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#### Abstract

The purpose of this study is to develop and implement a program for learning second language (L2) academic vocabulary with the objective of enhancing vocabulary learning strategies for reading proficiency and comprehension.

This specially tailored program, based on language learning research, consists of five alternative strategies in order to identify ways of learning academic vocabulary for university level EFL learners. Vocabulary knowledge not only implies being familiar with the meaning of a word, but also with its form (spoken, written, and its affixation) and its uses (collocations, grammatical pattern, and limits of its use). My experience as an English teacher of university students is that learners have considerable technical vocabulary because they are required to read texts in English related to their field of study. For that reason, their word knowledge is merely related to meaning by translation. They do not pay attention to other important aspects as parts of the speech, affixes, and collocations that would aid them to enrich their academic vocabulary and indeed their reading proficiency and comprehension. Throughout this study, L2 learners were trained with new techniques (word formation, word family, collocation and cognates) that may be applied in an implicit process that involves the understanding and recognition of words in any context. The training included vocabulary activities to strengthen retention which aimed towards retaining new vocabulary in long-term memory. The results of this study suggests that incidental vocabulary acquisition from reading is more likely to force words to only partial rather than full level of mastery, and that any recall is more productively recalled when learners use word formation strategies. For that reason, it is essential to provide students with strategies to


facilitate and develop their word knowledge by intentional learning activities. With this input students can become independent readers and continue improving their lexicon by incidental learning.

## Dedication

I would like to devote this research work to all the people I admire who have overcome difficulties, and accepted challenges to accomplish a goal, a dream, a wish or a mission.

My mother, who throughout her life has always been misunderstood, and therefore suffered and struggled because of her health, attitudes and feelings. To her I express my love and appreciation.

My father who was really patient with my mother and tried to help the family to relieve our pain, devoting himself to his children and supporting them in their dreams with his wise advice.

My brothers, victims of this unconscious situation, have always been close to our mother despite having received the worst part.

My husband, who despite his difficult childhood, established his goals and with hard work, he was able to achieve them. His love and dedication to his mother has made him a great man. He has always been my support in my personal and professional life.

My close and true friend, Janet, a strong woman who had to withstand her mother's death when she was a child and made great efforts to nurture her bothers without her father's help. I have been very lucky to have her as my friend and coworker for a long time. I have learned a lot from her friendship.

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I would like to express my sincere gratitude to my advisor, Dr. Dara Shaw who constantly helped me with her expertise, knowledge, patience and devotion. Her dedication and strength encouraged me to finish my research work. I am completely aware that without her support, I would not have been able to accomplish this goal.

I will be always deeply thankful to my mentor, Master Dennis Maloney for his invaluable and constant support and confidence in me. In the different stages that I have shared with him as my teacher, boss, colleague and friend, he has always cultivated in me the seed of knowledge and learning.

My appreciation to my friend and co-worker, Karen Yambay, for having helping me to recruit the participants for my two studies, motivating them to take part of this project

Finally, I would like to thank all friends and my family who have accepted my defects and strengthened my weaknesses. My family being my main power base and source of my essence as a human being who has conveyed to me directly or indirectly, the importance of education, values and faith in God, which have enabled me to overcome trouble and to realize my goals despite any difficulties.

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## CHAPTER 1

## INTRODUCTION

Reading is an important tool that university students must have to be successful and efficient in their personal and future professional lives, especially in academic environments. Therefore, we need to be aware that without considerable vocabulary knowledge, it is difficult to develop the skills necessary for academic and professional reading comprehension. There are many strategies available for teaching reading rate, linking student background knowledge to new texts, practicing comprehension, and developing special skills for reading for specific purposes. Research in the field of second language acquisition (SLA) has also explored the role of vocabulary learning in reading comprehension.

SLA research on the relationship of vocabulary learning and reading offers information about the effectiveness of a variety of vocabulary learning tools and techniques that include the use of word lists, translation tools, dictionary use, mini corpus, word banks (Horst,M.,Cobb, T. \& Nicolae, I., 2005); meaning guessing, cognate recognition (Frantzen, D., 2003); rote memorization-repetition (Anderson, 2001); rehearsal (Ellis, 1994, Hulstijn, 2001), and filling-in-the-blank exercises with collocations.

While teaching Ecuadorian students; I have observed that they not only lack reading skills in English, but also in their native language. This deficiency makes it very difficult for them to read and comprehend what they are reading. In Ecuadorian universities students are required to read many of their texts, and technical books in English. They complain that they do not have enough vocabulary in English to understand even basic English reading passages.

The purpose of this study is to develop and implement a program for L2 academic vocabulary study, which will be useful for Ecuadorian university students in diverse fields of study. The program will be designed, so that students learn to reflect on their own processes for learning vocabulary, and to express the effect the program has on their understanding of L2 academic reading comprehension, by exploring and describing different strategies for extending their L2 vocabulary.

University students have to read textbooks in English from the first academic year, without sufficient prior knowledge and instruction for the strategic reading of English textbooks. Some of them have not taken any English courses, while others have low levels of English knowledge. For that reason, students have to translate word by word into Spanish in order to be able to understand their content and study; it takes them too much time and impedes their reading comprehension. Being aware that vocabulary learning is one of the most important strategies to help students gain reading comprehension, I will prepare a program for academic vocabulary development which will include activities based on four techniques of explicit vocabulary instruction that students should be able to apply, even at basic levels of English knowledge, to learn and retain words for meaningful and extensive reading comprehension. The goal is to enhance the students' repertoires of strategies in order to facilitate independent vocabulary learning.

## CHAPTER 2

## LITERATURE REVIEW

Vocabulary learning is a complex process. I have divided this review of the literature into sections on how vocabulary is learned, categories of vocabulary, and vocabulary and the reading theories, reading as a bottom-up activity, and cultivating vocabulary learning.

## How vocabulary is learned

L1 vocabulary is learned by natural input, with reading playing a great role, therefore, for EFL learners, the role of reading in L2 vocabulary acquisition is much more important because the process is slow and unpredictable. Paribakht and Wesche (1999) comment that including written vocabulary activities to facilitate the retention of vocabulary after a reading task is an important aspect of a vocabulary learning program:

From the perspective of a language teaching program which aims at developing learners' reading proficiency and related receptive vocabulary, a reading-based, incidental reading approach may be adequate, but for programs which aim at developing learners' production skills, rapid vocabulary expansion and some measure of influence over what is learned, such an approach would appear insufficient. (p.3)

Although Ehri $(1994,1998)$ believes that vocabulary should be taught separately and not in context, the new trend is to introduce vocabulary as an implicit process. The implicit process is related to understand the meaning of words in a context and not separately, including written vocabulary activities to strengthen retention and keep it in long-term memory.

Students can be proficient readers if they know $98 \%$ or more of the vocabulary presented in a passage or text (Hunt \& Beglar, 2005). Therefore, it is important to teach students to recognize and learn words primarily in order to encourage them to read and comprehend the text. Moreover, limited vocabulary can lead to misunderstanding of meanings, or partial or fully incorrect inferences (Fukking, Block, and de Glopper, 2001) Categories of vocabulary

According to Pikulski \& Templeton (2004), there are two types of vocabulary that infers "use", expressive vocabulary and receptive vocabulary. Expressive vocabulary is the lexicon that we use to express ourselves. The receptive vocabulary involves the listening and reading skills. When we refer to "terminology", vocabulary has two categories, meaning and oral vocabulary and literate vocabulary. Meaning and oral vocabulary combine the listening and reading vocabularies, while literate vocabulary is a mixture of reading and writing vocabularies.

## Vocabulary and the reading theories

In the L1, we first acquire meaning/oral vocabulary, while literate vocabulary learning usually comes with formal schooling. Reading is part of written communication, which necessitates development of meaning vocabulary and effective decoding skills. Effective decoding requires that students have the skills to recognize printed words precisely and to read rapidly and automatically.

Anderson (2001) introduces three models of reading based on reading research and theory. All of the models have connections to the teaching of vocabulary. They are Reading Bottom-up View, Reading Top-Down View and Reading as an Interactive Process.

A bottom-up reading model emphasizes a single-direction, part-to-whole processing of a text. In the beginning stages reading gives little emphasis to the influences of the reader's world knowledge, contextual information, and other higherorder processing strategies. (Dechant 1991). A bottom-up reading model is a reading model that emphasizes the written or printed text; says reading is driven by a process that results in meaning (or, in other words, reading is driven by text), and proceeds from part to whole. (Boothe, Walter \& Stringer, 1999)

Top-down reading models suggest that processing of a text begins in the mind of the readers with meaning-driven processes, or an assumption about the meaning of a text. From this perspective, readers identify letters and words only to confirm their assumptions about the meaning of the text. (Dechant 1991).

An interactive reading model attempts to combine the valid insights of bottom-up and top-down models. It attempts to take into account the strong points, and the interaction of the bottom-up and top-down models, and tries to avoid the criticisms leveled against each, making it one of the most promising approaches to the theory of reading today (McCormick, T. 1988). An interactive reading model is a reading model that recognizes the interaction of bottom-up and top-down processes simultaneously throughout the reading process (Boothe, Walter \& Stringer, 1999). According to Goodman (1991), this model provides input through print and has output by meaning. Additionally, readers can offer input, interacting with the text. Anderson (1999) also considers reading as an interactive process of both bottom-up and top-down models, including six strategies to teach in EFL reading class. He calls this process ACTIVE:

Activate prior knowledge; Cultivate vocabulary; Teach for comprehension; Increase reading rate; Verify reading strategies; Evaluate Progress.

## Cultivating Vocabulary Learning

One of the six Anderson's (1999) active strategies to apply in an EFL reading class is cultivating vocabulary. He indicates that vocabulary skills require time to develop. This process of learning vocabulary includes recognizing parts of speech and their relation with meaning; fluency and automaticity of word recognition; knowledge of an extensive vocabulary, and the ability to predict meaning by using clues within the context.

Besides word meaning, it is essential to focus on other aspects of word knowledge, including, spelling, part of the speech, morphology, meaning in a specific context, connotation, usage, synonyms, antonyms, and collocations. (Folse, 2006). Meaning and word formation are the two factors that influence on reading comprehension.

According to Grabe \& Stoller (2002), L2 fluency requires learning at least 10,000 words in the new language. One way of helping students to master the learning of this high number of words, is to focus on the 2,000 to 3,000 most common words in a language, as a foundation for word-recognition automaticity. Then the learner must focus on vocabulary that is suitable to specific topics and fields of study. These specific topics make the Academic Word List. Some authors such as Nation, Coxhead, Huntley, and other experts in vocabulary knowledge have designed their own Academic Word List based on different textbooks used in universities. A proficient reader is required to know the meaning of $95 \%$ of the words in a text and recognize them rapidly. Schmitt (2000)
points out that foreign students require 2,000 words to understand dialogues, 3,000 word families to read authentic texts, and are required to know more than 10,000 words to comprehend demanding academic texts.

According to Nation (2001) and Schmitt (2000) vocabulary acquisition is a key factor for developing reading skill. Folse (2006) proposes building vocabulary retention by using written exercise using fill-in-blank exercises with unknown words, although Hulstijn and Laufin (2001) do not give that too much credit to this technique. Skilled readers can guess and infer meanings when the number of unknown words is small; however, the process becomes more difficult if the proportion of unknown words is too high, especially if these words have key meanings for the whole comprehension (Carver, 1994).

August, Carlo, Dressler and Snow (2005) in their study found out that English language learners who face slow vocabulary development are less able to comprehend text at grade level than English-only peers.

Vocabulary plays an important role in models of reading and influences significantly on earlier reading, for that reason some authors advocate including phonological, orthographic and morphosyntactic processes in the acquisition of reading skill (Anglin, 1993; Carlisle \& Nomanbhoy, 1993; Muter \& Diethelm, 2001, Verhallen \& Schoonen, 1993, Wang \& Geva, 2003).

Vocabulary is the learners' knowledge of word meanings. This concept differs from word recognition or the form of words or sight vocabulary that involves automatic recognition of words "by sight" (Stahl \& Nagy, 2006).

The main goal of teaching vocabulary is to broaden the lexicon, however, when a word is presented as an isolated unit with a single meaning, it limits students from learning multiple meanings of just one word (polysemy). Additionally, students need to know how to deal with unknown words by strategically using the techniques to guess their meanings in context, retain them and apply new vocabulary in different contexts. (Buikema \& Grave, 1993; Nagy, Winsor, Osbord, \& O’Flahavan, 1993).

Another strategy to improve vocabulary is to keep a word notebook in which learners write down interesting words with their corresponding dictionary definitions and examples of word formation (Bear, Invernizzi, Templeton, and Johnston, 2004). Stahl \& Nagy (2006) suggest helping students to become skilled word learners by teaching about word parts, context clues, definitions and strategies for dealing with unfamiliar words. A useful strategy for learning vocabulary from reading is collocation. To collocate means to co-occur, and there is a great tendency for certain words to occur together, for example student goes with teacher (Upton, 2004).

Because both English and Spanish share common roots with Greek and Latin, teaching cognates (words that share similar written form and same meanings) is another strategy for students to use guess to the meanings of unknown words (Mora, 2005) However, it is relevant to warn students about false cognates like lecture, success, policy, and estate. Jimenez, García and Pearson (1996) support this idea in their study of strategies employed by bilingual Spanish-English readers.

A limited vocabulary is the biggest problem that readers have to deal with. The well-prepared native speaker of English entering college knows about twenty thousand words (Upton, 2004). According to him, two thousand high-frequency words compose
$76 \%$ of those we encounter as we read. Fortunately, these high-frequency words are constantly used and they have abstract meanings that do not influence on the context like the, these, many, and it facilitates their learning. Besides, there are 570 word families common in academic texts. Students will know over $86 \%$ of the words they read in academic textbooks (Coxhead 2000). The other $14 \%$ percent in academic text are technical words that are usually new for every student and defined in the texts. There are also low-frequency words that you are not seen very often.

