainstorming of new vocabulary around the topic: what household chores do you do?	Brainstorming of new vocabulary around the topic: what is your job?	Brainstorming of new vocabulary around the topic: what are your plans for the weekend?	Brainstorming of new vocabulary around the topic: what is your ideal job?	Performance of the role play
8:15 -8:25	Choosing body movements to mimic the new words learned				
8:25 - 8: 35	Making sentences with the mimics	Reading "Tell me about your job" (circle nouns, underline verbs, put adjectives in brackets)	Listening to "Are you free?", using hand movements (stand up for nouns, turn around for verbs, raise 2 hands for adjectives)	Writing an essay about "The job I would like to have"	
8:35 - 9:00	Submarine using "will you…" and different chores	Grouping of students according to the similiraties in their jobs	Matching game of compound nouns		

	UNIT 5: CELEBRATIONS				
	SKILL TO BE DEVELOPED				
TIME	**VOCABULARY**	**READING**	**LISTENING**	**WRITING**	**SPEAKING**
7:00 - 7:05	Calling roll				
7:05 - 7:30	Quiz of Unit 4: PLANS	Introduction to FORMING NOUNS ADDING -TION, and SIMPLE PAST	Introduction to QUANTIFIERS	Introduction to IRREGULAR PAST	In groups, preparation of a role play about the story behind a celebration
7:30 - 7:55		Worksheets to practice FORMING NOUNS ADDING -TION, and SIMPLE PAST	Worksheets to practice QUANTIFIERS	Worksheets to practice IRREGULAR PAST	
7:55 - 8:05	**RECESS**				
8:05 - 8:15	Brainstorming of new vocabulary around the topic: in which occasions do you give or receive gifts?	Brainstorming of new vocabulary around the topic: how does your family celebrate special occasions?	Brainstorming of new vocabulary around the topic: what are local customs and traditions?	Brainstorming of new vocabulary around the topic: what are the religious holidays we celebrate?	Performance of the role play
8:15 -8:25	Choosing body movements to mimic the new words learned				
8:25 - 8: 35	Making sentences with the mimics	Reading "Mother´s Day" (circle nouns, underline verbs, put adjectives in brackets)	Listening to "Thanksgiving", using hand movements (stand up for nouns, turn around for verbs, raise 2 hands for adjectives)	Writing an essay about "which one was the last religious holiday we had and how did you celebrate it?"	
8:35 - 9:00	Pictionary about special occassions	Bingo, finding people who did certain activities on certain holidays	Oral presentations		

Appendix 8: Posttest 2

Version 2 The 2,000 word level

1 copy
2 event
3 motor
4 pity
5 profit
6 tip

_____ end or highest point
_____ this moves a car
_____ thing made to be like another

1 admire
2 complain
3 fix
4 hire
5 introduce
6 stretch

_____ make wider or longer
_____ bring in for the first time
_____ have a high opinion of someone

1 accident
2 debt
3 fortune
4 pride
5 roar
6 thread

_____ loud deep sound
_____ something you must pay
_____ having a high opinion of yourself

1 arrange
2 develop
3 lean
4 owe
5 prefer
6 seize

_____ grow
_____ put in order
_____ like more than something else

1 coffee
2 disease
3 justice
4 skirt
5 stage
6 wage

_____ money for work
_____ a piece of clothing
_____ using the law in the right way

1 blame
2 elect
3 jump
4 manufacture
5 melt
6 threaten

_____ make
_____ choose by voting
_____ become like water

1 clerk
2 frame
3 noise
4 respect
5 theater
6 wine

_____ a drink
_____ office worker
_____ unwanted sound

1 ancient
2 curious
3 difficult
4 entire
5 holy
6 social

_____ not easy
_____ very old
_____ related to God

1 dozen
2 empire
3 gift
4 opportunity
5 relief
6 tax

_____ chance
_____ twelve
_____ money paid to the government

1 bitter
2 independent
3 lovely
4 merry
5 popular
6 slight

_____ beautiful
_____ small
_____ liked by many people

Appendix 9: Results of the Regressions

Regression using Vocabulary Size as the Dependent Variable

VS = a + b_1 GEN + b_2 AGE + b_3 INT

VS = 0.713 – 0.625 GEN + 0.010 AGE + 0.639 INT

R^2=0.217

Regression using Vocabulary Acquisition as the Dependent Variable

VA = a + b_1 GEN + b_2 AGE + b_3 INT

VA = -7,396 + 0,494 GEN – 0,101 AGE + 0,730 INT

R^2=0.163

Regression using Vocabulary Acquisition as the Dependent Variable, and Pretest Score as a predictor

VA1 = a + GEN + AGE + INT + PT

VA1 = -4,759 + 0,130 GEN – 0,065 AGE + 0,7 INT – 0,325 PT

R^2=0.297