Pikulski \&Templeton (2004) introduce an illustration to explain the process of guessing meaning based on the recognition of words.

## Strategy for deriving word meanings

Carefully look at the world; decide how to pronounce it.


Source: "Teaching and Developing Vocabulary: Key to Long-Term Reading Success"

## Statement of the problem

Most students that enter to study at the Escuela Superior Politecnica del Litoral have a low level of English. However, they are forced to read academic textbooks or articles in English from the first semester as part of course bibliographies. Considering that the vocabulary could be one of their difficulties in the reading process, it is important to prepare them, providing useful strategies to enhance vocabulary knowledge. For that reason, I will design a study program with five strategies for helping students guess, learn, and retain new academic words in context for a better reading comprehension.

## Research questions

How can a program of vocabulary learning strategies be applied for EAP? What perceptions do participants have about the application of the vocabulary study program?

What is the difference between student vocabulary learning at the basic and advanced levels for students with similar educational background in the same institution?

## CHAPTER 3

## METHODOLOGY AND RESEARCH DESIGN

My study will employ a qualitative case study methodology. I will describe and analyze the process of implementing five strategies for acquiring and retaining academic vocabulary in context. I have chosen five strategies word family, word formation, word meaning, cognates, and collocation, because they help students not only learn the unknown-word meaning, but also use this word to expand their vocabulary knowledge with its derivation or connection.

To achieve my research, I will do a literature review about similar studies to inform my research. Some authors (Anderson, Nation, Schmitt, Coxhead, Ellis, Horst, etc) have provided theories about the appropriate methods for teaching and learning English vocabulary in context to promote better reading comprehension. Liu and Shaw (2001) in their study suggest that the best way of measuring students' vocabulary knowledge is not to know how many words they have already learned in an isolated way, but how well they can use them implicitly. They indicate that when students learned words separate from content, students will easily forget them because words will be kept in short memory, while students that learn new vocabulary in context, they will retain this information in long memory which guarantees their use in future work and additionally will enhance their reading comprehension. I chose these five strategies because I consider it will not only help students guess and learn the meaning in context, but they also contribute to cultivate vocabulary knowledge to enhance reading comprehension, especially academic textbooks due to they use these materials outside English class and
indeed they do not receive any instruction to understand the content. Therefore, they have to translate word by word often without success.

In EAP Vocabulary Study Programs for many years, it was deemed that vocabulary should be taught separately; however, currently the trend has drastically changed. Most authors advise teaching vocabulary in context. In my program, I would like to demonstrate and support these new theories by applying cognates, word family, word formation, and word meaning as strategies for learning and improving vocabulary included in the Academic Word List. A goal is to help the students become independent learners by increasingly applying the strategies of the program of study to help successful and meaningful reading comprehension.

For my study, I have chosen Coxhead's Academic Word List because it has been compiled from 3.5 million words from academic passages and simplified root words in 570 word families that were commonly used in academic texts from all subjects. Upton (2006) in his book adapted the 570 word families, distributing them in 300 Common Academic Words and 270 Additional Common Word List. Through the word families and the knowledge of the five strategies, students will be able to increase their academic vocabulary. For instance, attach is part of Academic Word List, however it has some additional derivational words, adding prefixes or changing suffixes (unattached, attached, attachment). Rubin (2009) also includes the Coxhead Academic Word List in his books for considering an appropriate tool for the word learning and reading.

## Participants

Six, native-Spanish-speaking volunteer participants, three female and three male college students will collaborate in this study. They are enrolled in a Coastal Ecuadorian
university in a variety of career programs or major areas of study. Most of these careers are technical, so students are required to read academic books in English. Participants are attending basic and intermediate level English courses.

## Data Collection Procedures and Instruments

Data will be gathered from two interviews one at the beginning and another at the end administrated to the participants; a questionnaire; (at the beginning and at the end). They will also take two unannounced vocabulary tests related specifically to their fields of study. Then, I will observe students' attitudes and changes through a think-aloud protocol toward the development and implementation of the five strategies.

## Description of the Pilot Study

The process of implementation of the five strategies of vocabulary acquisition will be held in five sessions. In the first session of class, students will take two unannounced tests individually. The first one will measure how many academic words students already know and the second one will be based on their majors or courses.

Once students have finished, participants will receive instruction in a group about the process and main objectives of the study. In addition, I will explain two of the five strategies (word family, word formation) to handle unknown words in context in order to increase vocabulary, transferring and retaining their meanings for better reading comprehension. Students will be required to read a one-page passage on a general topic and will prepare a word notebook where they will include information of every unknown word and describe its meaning, formation, family and cognates. They will receive a model to follow.

In the second session, students will continue practicing with the remaining three strategies with different activities. I will also explain the next activities, using their own three-page passages included in their bibliography. Based on the provided readings, I will design a package for self-study incorporating activities with the five strategies.

For the third session, I will prepare a package and hand it in to students based on their own passages and the strategies that they have learned. I will give instructions how to do every single activity and set up time for them to return their work.

For the fourth session, students will submit their individualized study packet and take the same test the package, and take the same test that they did in the first session in order to see their improvement.

For the fifth session, I will review the word notebook and return the packet to students and give a passage to students in order to tell me what they think about the reading (think-aloud protocols).

After the think-aloud protocol, I will interview students individually. Participants will then have the opportunity to express their reactions to each of the activities.

## Results and Decisions from the Pilot Study

Several months after I finished the EAP Vocabulary Study Program pilot study with my first group of students, I decided to rework the program for several reasons. First, I realized that the AWL Vocabulary Test that I administered in the pilot study did not reflect the number of words that students know, because when they were taking the test, several students commented afterwards, that they had ignored the words and guessed the answers, because they did not comprehend the context. Their feedback led me to
decide that this test was not at a suitable level for them. According to Nation (2007), students should know the $95 \%$ of words to understand a context.

For that reason, I determined that before exposing students to this test or teaching the Academic Word List, I should find out where the learners are in their knowledge of the AWL words, beginning with the high frequency vocabulary of the first 2000 words. The students seemed to need to be not only introduced to, but also receive ample practice of learning strategies to make them independent and skilled in vocabulary learning. The pilot study group was at the Basic A level, and the material I planned for them just seemed to be too difficult, so I decided to do this research with a new group of advanced level students.

The pilot study seemed to support what some authors said (Nation, 2006; McCarthy (2005); Schmitt (2004) in recent research, students need to know more than 95\% of words in texts to obtain adequate comprehension. Authors agree that an acceptable percentage of vocabulary knowledge would be between 95 to $98 \%$; however there is a contradiction in the required number of word families. For example, Laufer (1992) suggests 3,000 word families; Nation (2006) advocates $8,000-9,000$ word families, and so on. Regarding this huge difference Schmitt (2007) recommends yielding a relationship between vocabulary coverage and reading comprehension.

The Academic Word List Test compiled by Coxhead (2000) is based on 7,000 words, and most students got grades lower than 2,500 . Although the scores probably don't reflect real student vocabulary knowledge, they give a general idea of the students' vocabulary learning and confirm that these students were not ready for the EAP Vocabulary Study Program.

Second, based on the opinions of the students in the pilot study, the word formation strategy was useful for them for recognizing and retaining words when they knew the base word. In teaching vocabulary to even basic level students, there are different things to know about words, mainly their forms (spoken, written, component affixes and stem); however, their meanings (underlying concepts, matching words, and associations); and their use (collocations, grammatical patterns, and constraints) are important as well.

The feedback of the students in the pilot study also indicated that the pilot group also considered the "collocation" strategy as very useful strategy for enhancing their reading skills. This is the third reason, I decided to revise and study the application of EAP Vocabulary Learning Program with an advanced group of students. From the data of the pilot study a pattern of appreciation for the collocation strategy emerged. Participants wrote these representative comments:

Roberto: "Now. I can connect with other words".
Pedro: "The most important [strategy] was the collocation. For example, I don't know the meaning, but I know the collocation I can guess the meaning." The fourth rational I have for adding the more advanced group to the study, is that I noticed in the pilot study that the students seemed discouraged with the level of difficulty of the EAP Vocabulary Study Program. I think that another essential factor for better reading comprehension is student motivation. If basic level students are exposed to high level books, they probably will find several unknown words, and indeed might lose their interest in continuing to read. Therefore their background knowledge also influences reading comprehension. (Krashen, Zwann and Rapp, 2006). The content of the EAP

Vocabulary Study Program was too difficult for the basic group, perhaps because of what Krashen calls the input hypothesis.

Krashen's (1985) input hypothesis agrees with Vygotsky's theory that there are two ways of learning a language, first, by acquisition which is an unconscious and natural process; and second, by learning, which is a conscious process that needs to be taught and understood. Therefore, Krashen asserted that Non-native speakers (NNSs) should be exposed to comprehensible input or real-world experience. Krashen and Vygotsky both wrote that language acquisition is achieved through human social interactioncommunication and that acquisition takes place when they are exposed to "comprehensible input. " For that reason, Krashen generally assumes that the most suitable method for learning additional languages is through intentional learning.. This point of view is also supported by Coleman (2005) who emphasizes that L2 learners need to be connected to external input to trigger a change in the process of language learning.

The fifth reason for my decision to expand this research study also came from the feedback of the students. Several students advocated a longer course. One comment that was typical of these students was:"I think that more time. I can learn more. I think this course is very good and useful." Others said "this project can be a useful class for students." Therefore, the new group will have a three-hour period of class in four sessions (12 in-class hours) compared to the group in the pilot study which had (8 inclass hours). They will also have extra assignments for their notebooks and on SIDWEB (an institutional website to prepare additional work for students) to reinforce and practice the strategies acquired during class in order to improve their vocabulary knowledge and reading comprehension.

The question of insufficient time and the organization of instructional time relate to O'Malley and Chamot (1990), teachers should not spend too much time on vocabulary teaching, but they should encourage students to read and work with the new vocabulary outside the classroom in order to enhance their vocabulary by applying the strategies they have learned.

Schmitt's suggests (1995), the use of vocabulary notebooks where students can keep their vocabulary learning by task work, extensive reading, or explicit classroom vocabulary exercises. Schmitt also suggests that these notebooks provide a useful tool for students to recall words or to apply teacher's feedback to their learning. As Schmitt says "...the vocabulary notebook should become each student's personal word store. (p. 140.)" As a result teachers might foster independent learning and encourage students to find their own words from reading and class lessons applying their newly attained strategies. In the pilot group, I did not work with the students to develop their vocabulary notebooks, because they found this activity too difficult. None of the eight students in the pilot study turned in the vocabulary notebook.

In the pilot study, the instructions were sometimes misunderstood due to the language used in them. If students are at the basic levels, they need basic instructions to follow, which adds a sixth reason for expanding the study to include the advanced group.

## The Participants

The new group had 10 participants, six women and four men. Six of them are in the most advanced level of the English program at Templo University (Advanced B), a mandatory requirement for completing their professional programs of study in order to earn their degrees in Food, Mechanical and Telecommunication Engineering. This
advanced group has finished all their core courses with the exception of English with exception of one private student, a graphic designer.

## Data Collection Procedures and Instruments

I will use the same mechanism to collect information as the pilot group.

Description of the Revised EAP Vocabulary Study Program

The AWL Test
According to Coxhead (2000) students need a minimum 10,000 words to take the TOEFL exam, one of the requirements for English study in the United States and in other countries in the Americas at both the undergraduate and graduate levels. Therefore, I considered Coxhead's Vocabulary Test as appropriate for my study because it consists of 50 multiple-choice questions, designed to measure individual vocabulary knowledge ranging between 1,000 and 10,000 words. The average time for completing the test is about 15 minutes based on statistics of 5,000 users who have taken it.

I will administer the test at the beginning of the EAP program and again at the end in order to compare the results in order to find out if explicitly teaching vocabulary study strategies will influence the enhancement.

## The Exercises

I began to search for books based on the Academic Word List so I could have an improved and updated guide for developing the vocabulary study program. Fortunately, I found a really interesting book which has a publication date of 2009 that met my
requirements. The book Inside reading: The Academic Word List in Context, is also divided in sections that lend themselves to study in the fields offered in the university setting of the study, which is primarily an engineering and technical university.

I designed a new program to develop and achieve vocabulary improvement with advanced level students. I changed the presentation of activities and words from the AWL. In some cases, I extracted whole exercises from Zwier (2009) Inside reading: The Academic Word List in Context, a very recently published book, that is constructed around vocabulary study research and the AWL.

In other instances, I adapted the exercises in the book to the strategies I would be teaching. Additionally, I designed a student's vocabulary notebook following the suggestions in Folse's (2007) book because he presented the steps in a useful, simple and practical way in order to avoid being overwhelming to the students.

Teaching the strategies in the pilot study
For my pilot study, I chose Coxhead's (2000) Academic Word List because it was compiled from 3.5 million words from academic passages and simplified base form words in 570 word families that were commonly used in academic texts from all subjects. (http://www.insightin.com/test/take_test.phtml).

Upton (2006) in his book adapted Coxhead's 570 word families, from the AWL distributing them in the 300 word Common Academic Words List and the 270 Additional Common Word List. Through the knowledge of word families and the knowledge of the five strategies, students will be able to increase their academic vocabulary. For instance, attach is part of Academic Word List, however it has some additional derivational words, adding prefixes or changing suffixes (unattached, attached, attachment).

In the first session, I taught two strategies that are related to each other: the Word Family Strategy and the Word Formation Strategy. When words suffer derivational changes, they are transformed into nouns, adjectives, verbs or adverbs. I explained these two strategies to the pilot study group, and we practiced them with readings where I explained how to recognize a word by their endings. However, in the students struggle to understand texts in their academic reading, partially because of their gaps in vocabulary knowledge because of their basic level, they had only seen concrete and simple words, and not abstract words. .

In the second session, I taught the Word Meaning Strategy. In order to smooth the students' progress and increase their motivation, I chose the easiest activity; matching the word with the meaning

In the third session, I prepared an activity to teach them the fourth strategy, Collocation in a simple way, applying formulas (verb + noun; Verb + Adjective + noun; etc.) Students seemed enthusiastic and engaged. Because many of them were engineering students, they identified with this method as they expressed in their postinterview "The most useful strategy was the position of the verb, adjective, noun, and adverb in the sentence. How [to] recognize words."

The last session was undemanding because the Cognate Recognition Strategy was easy to communicate to them, and they understood right away. The only part that I had to explain to them was the concept of false cognates.

## Planned modifications for the expanded study

I decided to apply the same five strategies that I taught in the pilot group because I realized the difficulties the students were having were probably not because of the
strategies themselves, but rather because of the level of difficulty. The strategies were: :The Word Family Strategy; a group of words that is sufficiently closely related to each other to form a 'family'. They are similar in forms and their meanings are related. A word family in forms is compound of "a base form with its inflectional morphemes (i.e ed, -ing, and -s to a verb); inflections don't change the word family. Conversely, derivational morphemes produce a different word family, taking different suffixes to form the same part of the speech (i.e. -ness, hood, -tion, etc for nouns). The four major parts of speech are nouns, verbs, adjectives, and adverbs because they carry most of the content or meaning of a sentence.

1. The Word Formation Strategy studies the structure of a word with its three parts, while the word family strategy only includes the two last ones.
a. A base that can usually stand alone as a word, like happy, or it can be part of more complex word, like happiness. Many times you can guess the meaning of a word if you can recognize its base.
b. A prefix is the part of a word that comes before the base. Prefixes usually add to or change the meaning of the base. For instance, happy means "cheerful." If we add the prefix un-, which means "not" to create unhappy, the meaning changes to "not cheerful."
c. A suffix is the part of a word that comes after the base.
2. The Word Meaning Strategy; the main objective of this strategy is to convey the definition of a word through a short explanation or significant approaches, like synonyms with target words in meaningful sentences a simple phrase, word maps, or "four square vocabulary activity.

Hultijn (2001) also suggests the multiple-choice glosses because it requires mental effort to retain or recall the attained knowledge and provides different options to stimulate learners to search and evaluate the target word in context.
3. The Collocation Strategy is the relationship between two words or groups of words that often go together and form a common expression. Two or three word groups which occur with a more than chance regularity throughout spoken and written English. (Schuemann \& Benz, 2003). Collocation is a useful strategy when L1 translation or L2 synonyms have been learned and its necessary to develop other ways of word knowledge. (Schmitt, 1995)
4. The Cognate Strategy. The 'convertible' English to Spanish words are known as cognates, words in both languages which share the same Latin root and which are visibly and often audibly very similar. There are true and false cognates. The true cognates fall into suffix categories which, for clarity and convenience, have been grouped under the following terms of grammar: nouns, adjectives verbs, and adverbs. However, it is essential to pay attention to false cognates (i.e. policy)

Furthermore, four of these strategies are included in the new textbook series adopted by the English program at the university where the study took place.

Although the strategies I taught are the same in the pilot and expanded studies, the activities are different. I chose the new activities with the intent of encouraging and teaching them to be independent readers and learners without overwhelming them.

In the second session, of the expanded study group, the date was moved from Saturday to Friday because students had to take the final exams, so they needed time to prepare their oral presentation and study. Therefore, there were six students of the eleven registered students; however a new student attended.

As I mentioned before, I used the same strategies in this new group, so I started introducing ten academic words from the textbook that they use in their English Class "Passages". They had to categorize them in a chart according to their vocabulary knowledge (I have never seen the word before; I have seen the word but I am not sure what it means; I understand the word when I see it or hear it in a sentence, etc.). After that they had to place each word in the corresponding word family chart (noun, verb, adjective, and adverb.) Once they finished putting the words in each section, students checked their answers with each other.

After that, I explained that one way to recognize words is by their endings (suffixes). I taught my students that several words are broken up into the prefixes, base form and suffixes. So, I handed pieces of suffixes and asked them to separate prefixes and suffixes, and then divided the suffixes into nouns, adjectives, verbs and adverbs. The winner received a prize for his achievement. To introduce these two strategies, I did not use the target words in context because I wanted to apply what Nation (2007) mentioned in one of his virtual conference, that to make students proficient in strategies, teachers have to follow three steps. First, train students to develop their skill; next, test
them to know if they acquired the skill and finally, teach them by using words in context to measure reading comprehension. Once students finished this activity, I asked them to mix the words up and write back the part of the speech of each ending. After that they had to guess the meaning of each prefix. I provided them examples for this exercise.

We had two class hours, and then we went to the laboratory to explain to them the assignments for the next class. They were assigned to bring an academic reading selection; insert the text in http://www.er.uqam.ca/nobel/r21270/textools/web_vp.html to know the number of academic words, underline the academic words and complete the Knowledge Chart and the Word Family Chart with these words (Inside reading: The Academic Word List in context, by Zwier (2009) . Find the derivations of each word. If they found other unknown words, they had to write them out in the vocabulary notebook with the target word, synonyms, part of the speech, translation, and a simple example. Take the word formation test the TATWEB, and keep a journal. I also gave them some websites with extra activities to practice. I have included translation in the notebook based on what Laufer and Smmueli (1997) who write: "words glossed in L1 are always retained better than words glossed in L2." I also believed it is necessary to incorporate computer technology because it might be a functional interactive learning tool in an EFL environment where students can continue practicing outside the classroom.

In the third session, I had to make some changes in my lesson plan because there were six more new students. I reviewed the two first vocabulary strategies that I taught in the previous class with practical tasks. I also explained to the new participants the process of this study and how to handle the notebook where they have to do some assignments and keep the handouts given in class. It took me about forty minutes. After
that, I handed them the list of the most common prefixes with an exercise with the prefixes that means "not or the opposite" (dis-, il-, ir, im-, in-, un-, mis). I prepared this activity because I wanted to make them aware of the importance of knowing the meaning of each prefix to recognize a word. I enlightened them that a prefix changes the meaning of a word. For instance, the high-frequent word "understand" with the prefix "misunderstand" takes a negative connotation from the base form.

The next activity was a list of ten different academic verbs for each student. Students were instructed to change the verbs to nouns using the appropriate suffix. I provided them a list of noun suffixes. This activity is part of the process of training. I decided to implement this exercise because Schmitt and Zimmermen's (2002) study found that students tend to learn nouns and verb forms faster than adjective and/or adverb forms. It might be reasonable because nouns or verbs carry semantic information (nouns depict names of places, persons, or things, and verbs actions)

The Word Meaning Strategy was taught with a filling-in-the-gaps exercise with the correct synonyms. Students read the statement and according to the context and the meaning between parentheses, they had to choose the appropriate synonyms from the target vocabulary list. According to Folse (2006) teachers do not need to burden students with complex definitions of unknown words, on the contrary instructors should relieve their learning using simple tactics that can not only help them understand the word in context, but they can also retain the word meaning in the long-term memory for a subsequent exposure to the same word.

I continued teaching the Collocation Strategy. First, I explained to them that the first step to understanding the meaning of a word in context is to break up words into
three parts (prefix-base form-suffix). Secondly, to know what word family (noun, verb, adjective and adverb) this word belongs. Finally, to guess the meaning by context or observing the word is before and after the target word. In this way, I introduced the next strategy enlightening that the link of two words or groups of words that often go together and form a common expression is called collocation. Subsequently, I gave them a handout with a reading taken from Zwier's book and a chart of collocation formulas. I highlighted the significance to know the position and recognition of the four major parts of speech (noun, verb, adjective and adverb). I asked them to tell me the position of each part of speech with examples. Most of them had trouble identifying the position of adverbs and adjectives.

Nation (2007) advocates that the teacher's job is to facilitate strategies to students and train them to choose their own way of learning of vocabulary knowledge, so teachers will not spend too much time on vocabulary reasoning. According to Nation, teachers should follow a process. First, they have to plan, ensuring that opportunities for vocabulary learning occurs in all of the four equally balance skills, then, they have to train learners, helping them develop skills in strategies, after that, they should test students to know their development, and finally instructors need to teach the frequency words and academic words in appropriate contexts.

As I had already taught four strategies, I believed it was necessary to follow Nation's suggestion and I started the fourth session testing my students with exercises extracted from preparation books of the two international English exams: TOEFL (Test of English as a Foreign Language from the United States of America) and FCE (First Certificate of English from the United Kingdom) taken to foreign students to study
abroad. The FCE exercises focused on Word Family strategies, while the TOEFL exercises also included the Word Formation and Collocation strategies. I also included these exercises in the TATWEB for additional practice. To assess the Word Meaning strategy, I incorporated an exercise from Zwier (2009). It took them around two hours and then they did peer checking and correction.

Next, I introduced the last strategy, Cognates. To explain to them this strategy, I wrote down the words "success" and "liberal" on the board and ask them to translate these words into Spanish. Most of them answered "suceso" and "liberal". Using these examples as a model, I presented the true and false cognates and give them their concepts.

Spanish and English have literally thousands of cognates, words that are basically the same in both languages, having the same etymology and similar meanings. But combinations such as decepción and "deception" are so-called false cognates - known more precisely as "false friends" or falsos amigos — word pairs that look like they might mean the same thing but do not. They can be confusing, and if you make the mistake of using them in speech or writing you are likely to be misunderstood. It did not consume too much time because the single purpose of this strategy was to develop an awareness of how wrong translations of false cognates can be misinterpreted and interfere in reading comprehension, There is a tendency that adult learners tend to use translation to understand a word.

The fifth session was based on two academic readings whose topics were about technology and food, because most of the participants study Electrical and Food Engineering where I assessed the five strategies. First, they work individually, after that
they checked their answer with their partner, and finally it was done on the board for a better understanding. Participants took the post-test to know if they had improved their vocabulary proficiency. They will be asked to answer the post-interview form.

## Results and Decisions from the New Study

The new group had a better development and participation in class due to students' English level. It was shown by the pre-test because they got higher grades than the pilot group and indeed, they were more motivated to learn more. This group also considers word formation and collocation strategies as the most fruitful for the enhancement of their vocabulary learning and reading comprehension.

The attendance was irregular because most of the participants had to work. As a consequence of the same reason, there were four withdrawals.

## CHAPTER IV

## PRESENTATION OF RESULTS

My research was designed to study different approaches to enriching target language vocabulary knowledge in order to improve reading comprehension by applying explicitly taught strategies to determine effective vocabulary learning.

This chapter will present the analysis and findings from the data obtained through the development of this program. The patterns resulting from the questionnaire, pre and post-test, and pre and post-interview, and how they overlap will be discussed. This analysis provides a general landscape of characteristics of target language vocabulary strategy practice and the effectiveness of their application.

Pre-Post Tests

This test included 50 multiple-choice items, based on 10,000 more frequent words. The students were asked to respond to all questions on the test. This test was administered at the beginning to know participant's vocabulary knowledge and at the end of the study to identify student's vocabulary improvement.

In the pilot group there were six students who had passed the two first English courses of their study program. Even though their vocabulary knowledge was low, all of them obtained a higher score in the post-test, which was taken after they participated in the vocabulary study program.

As it is shown in Table 1, students from the pilot group had a positive increase in their vocabulary knowledge. Two students gained 100 new words, two students learned 200 target words and one of them got an improvement of 500 words and there was one
that expanded the vocabulary from 3,400 to 4000, gaining 600 target words within a period of four weeks (one session per week).

Table 1
Comparison of Pre-test and Post-Test Scores by 10,000 more frequent words.

| Pilot <br> Group | Pre-Test <br> Vocabulary <br> Score- Number of <br> Words | Post-Test <br> Vocabulary <br> Score- Number of <br> Words | Increase in <br> Vocabulary |
| :--- | :--- | :--- | :--- |
|  |  |  |  |
| Ivan | 1400 | 1600 | +200 |
| Rubén | 2000 | 2500 | +500 |
| Jaime | 2200 | 2300 | +100 |
| Clara | 3400 | 4000 | +600 |
| Rosa | 3600 | 3700 | +100 |
| Mery | 4400 | 4600 | +200 |
| M | $17000 / 6=2833.33$ | $18700 / 6=3116.66$ | 2975 |

Another perspective on the test scores is illustrated in Figure 1, which shows the difference between the pre and post-test. There was an improvement in the results. Bars that represent post-test are higher.

Figure 1.
Comparison of Pre-test and Post-Test Scores by 10,000 more frequent words


Students taking the final course of their English program formed the expanded group. The expanded group seemed to have higher vocabulary knowledge than the pilot group. Despite this progress, there was a significant scoring gap among the participants of the new group. The lowest was 2800 and the highest was 6200 . As you can see in table 2, there were two students that obtained a significant increase in their vocabulary knowledge. They improved their vocabulary knowledge more than one thousand words according to the post-test results despite they were exposed to those words twice.

Table 2.
Comparison of Pre-test and Post-Test Scores by 10,000 more frequent words.

| Expanded | Pre-test Score- <br> Number of | Post-test <br> Number of | Increase in <br> Vocabulary |
| :--- | :--- | :--- | :--- |
|  | Known <br> Vocabulary <br> Words | Known <br> Vocabulary |  |
|  | 2800 | Words |  |
| Maria | 4000 | 2900 | +100 |
| Juan | 4200 | 4200 | +200 |
| Luis | 4200 | 4400 | +200 |
| Jose | 4600 | 6000 | +1800 |
| David | 4800 | 5600 | +1000 |
| Marcia | 5200 | 5400 | +600 |
| Julio | 6200 | 3000 | -2200 |
| Eva | $\mathbf{3 6 0 0 0 / 8 = 4 5 0 0}$ | $\mathbf{3 5 0 0}$ | +300 |
| M |  |  | 4625 |

The data suggest a possible relationship between English level and word acquisition on the pretest and the post-test, while the more advanced students are, the, higher the level of their improvement. It seemed that the more advanced students, from the expanded group learned new words in fewer exposures. There was a case where Julio, one of the students had a lower score on the posttest. This result was really unexpected. Therefore, I asked the participant for an explanation, and he mentioned that he had not paid attention to his responses because he did not have time. He had chosen the answers randomly. (See Figure 2.)

Figure 2. Graphic representation of the Comparison of the Pre-test and Post-test Vocabulary- Number of Words Expanded words


## Questionnaire

This survey (see Appendix F) assessed students' vocabulary learning. For that reason, it was provided at the beginning of the program. Students indicated the frequency of use of vocabulary strategies on a 7 point scale, never (1) and always (7). There were five patterns that overlapped among participants of both groups.

The first pattern is related to the frequency that their former teachers had provided explicit vocabulary learning strategies as part of their English classes. Eleven of the fourteen students marked on a Likert scale 7-always ( $\mathrm{n}=3$ ), 6 -usually ( $\mathrm{n}=1$ ); and 5 often $(n=7)$. They indicated in the first that they received instructions on how to learn new words. (See Figure 3)

Figure 3 Previous Experience of Explicit L2 Vocabulary Learning Strategies


The next overlap was regarding the use of Spanish-English dictionaries as a tool to increase vocabulary. Eleven of the fourteen participants reported that the translation of definitions is a common way of learning vocabulary as they indicated on a Likert scale 7 -always ( $\mathrm{n}=5$ ), 6 -usually ( $\mathrm{n}=3$ ); 5 often $(\mathrm{n}=3)$. The familiarity and use of Spanish English dictionaries was also corroborated in the pre-interview where they suggested that dictionary use as a vocabulary learning tool in this process. More of the expanded group students highlighted the importance of dictionary use ( $\mathrm{n}=6$ ). Rubén, one participant of this group said, "When I don't understand a word, the first thing I do is to check the Spanish-English dictionary" (See Figure 4)

Figure 4 Participant Bilingual Dictionary Use


The third commonality among the participants in the pilot and expanded groups emerged when students were asked about the usefulness of reading to learn new words.

Twelve of the fourteen participants stated that is the best way of acquiring vocabulary was reading. However, they expressed their concern about their difficulty retaining words. For example, Juan said: "When in a reading I find a new word, I look it up the dictionary and then I forget it easily"

Figure 5 Learning New Words by Reading


The fourth pattern that emerged from the data from the two groups refers to cognates, where students emphasized that they use the Spanish meaning to guess the English meaning. Ten of the fourteen learners indicated their familiarity with this strategy for deducing the meaning new words. As a result, they reported in the postinterview that cognates were not a useful strategy for learning vocabulary. Figure 6 illustrates this overlapping pattern.

Figure 6. Participant Spanish-English Dictionary Use before Program Implementation


The last pattern, where a significant overlap occurred was how 9 of the students marked 7- always on the Likert Scale to indicate that the most fruitful technique for learning meaning when they look up a new word in a dictionary that has different meanings, they choose the best option by guessing from context.

## Pre-Program Interview

The notable results from the pre-program interviews for both pilot and expanded groups were students' long-term goals and frequency of practicing their own vocabulary strategies. All of the participants from both groups described their interest in enhancing their word knowledge in order to have better reading comprehension.

When asked about having vocabulary study strategies participants from both groups indicated that they almost never worked on the few strategies of which they were aware. For example, Juan said, "I practice my strategies few times, I only do it when I'm in an English course";

Their responses suggest that they have do not see the value in reading for increased vocabulary knowledge.

## Post-Interview

In the post-interview data, participants indicated that they felt that their vocabularies in English had expanded.. It was Juan from the expanded group said "I have learned lots of words that I have never seen before. My comprehension has improved. I would like to continue with this kind of project because it helped me read better." Mary from the pilot group also emphasized "I improved my reading comprehension. I enjoy reading now." Nine of the fourteen students pointed out the advantage of participating in this program.

This interview protocol provided information on students' perceptions of improvement in the five strategies that were taught. I will explain these strategies one-by-one to analyze the influence of these strategies on their vocabulary and reading comprehension. The strategies are 1) Word Formation; 2) Word Family ; 3)

Collocations; 4) Word Meaning; 5) Cognates
Vocabulary Learning Strategy 1 -Word Formation
All of the fourteen students considered the word formation strategy fundamental for recognizing words, and guessing their meaning through affix recognition. Julio, one of the students of the expanded group, said:
...to identify word endings (suffixes) has been very useful. For example when a
word ends in -full, and -less are opposite adjectives, and -ness are nouns Eva's comments support Julio's:

I didn't know the importance of affixes in the recognition of word to understand the meaning of a word...

Their comments are supported by the responses of rest of the expanded group. As an English teacher of this university, I have worked with their textbook, and I know that the English textbooks that are used in their university English program, include the word formation strategy. The students reported being unfamiliar with it and acknowledged the importance and use of vocabulary acquisition strategies.

During the session where the Word Formation Strategy was taught, I observed that students showed real interest in the instructions, and asked some questions related to them. They worked in groups of three to do the activities of changing nouns to adjectives, and from adjectives to adverbs, etc. Most of them finished the exercises
included in the notebook. For the advanced group I took real exercises from the TOEFL (Test of English as a Foreign Language), standard English exam which is taken to measure English knowledge and is accepted by American universities to study in USA, and FCE (First Certificate of English), standard European English Test.

María, one of the students stated:
"From now I know if I am familiar with the stem of word, I will be able to guess the meaning by its affixes (prefixes and suffixes).

Another student remarked that after the course she could identify the part of speech of a word by the ending (suffix).

## Vocabulary Study Strategy 2 -Word Family

The Word Formation Strategy is linked to the Word Family Strategy because it gives an idea to students about the parts of the speech, especially with words that have common endings. Students should be able to use these strategies to recognize word families (ie. soft $\rightarrow$ soften $\rightarrow$ softness) ; to change words from one part of the speech, with The Word Formation Strategy (i.e. soft (adjective); soften (verb); and softness (noun) and finally to be given a root word, like [soft] to the other possible word forms. If one member of a family from the 570 word families of the Academic Word List is known, students are empowered to guess the other members of the family by suffixes.

Therefore, I explained this strategy to the students, and then, included it as a main part of every single activity in the notebook.

## Vocabulary Study Strategy 3 -Collocations

Another strategy that was considered very important by the participants of both groups was the Collocation Strategy ( $\mathrm{n}=9$ ). According to them, this strategy is functional
for retaining words in the memory. For easy understanding, I provided a formula (Williams, 2006) of the most frequent collocations: verb + noun [make sense]; adjective + noun [distinctive mark]; verb + adjective + noun [get contradictory results]; adverb + verb [originally built]; adverb + adjective + noun [extremely successful brand]; adjective + preposition [special to]; and noun + noun [basketball stars].

Once the study participants were familiar with the parts of the speech and the collocation formulas, students practiced with a reading from the book Inside Reading: The Academic Word List in Context. They extracted examples of two-word collocations, and wrote them down in the corresponding place inside the table. In both groups, there were five participants each who had problems identifying prepositions, though they knew the meaning of the most common prepositions (of, from, at, in, on, etc). But, it was complicated for them to categorize them. It might be for two reasons, they had not practiced this process regularly in their native language, or I had only emphasized the parts of the speech that take affixes. Mery, a student from the pilot group pointed out:
"With collocation[s] I avoid to learn "alone words" I always learned a next word. It improves my vocabulary and my comprehension."

Marcia, another participant from the expanded group indicated:
"Collocation is useful to remember a word. When I learn a word alone, I used to forget it. It is also useful to guess the meaning."

## Vocabulary Study Strategy 4 -Word Meaning

In order to know if students were applying the acquired strategy of Guessing Meanings from Context, I wrote and then gave them a fill-in-the -blank exercise where students had to choose the appropriate synonym. This exercise was successfully
completed. According to students' responses they first tried to guess the meaning by context. If they could not get meaning by context, they checked the part of the speech by collocation or affixes. This exercise was carried out in groups of three. Students had to complete the sentences, using the target vocabulary in the box. Synonyms were provided in each gap, so one of them (leader), asked the rest to choose the most appropriate synonym, then the leader analyzed the given word in context and corroborated if the answer was right. I observed that when a student struggled to guess the meaning, another would explain the strategies to him or her. I felt satisfied with the development of this collaborative task.

## Vocabulary Notebook

Norbert and Diane Schmitt (1995) promoted the vocabulary notebook as a vehicle for providing students with strategies to learn autonomously. Researchers and teachers have found that this tool may be one way to foster the incremental learning of new words and different aspects of word knowledge. Therefore, I designed a notebook to supplement classroom activities. I attached the Academic Word List and a list of the most useful websites for practicing and enhancing their vocabulary. I gave them this handout in the first session. In each session, I introduced the twelve new words taken from the Academic Word List, and students had to place the word in the category box, according to their own vocabulary knowledge. For instance, if the new word is [assume], participants had to insert the word in one of the boxes:

| I have <br> never <br> seen the <br> word <br> before | I have <br> seen the <br> word by <br> am not <br> sure what <br> it means | I <br> understand <br> the word <br> when I see <br> it or hear it <br> in a <br> sentence | I have tried <br> to use the <br> word, but I <br> am not sure <br> I am using it <br> correctly. | I use the <br> word with <br> confidence <br> in either <br> speaking or <br> writing. | I use the <br> word with <br> confidence, <br> both in <br> speaking <br> and writing |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  | assume |  |  |  |  |

Then they had to categorize the part of the speech of the word, and fill in the word family boxes of the same word.

## WORD FORM CHART

| NOUN | VERB | ADJECTIVE | ADVERB |
| :---: | :---: | :---: | :---: |
| assumption | assume | assumed | ---------- |

After that, participants had to provide a synonym or a brief meaning, and indicate the word formation of the target word. If a word had more than one meaning, they had to write them down.

| Target word | Word Formation |
| :--- | :--- |
| assume: believe; accept; take control | Verb (without prefixes and suffixes) |

Then, when they read the text, they had to return and choose the best choice by context. In the pilot group, the vocabulary notebook was given and completed as an assignment; however, the assignment did not have good results because students always complained that they did not have time to finish it. Therefore, for the expanded group, I
changed the approach, and I decided to ask the students to complete the process during class. This change resulted in better outcomes. Students cooperated among themselves, and helped each other accomplish the task. Despite students' positive attitudes, there were three of them that did not finish their vocabulary notebooks.

## Vocabulary Study Strategy 5 - Cognates

During the post-interview students mentioned that Cognate Strategy was easy to deal with because they could deduct the meaning of a word by their similar writing and meaning in Spanish and there are few false cognates that they could simply recognize them and guess their meaning by context.

## Academic Website

As a reinforcement tool, I also uploaded the designed vocabulary study program to the university's UFES internet classroom management system which is used for academic purposes (TATWEB) so the students could access the vocabulary documents when they had time or they wanted to strengthen or rehearse their vocabulary knowledge. As participants mentioned before, they were aware that reading is the most suitable way of acquiring new words, but they forgot them later. For that reason, they needed to keep practicing with target words.

To find out the number of words that students know before the study, participants could take the vocabulary test in the www.insight.com/test/take_test.phtmlwebsite. Once they knew about their vocabulary knowledge, they were able to start learning about the five vocabulary strategies. I divided the web vocabulary program into three parts: syllabus folder where I included objectives and generalization about this study; content folder has an explicit explanation about the five strategies with exercises.. They could
also find the different more common word lists from the basic 100 more frequent words to the Academic Word List with different websites to practice, and exercises in context. The Academic Vocabulary program is still accessible to students by TATWeb.

For example, if students wanted to practice word formation (prefixes) with the first three thousand common words in context, there were practical exercises on BBC World Service Website.

In a business meeting: I'm sorry John, can I stop you there? I completely agree with the point you've just made.
a) un
b) mis
c) dis
d) de

For better understanding of word families, there were exercises taken from the same website.

I was so $\qquad$ when I forgot her name.
a) embarrassment
b) embarrassing
c) embarrassed
d) embarrass

Furthermore, they could find different websites with fill-in-the-gap academic vocabulary exercises to learn new words from the AWL. The students commented, in the post-interview that the website was useful for them because
they had the opportunity to encounter target words in different texts and contexts while practicing the learned strategies.

## CHAPTER V

## DISCUSSION, RECOMMENDATION AND CONCLUSIONS

This chapter discusses and analyzes the main findings from the obtained data, and provides recommendation for future research. The first part covers the finds and addresses conclusions directly related to the research questions. The second part presents overall conclusions and the last part focuses on recommendation for other research work. Summary of Main Findings

Results from the pre-test and the post-test imply that overall the students acquired strategies which helped them improve their vocabulary knowledge, even considering, the time limit (five sessions of two hours); absences; withdrawals and lack of practice. Their scores surpassed my expectations, but at the same time, achieved and approached my aspirations. Generally, these results suggests that that a well-prepared vocabulary study program can help students develop and cultivate their interest in vocabulary acquisition, and motivation for reading in a practical and useful way from the basic levels.

The pre-test and post-test had 50 multiple-choice questions, which were based on Coxhead's 10,000 Academic Word List (2000). This researcher and author, is an expert in developing reading and vocabulary proficiency. The AWL has served as a guide for my research work and others related to academic vocabulary. From Coxhead's point of view, there is a natural relationship between academic reading and vocabulary acquisition. This test was designed to show this relationship. Students had to choose one of 4 options that were suitable for the target word underlined in the sentence to estimate their vocabulary size. After taking the pre-test, I gave participants the scores, and asked them about the reasons for their low results. They admitted failing the test because they
did not know the meaning or because they had focused on the underlined word without reading the whole sentence to decide the best answer by context. Zwier, author of Inside Reading: The Academic Word List in Context, is the book from where I adapted all of the exercises for the expanded group, said,"Word learning and reading are increasingly independent: rich word knowledge facilitates reading, and effective reading skills facilitate vocabulary comprehension and learning (p.)"

Scores from the post-test confirmed that instruction and practice with vocabulary strategies before reading considerably helped students. This finding is very similar to Zwier (2009) who stated:

Increase their ability to comprehend academic reading material by recognizing words or guessing meaning by context. The word knowledge that is needed by the reader in this reciprocal process is more than knowledge of definitions. Knowing a word well means knowing something about grammar, word forms, collocations, to make the inferences needed to understand the word's meaning in a particular text.

The pilot group and the expanded group data from the pre-interview pointed out that teachers provided strategies to learn new vocabulary in class. It seems that their familiarity with some strategies is because the book series used at their ELI which includes some strategies which their teachers may have emphasized as part of their vocabulary study, for better reading comprehension.

I checked the textbook used for the English classes of the participants, and realized that these exercises from the text supported the types of strategies I had been teaching, such as the Collocation and Word Family Strategies in the Vocabulary Section
and Word Formation, Word Family and Word Meaning in the Reading and Vocabulary Section from the basic level.

Most of the students in the study, did not report intentional efforts to autonomously learn vocabulary outside of class. In their pre-class interview, the students justified their lack of practice because of lack of time to devote to English vocabulary acquisition.

Participants reported that before this study, they did not pay attention to word formation either in Spanish or in English, However, by the end of this program, they reported recognizing words by identifying affixes on unfamiliar and known words to guess their meaning.

The participants in both groups in this study indicated that they thought that the best way to learn vocabulary is to read,. However, they did not feel motivated. Some authors (Nation, Schmitt, Liu and Shaw) maintain that vocabulary knowledge influences the motivation to read. Therefore, it might be fruitful to measure their vocabulary by preparing tests using target words according to their frequencies to establish their level and advocate appropriate reading.

Schmitt (2008) states that once students expanded their vocabulary, they would become independently motivated readers, cultivating the incidental learning for more encounters of target words and keep them in long-term memory.

How can a program of vocabulary learning strategies be applied for EAP?
At the present time, university students have to read books in English to do research and assignments without having enough vocabulary to comprehend academic textbooks. They struggle but they try to accomplish their tasks by translating the text
into Spanish to achieve their research work. It would be different if students had a study program to teach them how to cope with unfamiliar words through vocabulary strategies to train them to read any academic text. In this way, they would avoid old-fashioned methods to produce higher outcomes for professional success. The idea is to teach students strategies to make them autonomous readers by incidental learning, rather than intentional learning because it promotes higher numbers of repetitions which are necessary to encourage the incremental learning of a word.

As Schmitt said "Incidental learning is clearly both possible and effective when the demands of a task focus attention on what is learnt.

The implementation of vocabulary notebooks is another instrument for keeping, organizing, and recalling new words in order to retrieve them again because words need to be recycled to be learnt. A well-organized vocabulary notebook will also allow students apply the learnt strategies in a practical way as it was shown above. As Nation (2007) said "Later meetings with a word are more important than the initial presentation"

What perceptions do participants have about the application of the vocabulary study program?

## Implications for Teaching

My concern about the improvement in vocabulary knowledge is that students can easily forget the acquired vocabulary. Many vocabulary experts (Horst, Cobb, Meara, Schmitt) mention that a learner needs to be exposed to a keyword more than five times to be retain in the long-term memory. Due to time constraints, students encountered target words only once in a learning environment. For that reason, I would recommend including this vocabulary program in each teacher plan based on the target words and
strategies included in their textbooks and take regular tests to measure their vocabulary knowledge for reading comprehension. Being the TATWeb a helpful tool of teaching, it is also a way of learning in order to promote autonomy and self-improvement.

Some of the participants (n=7) explained that lack of time or practice had slowed their achievement of this study, and one of them suggested that dividing this project by levels and included it in the TATweb, so it would be available when they wanted to rehearse and engage with a variety of vocabulary acquisition activities. Horst, Cobb and Nicolae (2005) designed an interactive on-line with the same perspectives with excellent results. It was designed to foster retention by involving learners in deep processing, a feature that is often described as missing in computer exercises for vocabulary learning.

## Implications for Future Research

To design this academic vocabulary program changed my mind about how to teach students to enhance and increase their vocabulary knowledge in a receptive and productive way. Before this study, I believed that vocabulary is simply related to word meaning; however, when I started reading other vocabulary researchers, I understood that there were other complex items like its forms and its uses that we had to consider in the vocabulary learning process. Likewise, I learned that the best way to facilitate vocabulary acquisition is by implementing strategies in the journey from target words to reading proficiency. Vocabulary takes an important role in the reading development. Schmitt (2008) defined vocabulary as a predictor of context.

I hope my research work conducts to other research whose purpose is to train students with the suitable tools to improve vocabulary and reading comprehension.

What is the difference between student vocabulary learning at the basic and advanced levels of students with similar educational background in the same institution?

Vocabulary knowledge influences on students' reading proficiency. Therefore, students from basic levels who had less time devoted to English learning struggled more than advanced learners .

Zahar, Cobb, and Spada (2001) mentioned in one of their research work that number of reading exposures needed to retain a word might depend on the proficiency level of the learners because more advanced learners who know more words seem to be able to acquire target words in fewer exposures and it facilitates the learning process. However, it could happen that a basic level student is more exposed to unknown words because he likes to read and it might explain why two students from the pilot group obtained higher scores than the average of the expanded group.

The pilot group knew fewer words than the expanded group according to the final scores. Although, the expanded group obtained higher scores on the pre and post-tests, they did not have enough vocabulary (more than 10,000 words) to comprehend demanding academic texts. However, word formation and word family strategies may simplify the number of vocabulary words to 570 word families, knowing how to expand a member of the family. For instance, if students learn "achieve" as a target word and dominate the affixes and parts of the speech, they can increase their vocabulary from one word to four words..achievable (adjective); achieved (verb past tense); .achievement (noun).

It might happen that Academic Word List and academic reading were too difficult for the pilot group students who were enrolled in basic level English courses;
nevertheless, the strategies certainly seemed to facilitate the vocabulary learning process. As a result, I recommend promoting the vocabulary learning strategies to facilitate vocabulary acquisition and help students develop academic reading by providing multiple exposures to a word in actual use and opportunities to work with its meaning, grammatical elements (parts of the speech), word forms, and collocation, A wellprepared student for academic work could benefit from instruction that includes attention to the language as well as attention the process of reading.

Another aspect that I would like to mention is that strategies not only help students improve reading proficiency and vocabulary acquisition, but also to write.

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## Cognate Exercise

Dr. Claude Goldenberg, from the award winning PBS documentary, Becoming Bilingual. says that Spanish and English have around 10 to 15, 000 cognates and it could confuse students. Therefore one of issues for teachers is to catch them on because "the use of cognates is not automatic". Considering that English and Spanish have similarities in the written form, real cognates give clues to guess the meaning and read faster for a better comprehension. Nevertheless, it is also necessary to teach them the false cognate (embarrassed/embarazada) that could confuse the meaning and misunderstand the main idea, especially if these cognates are key words within the context. For a full explanation of the individual exercises, see Appendixes A.

## Word Family Exercise

A word family is defined as "a base word with its inflections and derivatives (stimulate+stimulated, stimulates, stimulating, stimulation, stimulant, and stimulative)" (Schmitt \& McCarthy, 1997). Some researches suggest that learners can identify the word stem within a longer affixed and it could help them recognize the complete word. In other words, a known stem in an unknown derivative can make easy the recognition of that derivative (Schmitt N., Zimmernan C., 2002). Students will read a passage. This passage will contain underlined frequent words in families chosen from the Academic Word List and students have to circle the word ending (suffixes), identify the part of speech that it belongs and place it in the corresponding box (noun, adjective, verb, adverb). After that, students will add the other word family where is possible. For a full explanation of the individual exercises, see Appendixes B

## Appendix A

## COGNATE EXERCISE

In this paragraph you can find 20 words from the academic word list that look like Spanish words. Underline the words, and provide the Spanish meanings. Do not look any of the words up in the dictionary. After you have written as many meanings as you can, read the selection again, and circle the words from your list that don't make sense, according to the Spanish meanings.

When I was looking for a graduate program in psychology, I assumed that all of the programs of study were the same. I had to do a lot of research on the Internet. Consequently, I found that all graduate programs are not equivalent. Part of my method for my search was to keep a journal of all the information that I gathered. Another technique I used was to visit several campuses. For example, I went to a lecture at the University of Pennsylvania, where I discovered that their department of psychology offered several majors, among them: experimental psychology, cognitive psychology, cross-cultural psychology, social psychology, and clinical psychology. I wanted to consider the geographical location of the program, the quality and reputation of the university and their academic policies. In addition, I had to pay attention to program costs, and the availability of scholarships and financial aid, even though my grandmother had left me an inheritance from her estate for my studies. One of the benefits of having a highly educated family was that they were able to assist me in my search, and to facilitate the funds for my visits to several universities. I finally made my decision based on all of these factors. You can not imagine my joyful reaction, when I received my acceptance letter in the mail, with a full scholarship, and the offer of a teaching assistantship._(Dara Shaw)

## Appendix B

## WORD FAMILIES

Circle the suffixes of the underlined words. Based on the endings determine which part of speech is and provide derivational words that you know in the table below.

Galbraith suggested that America concentrate on genuine needs and satisfy them immediately. He was deeply concerned about the environment and suggested that clean air was a priority that should take precedence over industry. He supported development of the arts and stressed the importance of improving housing across the nation. His effort was directed at trying to help Americans change certain basic values by giving up the pursuit of useless consumer novelties and substituting a program a genuine social development. The commitment to consumer products as the basis of the economy naturally argued against a redirection of effort toward the solution of social problems. (A World of Ideas, L. Jacobus, Page 403-404)

| Word | Noun | Adjective | Verb | Adverb |
| :--- | :--- | :--- | :--- | :--- |
| concentrate |  |  | concentrate |  |
| environment | environment |  |  |  |
| precedence | precedence |  | stressed |  |
| stressed |  |  |  |  |
| importance | importance |  | substituting |  |
| useful |  | Useful |  |  |
| substituting |  | Social |  |  |
| social |  |  |  |  |
| economy | economy | solution |  |  |
| solution | problem |  |  |  |
| problem |  |  |  |  |

Most Common Suffixes in Academic Words

| Suffix | Meaning | Part of Speech | Sample Words |
| :---: | :---: | :---: | :---: |
| -(a)tion | action/instance of V -ing | Noun | realization, protection, insertion |
| -ity | state of quality of | Noun | reliability, ability |
| -ism | Doctrine of N ; movement characterized by | Noun | Marxism, Buddhism, capitalism, socialism |
| -ness | state or quality of being Adj. | Noun | happiness, friendliness |
| -ment | action/instance of V-ing | Noun | statement, payment, treatment |
| -ize | to make/create | Verb | specialize, modernize, stabilize |
| -en | to make/create | Verb | liven, soften, harden |
| -ate | to make/create | Verb | pollinate, differentiate |
| -(i)fy | to make/create | Verb | solidify, beautify |
| -(i)al | having nature of; related to N | Adj. | intentional, residential, medical |
| -able | able to be V-ed | Adj. | likable, teachable |
| -ent | having nature of; related to N | Adj. | different, confident |
| -ive | causing V | Adj. | restrictive, prohibitive, impressive |
| -(i)ous | having nature of; related to N | Adj. | spacious, scandalous, ridiculous |
| -ly | in this manner | Adv. | obviously rapidly |

Source: Data from D. Biber, S. Johansson, G. Leech, S. Conrad, and E. Finegan, Longman Grammar of
Spoken and Written English (Essex: Longman, 1999)

## Appendix C

## WORD FORMATION

Read the passage and write the meaning of the underlined words. Break down words into prefix, base form and suffix where is possible. Students will guess the meaning, writing the meaning and then they will look up the meaning of each word in the dictionary and compare their response.

New emergency measures have been incorporated into security checks at airports worldwide. Five years after the 911 terrorist attacks, would-be mass murderers are still coming up with ways to breach the tightest of safety checks, as witnessed by the foiled bombings planned on transatlantic planes last week. The perpetrators intended to use liquids to make bombs on board airliners. Authorities have banned all liquids from carryon luggage. Depending on the destination, all non-essential items must be checked in and stored in the airline's hold. This includes laptop computers and other electrical items, car keys with a remote control fob and liquid medication that is not on airports' lists of acceptable substances. In some cases, mothers have to drink the baby milk they carry to satisfy check-in staff of its authenticity.

The stringent new actions are creating havoc at major airports. London's Heathrow is canceling one third of its daily flights to ensure the safety of passengers. Airlines are up in arms at the cancellations, which they deem as a short-term fix and unsustainable for the longer term. Passengers too are facing greater inconveniences and anxiety. Business travelers may switch to private charter jets to avoid having to stow away their computers and peripherals out of reach. Many executives may view the small additional cost they would incur would outweigh the hassles of having no hand baggage. Economy class passengers will inevitably worry about whether their valuables will be lost, pilfered or broken after check-in. Many fear baggage handlers might rifle through suitcases, which
may have to be checked-in unlocked. Most airlines do not recompense for damage to or loss of fragile items.

Transatlantic
a. What is the base? $\qquad$
b. What does it mean? $\qquad$
c. Is there a prefix? If so, what is it? $\qquad$
d. Can you guess what the word means?

Non-essential
a. What is the base? $\qquad$
b. What does it mean? $\qquad$
c. Is there a prefix? If so, what is it? $\qquad$
d. Can you guess what the word means? $\qquad$

## Unsustainable

a. What is the base? $\qquad$
b. What does it mean? $\qquad$
c. Is there a prefix? If so, what is it? $\qquad$
d. Can you guess what the word means? $\qquad$
Inconvenience
a. What is the base? $\qquad$
b. What does it mean? $\qquad$
c. Is there a prefix? If so, what is it? $\qquad$
d. Can you guess what the word means? $\qquad$

## Outweigh

a. What is the base? $\qquad$
b. What does it mean? $\qquad$
c. Is there a prefix? If so, what is it? $\qquad$
d. Can you guess what the word means?

Inevitably
e. What is the base? $\qquad$
f. What does it mean? $\qquad$
g. Is there a prefix? If so, what is it?
h. Can you guess what the word means?

## Appendix $D$

## Most Common Prefixes in Academic Words

| Prefix | Common Meaning | Alternate Form | Sample Words |
| :---: | :---: | :---: | :---: |
| be- | make |  | belittle, be friend |
| com- | together, with | con, col-, cor-, co- | combine, compete, contest, cooperate |
| de- | down, away |  | detach, defrost |
| dis- | not |  | dislike, disrespect |
| fore- | before, front |  | forecast, forehead |
| in- | not | im-, il-, ir- | insane, impolite, illiterate, irrelevant |
| inter- | between |  | interstate, intersect |
| mis- | wrong |  | misspell, mistake |
| over- | above, excessive |  | oversight, overload |
| out- | away from, better |  | outbound, outdo |
| pre- | before |  | predict, preseason |
| re- | again, back | retro- | repeat, reenact |
| sub- | under | sup-, sus- | submarine, support, sustain |
| trans- | across, beyond |  | transport, transmit |
| un- | not |  | unsafe, unlike |

[^0]
## Appendix E

Read this passage and fill in the blanks with the corresponding words in the right column, making changes in words, according to the collocation formulas

## Collocation Formula

| Verb + noun |  |
| :--- | :--- |
| Adjective + noun |  |
| Verb + Adjective + noun |  |
| Adverb + verb |  |
| Adverb + adjective |  |
| Adverb + adjective + noun |  |
| Adjective + preposition |  |
| Noun + Noun |  |

## Workers in microchip implant trial

An American company has started piloting a controversial new programme aimed at increasing security. Three workers from City Watcher.com, a surveillance $\qquad$ provider, have volunteered to be electronically equip
monitor
via silicon chip implanted in their arms. A digital tagging device, the size of a grain of rice, has been injected into biceps of the workers. These radio frequency $\qquad$ devices (RFIDs) will emit radio signals that identify will provide information to a central $\qquad$ system that will monitor allow the workers $\qquad$ to secure areas of the workplace. access

The chips were originally $\qquad$ for medical purposes. Morgue workers used the chips after Hurricane Katrina to keep track of unidentified remains.

Sean Darks, CEO of City Watcher, said the glass -encased chips more like identity cards that are inserted inside the recipient's body. He said it was very different from Global Positioning Satellite $\qquad$ , which technological allow the tracking and $\qquad$ of a person's whereabouts. monitor Mr. Darks insisted there was nothing sinister in the new trials and and elected to be included as one of the first guinea pigs. In spite of his enthusiasm, many $\qquad$ libertarians are expressing concerns civilize over the $\qquad$ of privacy. Many believe RFID technology issue has huge $\qquad$ for abuse and that some time soon, serious potentiality decisions will have to be made by judiciary. Mr. Darks remains unperturbed, reminding people that his workers can always opt to to have chips $\qquad$ remove

## Appendix F

## COGNATE EXERCISE

In this paragraph you can find 20 words from the academic word list that look like Spanish words. Underline the words, and provide the Spanish meanings. Do not look any of the words up in the dictionary. After you have written as many meanings as you can, read the selection again, and circle the words from your list that don't make sense, according to the Spanish meanings.

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Consequently, I found that all graduate programs are not equivalent. Part of my method for my search was to keep a journal of all the information that I gathered. Another technique I used was to visit several campuses. For example, I went to a lecture at the University of Pennsylvania, where I discovered that their department of psychology offered several majors, among them: experimental psychology, cognitive psychology, cross-cultural psychology, social psychology, and clinical psychology. I wanted to consider the geographical location of the program, the quality and reputation of the university and their academic policies. In addition, I had to pay attention to program costs, and the availability of scholarships and financial aid, even though my grandmother had left me an inheritance from her estate for my studies. One of the benefits of having a highly educated family was that they were able to assist me in my search, and to facilitate the funds for my visits to several universities. I finally made my decision based on all of these factors. You can not imagine my joyful reaction, when I received my acceptance letter in the mail, with a full scholarship, and the offer of a teaching assistantship._(Dara Shaw)

## Appendix $G$

## Word meaning: Four Square Vocabulary Learning

Read the passage with ten missed academic words. Once they have finished reading, students will choose a word for each blank. Write the target word in the upper left square. Then, match the ten target words with the corresponding meaning based on the context and place in the lower left square. Then we will check their response and compare their response. In the upper right, provide one example and one of nonexamples of each word.

The Bill and Melinda Gates Foundation has announced $\qquad$ totaling 287 million dollars to $\qquad$ an international network of research $\qquad$ in an effort to speed up the development of a vaccine for HIV. This report from Matt McGrath:

It's been 25 years since the HIV virus was $\qquad$ but in that time scientists have struggled to develop an effective vaccine against it. Dozens of human clinical trials with different potential vaccines have been carried out, but none have been $\qquad$ because of the virus's ability to mutate and because it attacks the human immune system, the very thing that vaccines try and stimulate to ward off infections.

Now the Gates Foundation hopes that its funding will help coordinate large scale collaborative $\qquad$ that can crack the $\qquad$ scientific problems. They will bring together 165 researchers from 19 countries to $\qquad$ a range of innovative $\qquad$ . Among the projects that will be funded is research that will isolate a large number of antibodies from humans and animals, including llamas, to see if they can neutralize HIV. They will also $\qquad$ a project that will try to use viruses related to smallpox as potential vaccines.

The foundation says that they are also developing global access plans to ensure that any discoveries from the research will be accessible and affordable in developing countries.

Almost 700 million dollars is spent annually on developing an HIV vaccine, but researchers say this is only half of what needs to be spent to reach that goal.

Matt McGrath, BBC, Science Reporter

| grants | to agree to give somebody what they ask for, |
| :--- | :--- |
| create | achieving your aims or what was intended |
| major | planned pieces of work that are designed to find information |
| about something. |  |
| pursue | very large or important |
| fund | to do sth or try to achieve sth over a period of time |
| successful | found or discovered somebody/something: |
| projects | plans that are intended to achieve a particular purpose |
| identified | to provide money for sth, usually sth official |
| strategies | a group of people who work together at a particular job. |
| teams | to make something happen or exist. |


| Target meaning | Example of the concept |
| :--- | :--- |
| Definition from the list | Non-example of target word |
|  |  |

Developed by Eeds and Cockrum (1985)

Appendix $H$
Word Notebook Model

Word Definition: $\qquad$
$\qquad$
Word Formation: $\qquad$

Word Family : $\qquad$
Part of the speech: $\qquad$
Sentence:

## Appendix I

## Questionnaire

1. Does your teacher provide you strategies during the English class to help you learn new vocabulary words?

2. How often do you study to learn new vocabulary words outside of English class?

3. English textbooks give us new vocabulary. How often do you study vocabulary using textbooks (in class and out)?

4. When we learn vocabulary in Spanish, we study the different word forms, prefixes, suffixes and verb endings. Do you consider these forms when you study vocabulary in English?

5. When you speak English with native speakers, do you focus on learning new vocabulary?

6. I am able to learn vocabulary for my test in class, but then I forget the vocabulary less than a week later.

7. I recognize words when I read them but later I forget to use them.

8. I know what words mean, but I use them inappropriately, according to my teacher.

9. I am satisfied with my ability to remember words

10. I use dictionaries in my vocabulary study

11. I use a thesaurus or dictionary of synonyms and antonyms to study vocabulary.

12. I keep a vocabulary notebook

13. I use vocabulary cards for vocabulary studies

14. I use word lists with Spanish translations of the words

15. I practice new vocabulary by using new words in a sentence

16. When I read textbooks, I learn new words

17. When I look up a word in a dictionary and it has different meanings, I choose the best option by context.

18. When I look up a word in a dictionary and it has different meanings, I choose the first option.

19. When I look up a word in a dictionary and it has different meanings, I ask someone else to help me.

20. When I look up a word in a dictionary and it has different meanings, I pay attention to the part of speech (noun, verb, adjective)

21. When I find a new word that looks like Spanish word, I use the Spanish meaning to guess the English meaning?

22. When I study new vocabulary, I try to relate the new words to things I know.

23. When I study new vocabulary, I repeat the words aloud several times.

24. When I study new vocabulary, I write the words several times

25. When I see new words, I try to guess the meaning without looking up the words


Always
Never
26. When I study new vocabulary, I skip the unknown words

27. When I study new vocabulary, I ask someone else


Adopted from English Language Forum Online, Sara Mercer Vol. 43, 2 Appendices Retrieved on September 13, 2006

## Appendix J Pre-Interview Questions

Why do you think it is important to participate in this project?

What is your personal goal for vocabulary learning in this project?

What are your short-term goals for this project?

What are your long-term goals for this project?

Describe your own process for learning new vocabulary. (Explain step by step everything you do to learn new vocabulary.)

How often do you practice each of the activities that you talk about in your last answer?

What are the best strategies for expanding your vocabulary?

How much time do you dedicate to vocabulary study

## Appendix $K$ Post InterviewQuestions

What have you learned during this project?

Have you met your short-term goals in this project?

When you read now are there any differences in your understanding of new vocabulary?

When you read textbooks in your field, are there any differences in your understanding of new terms?

What are your long-term goals for vocabulary learning?

What are you doing differently when you study vocabulary now?

What did you find more useful in this project?

Describe the way you think about vocabulary study now?

Which vocabulary learning strategies are most useful? Please explain

Which vocabulary learning strategies are not useful? Please explain.

Is there anything else you want to tell me about your participation in this project?

Adapted from source: http://www-writing.berkeley.edu/TESl-EJ/ej15/a1.html
Students' Language Learning Preferences
Retrieved Sept. 13, 2006

## Appendix L

Academic Word List (Coxhead A, (2000)

## Sublist 1 of the Academic Word List Family Derivation

```
analyse
    analysed
    analyser
    analysers
    analyses
    analysing
    analysis
    analyst
    analysts
    analytic
    analytical
    analytically
    analyze
    analyzed
    analyzes
    analyzing
approach
    approachable
    approached
    approaches
    approaching
    unapproachable
area
    areas
assess
    assessable
    assessed
    assesses
    assessing
    assessment
    assessments
    reassess
    reassessed
    reassessing
    reassessment
    unassessed
assume
    assumed
    assumes
    assuming
    assumption
    assumptions
authority
    authoritative
    authorities
available
    availability
    unavailable
```



| benefit | export | process |
| :---: | :---: | :---: |
| beneficial | exported | processed |
| beneficiary | exporter | processes |
| beneficiaries | exporters | processing |
| benefited | exporting | require |
| benefiting | exports | required |
| benefits | factor <br> factored | requirement requirements |
|  | factoring | requires |
| concept | factors | requiring |
| conception |  | research |
| concepts |  | researched |
| conceptual | finance | researcher |
| conceptualisation | financed | researchers |
| conceptualise | finances | researches |
| conceptualised | financial |  |
| conceptualises | financially | responded |
| conceptualising | financier | respondent |
| consist conceptually | financiers | respondents |
| consisted | formula | responding |
| consistency | formulae | responds |
| consistent | formulas | response |
| consistently | formulate | responses |
| consisting | formulated | responsive |
| consists | formulating | responsiveness <br> unresponsive |
| inconsistencies | formulation | role unresponsive |
| inconsistency | formulations | role roles |
| constitute | reformulated | section |
| constituencies | reformulating | sectioned |
| constituency | reformulation | sectioning |
| constituent | reformulations | sections |
| constituents | function | sector |
| constituted | functional | sectors |
| constitutes | functionally | significant |
| constituting | functioned | insignificant insignificantly |
| constitution | functioning | insignificantly |
| constitutions | identify functions | significantly |
| constitutional constitutionally | identify identifiable | signified |
| constitutive | identification | signifies |
| unconstitutional | identified | signify |
| context | identifies | signifying |
| contexts | identifying | similar dissimilar |
| contextual | identities | dissimilar |
| contextualise | identity | similarities |
| contextualised | unidentifiable | similarity |
| contextualising | income | similarly |
| uncontextualised | incomes | source |
| contextualize | indicate | sourced |
| contextualized | indicated | sources |
| contextualizing | indicates | sourcing |
| uncontextualized | indicating | specific |
|  | indication | specifically |
|  | indications | specification |
|  | indicative | specifications |
|  | indicator | specificity |
|  | indicators | specifics |


| contract | individual | structure |
| :---: | :---: | :---: |
| contracted | individualised | restructure |
| contracting | individuality | restructured |
| contractor | individualism | restructures |
| contractors | individualist | restructuring |
| contracts | individualists | structural |
| create | individualistic | structurally |
| created | individually | structured |
| creates | individuals | structures |
| creating | interpret | structuring |
| creation | interpretation | unstructured |
| creations | interpretations | theory |
| creative | interpretative | theoretical |
| creatively | interpreted | theoretically |
| creativity | interpreting | theories |
| creator | interpretive | theorist |
| creators | interprets | theorists |
| recreate | misinterpret | vary |
| recreated | misinterpretation | invariable |
| recreates | misinterpretations | invariably |
| recreating | misinterpreted | variability |
| data | misinterpreting | variable |
| define | misinterprets | variables |
| definable | reinterpret | variably |
| defined | reinterpreted | variance |
| defines | reinterprets | variant |
| defining | reinterpreting | variants |
| definition | reinterpretation | variation |
| definitions | reinterpretations | variations |
| redefine | involve | varied |
| redefined | involved | varies |
| redefines | involvement | varying |
| redefining | involves |  |
| undefined | involving |  |
| derive | uninvolved |  |
| derivation | issue |  |
| derivations | issued |  |
| derivative | issues |  |
| derivatives | issuing |  |
| derived | labour |  |
| derives | labor |  |
| deriving | labored |  |
| distribute | labors |  |
| distributed | laboured |  |
| distributing | labouring |  |
| distribution | labours |  |
| distributional | legal |  |
| distributions | illegal |  |
| distributive | illegality |  |
| distributor | illegally |  |
| distributors | legality |  |
| redistribute | legally |  |
| redistributed |  |  |
| redistributes |  |  |
| redistributing |  |  |
| redistribution |  |  |

## Sublist 2 of the Academic Word List

| achieve | distinct |
| :---: | :---: |
| achievable | distinction |
| achieved | distinctions |
| achievement | distinctive |
| achievements | distinctively |
| achieves | distinctly |
| achieving | indistinct |
| acquire | indistinctly |
| acquired | element |
| acquires | elements |
| acquiring | equate |
| acquisition | equated |
| acquisitions | equates |
| administrate | equating |
| administrates | equation |
| administration | equations |
| administrations | evaluate |
| administrative | evaluated |
| administratively | evaluates |
| administrator | evaluating |
| administrators | evaluation |
| affect | evaluations |
| affected | evaluative |
| affecting | re-evaluate |
| affective | re-evaluated |
| affectively | re-evaluates |
| affects | re-evaluating |
| unaffected | re-evaluation |
| appropriate | feature |
| appropriacy | featured |
| appropriately | features |
| appropriateness | featuring |
| inappropriacy | final |
| inappropriate | finalise |
| inappropriately | finalised |
| aspect | finalises |
| aspects | finalising |
| assist | finalize |
| assistance | finalized |
| assistant | finalizes |
| assistants | finalizing |
| assisted | finality |
| assisting | finally |
| assists | finals |
| unassisted | focus |
| category | focused |
| categories | focuses |
| categorisation | focusing |
| categorise | focussed |
| categorised | focussing |
| categorises | refocus |
| categorising | refocused |
| categorization | refocuses |
| categorized | refocusing |
| categorizes | refocussed |
| categorizing | refocusses |
| chapter | refocussing |
| chapters |  |

participate
participant
participants
participated
participates
participating
participation
participatory
perceive
perceived
perceives
perceiving
perception
perceptions
positive
positively
potential
potentially
previous
previously
primary
primarily
purchase
purchased
purchaser
purchasers
purchases
purchasing

| commission | impact |  | reside |  |
| :---: | :---: | :---: | :---: | :---: |
| commissioned |  | impacted |  | resided |
| commissioner |  | impacting |  | residence |
| commissioners |  | impacts |  | resident |
| commissioning | injure |  |  | residential |
| commissions |  | injured |  | residents |
| community |  | injures |  | resides |
| communities |  | injuries |  | residing |
| complex |  | injuring | resourc |  |
| complexities |  | injury |  | resourced |
| complexity |  | uninjured |  | resourceful |
| compute | institute |  |  | resources |
| computation |  | instituted |  | resourcing |
| computational |  | institutes |  | unresourceful |
| computations |  | instituting |  | under-resourced |
| computable |  | institution | restrict |  |
| computer |  | institutional |  | restricted |
| computed |  | institutionalise |  | restricting |
| computerised |  | institutionalised |  | restriction |
| computers |  | institutionalises |  | restrictions |
| computing |  | institutionalising |  | restrictive |
| conclude |  | institutionalized |  | restrictively |
| concluded |  | institutionalizes |  | restricts |
| concludes |  | institutionalizing |  | unrestricted |
| concluding |  | institutionally |  | unrestrictive |
| conclusion |  | institutions | secure |  |
| conclusions | invest |  |  | insecure |
| conclusive |  | invested |  | insecurities |
| conclusively |  | investing |  | insecurity |
| inconclusive |  | investment |  | secured |
| inconclusively |  | investments |  | securely |
| conduct |  | investor |  | secures |
| conducted |  | investors |  | securing |
| conducting |  | invests |  | securities |
| conducts |  | reinvest |  | security |
| consequent |  | reinvested | seek |  |
| consequence |  | reinvesting |  | seeking |
| consequences |  | reinvestment |  | seeks |
| consequently |  | reinvests |  | sought |
| construct | item |  | select |  |
| constructed |  | itemisation |  | selected |
| constructing |  | itemise |  | selecting |
| construction |  | itemised |  | selection |
| constructions |  | itemises |  | selections |
| constructive |  | itemising |  | selective |
| constructs |  | items |  | selectively |
| reconstruct | journal |  |  | selector |
| reconstructed |  | journals |  | selectors |
| reconstructing | maintain |  |  | selects |
| reconstruction |  | maintained | site |  |
| reconstructs |  | maintaining |  | sites |
| consume |  | maintains | strategy |  |
| consumed |  | maintenance |  | strategic |
| consumer |  |  |  | strategies |
| consumers |  |  |  | strategically |
| consumes |  |  |  | strategist |
| consuming |  |  |  | strategists |
| consumption |  |  |  |  |


| credit |  | normal |  | survey |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | credited |  | abnormal |  | surveyed |
|  | crediting |  | abnormally |  | surveying |
|  | creditor |  | normalisation |  | surveys |
|  | creditors |  | normalise | text |  |
|  | credits |  | normalised |  | texts |
| culture |  |  | normalises |  | textual |
|  | cultural |  | normalising | tradition |  |
|  | culturally |  | normalization |  | non-traditional |
|  | cultured |  | normalize |  | traditional |
|  | cultures |  | normalized |  | traditionalist |
|  | uncultured |  | normalizes |  | traditionally |
| design |  |  | normalizing |  | traditions |
|  | designed |  | normality | transfe |  |
|  | designer designers | obtain | normally |  | transferable transference |
|  | designing |  | obtainable |  | transferred |
|  | designs |  | obtained |  | transferring |
|  |  |  | obtaining |  | transfers |
|  |  |  | obtains |  |  |
|  |  |  | unobtainable |  |  |

## Sublist 3 of the Academic Word List

alternative
alternatively
alternatives
circumstance
circumstances
comment
commentaries
commentary
commentator
commentators
commented
commenting
comments
compensate
compensated
compensates
compensating
compensation
compensations
compensatory
component
componentry
components
consent
consensus
consented
consenting
consents
considerable
considerably
emphasis
emphasise emphasised emphasising emphasize emphasized
emphasizes
emphasizing
emphatic
emphatically
ensure
ensured
ensures
ensuring

## exclude

excluded
excludes
excluding
exclusion
exclusionary
exclusionist
exclusions
exclusive
exclusively
framework
frameworks
fund
funded
funder
funders
funding
funds
philosophy
philosopher
philosophers
philosophical
philosophically
philosophies
philosophise
philosophised
philosophises
philosophising
philosophize
philosophized
philosophizes
philosophizing
physical
physically
proportion
disproportion disproportionate
disproportionately
proportional
proportionally
proportionate
proportionately
proportions
publish
published
publisher
publishers
publishes
publishing
unpublished

| constant | illustrate |
| :---: | :---: |
| constancy | illustrated |
| constantly | illustrates |
| constants | illustrating |
| inconstancy | illustration |
| inconstantly | illustrations |
| constrain | illustrative |
| constrained | immigrate |
| constraining | immigrant |
| constrains | immigrants |
| constraint | immigrated |
| constraints | immigrates |
| unconstrained | immigrating |
| contribute | immigration |
| contributed | imply |
| contributes | implied |
| contributing | implies |
| contribution | implying |
| contributions | initial |
| contributor | initially |
| contributors | instance |
| convene | instances |
| convention | interact |
| convenes | interacted |
| convened | interacting |
| convening | interaction |
| conventional | interactions |
| conventionally | interactive |
| conventions | interactively |
| unconventional | interacts |
| coordinate | justify |
| coordinated | justifiable |
| coordinates | justifiably |
| coordinating | justification |
| coordination | justifications |
| coordinator | justified |
| coordinators | justifies |
| co-ordinate | justifying |
| co-ordinated | unjustified |
| co-ordinates | layer |
| co-ordinating | layered |
| co-ordination | layering |
| co-ordinator | layers |
| co-ordinators | link |
| core | linkage |
| cores | linkages |
| coring | linked |
| cored | linking |
| corporate | links |
| corporates | locate |
| corporation | located |
| corporations | locating |
| correspond | location |
| corresponded | locations |
| correspondence | relocate |
| corresponding | relocated |
| correspondingly | relocates |
| corresponds | relocating |
| criteria | relocation |
| criterion |  |

react
reacted
reacts
reacting
reaction
reactionaries
reactionary
reactions
reactive
reactivate
reactivation
reactor
reactors
register
deregister
deregistered
deregistering
deregisters
deregistration
registered
registering
registers
registration
rely
reliability
reliable
reliably
reliance
reliant
relied
relies
relying unreliable
remove
removable
removal
removals
removed
removes
removing
scheme
schematic
schematically
schemed
schemes
scheming
sequence
sequenced
sequences
sequencing
sequential
sequentially
sex
sexes
sexism
sexual
sexuality
sexually
shift
shifted
shifting
shifts

| deduce | maximise | specify |
| :---: | :---: | :---: |
| deduced | max | specifiable |
| deduces | maximised | specified |
| deducing | maximises | specifies |
| deduction | maximising | specifying |
| deductions | maximisation | unspecified |
| demonstrate | maximize | sufficient |
| demonstrable | maximized | sufficiency |
| demonstrably | maximizes | insufficient |
| demonstrated | maximizing | insufficiently |
| demonstrates | maximization | sufficiently |
| demonstrating | maximum | task |
| demonstration | minor | tasks |
| demonstrations | minorities | technical |
| demonstrative | minority | technically |
| demonstratively | minors | technique |
| demonstrator | negate | techniques |
| demonstrators | negative | technology |
| document | negated | technological |
| documentation | negates | technologically |
| documented | negating | valid |
| documenting | negatively | invalidate |
| documents | negatives | invalidity |
| dominate | outcome | validate |
| dominance | outcomes | validated |
| dominant | partner | validating |
| dominated | partners | validation |
| dominates | partnership | validity |
| dominating | partnerships | validly |
| domination |  | volume |
|  |  | volumes |
|  |  | vol |
| access | error | parallel |
| accessed | erroneous | paralleled |
| accesses | erroneously | parallelled |
| accessibility | errors | parallelling |
| accessible | ethnic | parallels |
| accessing | ethnicity | unparalleled |
| inaccessible | goal | parameter |
| adequate | goals | parameters |
| adequacy | grant | phase |
| adequately | granted | phased |
| inadequacies | granting | phases |
| inadequacy | grants | phasing |
| inadequate | hence | predict |
| inadequately | hypothesis | predictability |
| annual | hypotheses | predictable |
| annually | hypothesise | predictably |
| apparent | hypothesised | predicted |
| apparently | hypothesises | predicting |
| approximate | hypothesising | prediction |
| approximated | hypothesize | predictions |
| approximately | hypothesized | predicts |
| approximates | hypothesizes | unpredictability |
| approximating | hypothesizing | unpredictable |
| approximation | hypothetical | principal |
| approximations | hypothetically | principally |
| attitude |  | prior |
| attitudes |  |  |


| attribute | implement | professional |
| :---: | :---: | :---: |
| attributable | implementation | professionally |
| attributed | implemented | professionals |
| attributes | implementing | professionalism |
| attributing | implements | project |
| attribution | implicate | projected |
| civil | implicated | projecting |
| code | implicates | projection |
| coded | implicating | projections |
| codes | implication | projects |
| coding | implications | promote |
| commit | impose | promoted |
| commitment | imposed | promoter |
| commitments | imposes | promoters |
| commits | imposing | promotes |
| committed | imposition | promoting |
| committing | integrate | promotion |
| communicate | integrated | promotions |
| communicable | integrates | regime |
| communicated | integrating | regimes |
| communicates | integration | resolve |
| communicating | internal | resolution |
| communication | internalise | resolved |
| communications | internalised | resolves |
| communicative | internalises | resolving |
| communicatively | internalising | unresolved |
| uncommunicative | internalize | retain |
| concentrate | internalized | retained |
| concentrated | internalizes | retaining |
| concentrates | internalizing | retainer |
| concentrating | internally | retainers |
| concentration | investigate | retains |
| confer | investigated | retention |
| conference | investigates | retentive |
| conferences | investigating | series |
| conferred | investigation | statistic |
| conferring | investigations | statistician |
| confers | investigative | statisticians |
| contrast | investigator | statistical |
| contrasted | investigators | statistically |
| contrasting | job | statistics |
| contrastive | jobs | status |
| contrasts | label | stress |
| cycle | labeled | stressed |
| cycled | labeling | stresses |
| cycles | labelled | stressful |
| cyclic | labelling | stressing |
| cyclical | labels | unstressed |
| cycling | mechanism | subsequent |
| debate | mechanisms | subsequently |
| debatable | obvious | sum |
| debated | obviously | summation |
| debates |  | summed |
| debating |  | summing |
| espite |  | sums |
| dimension |  |  |
| dimensional |  |  |
| dimensions |  |  |
| multidimensional |  |  |

```
domestic
occupy
    domestically
    domesticate
    domesticated
    domesticating
    domestics
emerge
    emerged
    emergence
    emergent
    emerges
    emerging
occupancy
occupant
occupants
occupation
occupational
occupations
occupied
occupier
occupiers
occupies
occupying
option
optional
options
output \begin{tabular}{l} 
outputs
\end{tabular}
```

summary
summaries
summarise
summarised
summarises
summarising
summarisation
summarisations
summarization
summarizations
summarize
summarized
summarizes
summarizing
undertake
undertaken
undertakes
undertaking
undertook

## Sublist 5 of the Academic Word List

academy
academia academic academically academics academies
adjust
adjusted adjusting adjustment adjustments adjusts readjust readjusted readjusting readjustment readjustments readjusts
alter
alterable alteration alterations altered altering alternate alternating alters unalterable unaltered
amend
amended amending amendment amendments amends
expand
expanded expanding expands expansion expansionism expansive expose
exposed exposes exposing exposure exposures external
externalisation externalise externalised externalises externalising externality externalization externalize externalized externalizes externalizing externally
facilitate
facilitated
facilitates
facilities
facilitating
facilitation
facilitator
facilitators
facility
orient
orientate
orientated
orientates
orientation
orientating
oriented
orienting
orients
reorient
reorientation
perspective
perspectives
precise
imprecise
precisely
precision
prime
primacy
psychology
psychological
psychologically
psychologist
psychologists
pursue
pursued
pursues
pursuing
pursuit
pursuits
ratio
reject
ratios
rejected
rejecting
rejection
rejects
rejections


| energetically energies | modify modification | transited transiting |
| :---: | :---: | :---: |
| enforce | modifications | transition |
| enforced | modified | transitional |
| enforcement | modifies | transitions |
| enforces | modifying | transitory |
| enforcing | unmodified | transits |
| entity | monitor | trend |
| entities | monitored | trends |
| equivalent | monitoring | version |
| equivalence | monitors | versions |
| evolve | unmonitored | welfare |
| evolution | network | whereas |
| evolved | networked |  |
| evolving | networking |  |
| evolves | networks |  |
| evolutionary | notion |  |
| evolutionist | notions |  |
| evolutionists | objective |  |
|  | objectively |  |
|  | objectivity |  |

## Sublist 5 of the Academic Word List

| academy | expand | orient |
| :---: | :---: | :---: |
| academia | expanded | orientate |
| academic | expanding | orientated |
| academically | expands | orientates |
| academics | expansion | orientation |
| academies | expansionism | orientating |
| adjust | expansive | oriented |
| adjusted | expose | orienting |
| adjusting | exposed | orients |
| adjustment | exposes | reorient |
| adjustments | exposing | reorientation |
| adjusts | exposure | perspective |
| readjust | exposures | perspectives |
| readjusted | external | precise |
| readjusting | externalisation | imprecise |
| readjustment | externalise | precisely |
| readjustments | externalised | precision |
| readjusts | externalises | prime |
| alter | externalising | primacy |
| alterable | externality |  |
| alteration | externalization |  |
| alterations | externalize | psychology |
| altered | externalized | psychological |
| altering | externalizes | psychologically |
| alternate | externalizing | psychologist |
| alters | facilitate | psychologists |
| unalterable | facilitated | pursue pursued |
| unaltered | facilitates | pursues |
| amend | facilities | pursuing |
| amended | facilitating | pursuit |
| amending | facilitation | pursuits |
| amendment | facilitator | ratio ratios |
| amends | facility | ratios |


| aware | fundamental | reject |
| :---: | :---: | :---: |
| awareness | fundamentally | rejected |
| unaware | generate | rejecting |
| capacity | generated | rejection |
| capacities | generates | rejects |
| incapacitate | generating | rejections |
| incapacitated | generation | revenue |
| challenge | generations | revenues |
| challenged | image | stable |
| challenger | imagery | instability |
| challengers | images | stabilisation |
| challenges | liberal | stabilise |
| challenging | liberalise | stabilised |
| clause | liberalism | stabilises |
| clauses | liberalisation | stabilising |
| compound | liberalised | stabilization |
| compounded | liberalises | stabilize |
| compounding | liberalising | stabilized |
| compounds | liberalization | stabilizes |
| conflict | liberalize | stabilizing |
| conflicted | liberalized | stability |
| conflicting | liberalizes | unstable |
| conflicts | liberalizing | style |
| consult | liberate | styled |
| consultancy | liberated | styles |
| consultant | liberates | styling |
| consultants | liberation | stylish |
| consultation | liberations | stylise |
| consultations | liberating | stylised |
| consultative | liberator | stylises |
| consulted | liberators | stylising |
| consults | liberally | stylize |
| consulting | liberals | stylized |
| contact | licence | stylizes |
| contactable | licences | stylizing |
| contacted | license | substitute |
| contacting | licensed | substituted |
| contacts | licensing | substitutes |
| decline | licenses | substituting |
| declined | unlicensed | substitution |
| declines | logic | sustain |
| declining | illogical | sustainable |
| discrete | illogically | sustainability |
| discretely | logical | sustained |
| discretion | logically | sustaining |
| discretionary | logician | sustains |
| indiscrete | logicians | sustenance |
| indiscretion | margin | unsustainable |
| draft | marginal |  |
| drafted | marginally |  |
| drafting | margins |  |
| drafts | medical |  |
| redraft | medically |  |
| redrafted | mental |  |
| redrafting | mentality |  |
| redrafts | mentally |  |
| enable |  |  |
| enabled |  |  |
| enables |  |  |
| enabling |  |  |


| energy modify |  |
| :---: | :---: |
| energetic | modification |
| energetically | modifications |
| energies | modified |
| enforce modifies |  |
| enforced | modifying |
| enforcement | unmodified |
| enforces | monitor |
| enforcing | monitored |
| entity monitoring |  |
| entities | monitors |
| equivalent | unmonitored |
| equivalence network |  |
| evolve | networked |
| evolution | networking |
| evolved | networks |
| evolving | notion |
| evolves | notions |
| evolutionary | objective |
| evolutionist | objectively |
| evolutionists | objectivity |

```
symbol
    symbolic
    symbolically
    symbolise
    symbolises
    symbolised
    symbolising
    symbolism
    symbolize
    symbolized
    symbolizes
    symbolizing
symbols
target
    targeted
    targeting
    targets
transit
    transited
    transiting
    transition
    transitional
    transitions
    transitory
    transits
trend
    trends
version
    versions
welfare
whereas
```

neutral
neutralisation
neutralise
neutralised
neutralises
neutralising
neutrality
neutralization
neutralize
neutralized
neutralizes
neutralizing
nevertheless
overseas
precede
preceded
precedence
precedent
precedes
preceding
unprecedented
neutral
neutralisation
neutralise
neutralised neutralises
neutralising
neutrality neutralization
neutralize
neutralized
neutralizes
neutralizing
nevertheless
precede
preceded
precedence
precedent
precedes
unprecedented
abstract
abstraction
abstractions
abstractly
abstracts
accurate
accuracy
accurately
inaccuracy
inaccuracies
inaccurate
acknowledge
acknowledged
acknowledges
acknowledging
acknowledgement
acknowledgements
aggregate
aggregated
aggregates
aggregating
aggregation
enhance
enhanced
enhancement
enhances
enhancing

| locate gender |  |  |
| :---: | :---: | :---: |
| allocated | genders | presume |
| allocates | ignorant | presumably |
| allocating | ignorance | presumed |
| allocation | ignore | presumes |
| allocations | ignored | presuming |
| assign | ignores | presumption |
| assigning | incentive | presumptions |
| assignment | incentive incentives | presumptuous |
| assignments | incidence | rational irrational |
| assigns | incident | rationalisation |
| reassign | incidentally | rationalisations |
| reassigned | incidents | rationalise |
| reassigning | incorporate | rationalised |
| reassigns | incorporated | rationalises |
| unassigned | incorporates | rationalising |
| attach | incorporating | rationalism |
| attached | index incorporation | rationality |
| attaches | index | rationalization |
| attachment | indexes | rationalizations |
| attachments | indexing |  |
| unattached | inhibit | rationalizes |
| author | inhibited | rationally |
| authored | inhibiting | recover |
| authoring | inhibition | recoverable |
| authors | inhibitions | recovered |
| bond authorship | initiate inhibits | recovering |
| bonded | initiated | recovers |
| bonding | initiates | reveal recovery |
| bonds | initiating | revealed |
| brief | initiation | revealing |
| brevity | initiations | reveals |
| briefed | initiative | revelation |
| briefing | initiatives | revelations |
| briefly | initiator | scope |
| briefs | initiators | subsidy |
| capable | input | subsidiary |
| capabilities | inputs | subsidies |
| capability | instruct ${ }_{\text {instruction }}$ | subsidise |
| cite | instructed | subsidised |
| citation | instructing | subsidising |
| citations | instructions | subsidize |
| cited | instructive | subsidized |
| citing | instructor | subsidizes |
| cites | instructors | subsidizing |
| cooperate | instructs | tape |
| cooperates | intelligence | taped |
| cooperating | intelligently | taping |
| cooperation | unintelligent | trace |
| cooperative | interval | traceable |
| cooperatively | intervals | traced |
| co-operate | lecture | traces |
| co-operated | lectured | tracing |
| co-operates | lecturer | tracing |
| co-operation | lecturers |  |
| co-operative | lectures |  |
| co-operatively | lecturing | transform |


| discriminate discriminated discriminates discriminating discrimination | migrate <br> migrant migrants migrated migrates | transformation transformations transformed transforming transforms |
| :---: | :---: | :---: |
| display | migrating | transport |
| displayed | migration | transportation |
| displaying | migrations | transported |
| displays | migratory | transporter |
| diverse | minimum | transporters |
| diversely | ministry | transporting |
| diversification | ministered | transports |
| diversified | ministering | underlie |
| diversifies | ministerial | underlay |
| diversify | ministries | underlies |
| diversifying | motive motivate | underlying |
| diversity | motivate | utilise |
| domain | motivated | utilisation |
| domains | motivates | utilised |
| edit | motivating | utilises |
| edited | motivation | utilising |
| editing | motivations | utiliser |
| edition | motives | utilisers |
| editions | unmotivated | utility |
| editor |  | utilities |
| editorial |  | utilization |
| editorials |  | utilize |
| editors |  | utilized |
| edits |  | utilizes |
|  |  | utilizing |

## Sublist 7 of the Academic Word List

| adapt | equip |
| :---: | :---: |
| adaptability | equipment |
| adaptable | equipped |
| adaptation | equipping |
| adaptations | equips |
| adapted | extract |
| adapting | extracted |
| adaptive | extracting |
| adapts | extraction |
| adult | extracts |
| adulthood | file |
| adults | filed |
| advocate | files |
| advocacy | filing |
| advocated | finite |
| advocates | infinite |
| advocating | infinitely |
| aid | foundation |
| aided | foundations |
| aiding | globe |
| aids | global |
| unaided | globally |
| channel | globalisation |
| channelled | globalization |
| channelling |  |
| channels |  |
| chemical | grade |
|  | grade |

prohibit
prohibited
prohibiting
prohibition
prohibitions
prohibitive
prohibits
publication
publications
quote
quotation
quotations
quoted
quotes quoting
release
released
releases
releasing
reverse
reversal
reversed
reverses
reversible
reversing
reversals
irreversible
simulate

| chemically chemicals | graded grades | simulated simulates |
| :---: | :---: | :---: |
| classic | grading | simulating |
| classical | guarantee | simulation |
| comprehensive | guaranteeing | solely |
| comprehensively | guarantees | somewhat |
| comprise | hierarchy | submit |
| comprised | hierarchical | submission |
| comprises | hierarchies | submissions |
| comprising | identical | submits |
| confirm | identically | submitted |
| confirmation | ideology | submitting |
| confirmed | ideological | successor |
| confirming | ideologically | succession |
| confirms | ideologies | successions |
| contrary | infer | successive |
| contrarily | inference | successively |
| convert | inferences | successors |
| conversion | inferred | survive |
| conversions | inferring | survival |
| converted | infers | survived |
| convertible | innovate | survives |
| converting | innovation | surviving |
| converts | innovated | survivor |
| couple | innovates | survivors |
| coupled | innovating | thesis |
| coupling | innovations | theses |
| couples | innovative | topic |
| decade | innovator | topical |
| decades | innovators | topics |
| definite | insert | transmit |
| definitely | inserted | transmission |
| definitive | inserting | transmissions |
| indefinite | insertion | transmitted |
| indefinitely | inserts | transmitting |
| deny | intervene | transmits |
| deniable | intervened | ultimate |
| denial | intervenes | ultimately |
| denials | intervening | unique |
| denied | intervention | uniquely |
| denies | interventions | uniqueness |
| denying | isolate | visible |
| undeniable | isolated | visibility |
| differentiate | isolates | visibly |
| differentiated | isolating | invisible |
| differentiates | isolation | invisibility |
| differentiating | isolationism | voluntary |
| differentiation | media | voluntarily |
| dispose | mode | volunteer |
| disposable | modes | volunteering |
| disposal | paradigm | volunteered |
| disposed | paradigms | volunteers |
| disposes | phenomenon |  |
| disposing | phenomena |  |
| dynamic | phenomenal |  |
| dynamically | priority |  |
| dynamics | priorities |  |
|  | prioritisation |  |
| eliminate | prioritise |  |
| eliminated | prioritised |  |
| eliminates | prioritises |  |


| eliminating | prioritising |
| ---: | :--- |
| elimination | prioritization |
| empirical | prioritize |
| empirically | prioritized |
| empiricism | prioritizes |
|  | prioritizing |

## Sublist 8 of the Academic Word List

abandon
abandoned
abandoning abandonment abandons
accompany
accompanied
accompanies
accompaniment
accompanying unaccompanied
accumulate
accumulated
accumulating
accumulation
accumulates
ambiguous
ambiguities
ambiguity
unambiguous
unambiguously
append
appendix
appended appends appending appendices appendixes
appreciate
appreciable
appreciably
appreciated
appreciates
appreciating
appreciation
unappreciated
arbitrary
arbitrariness
arbitrarily
automate
automatic
automated
automates
automating automatically automation

| detect |  | minimise |
| :---: | :---: | :---: |
|  | detectable | minimised |
|  | detected | minimises |
|  | detecting | minimising |
|  | detection | minimize |
|  | detective | minimized |
|  | detectives | minimizes |
|  | detector | minimizing |
|  | detectors | nuclear |
|  | detects | offset |
| deviate |  | offsets |
|  | deviated | offsetting |
|  | deviates | paragraph |
|  | deviating | paragraphing |
|  | deviation | paragraphs |
|  | deviations | plus |
| displace |  | pluses |
|  | displaced | practitioner |
|  | displacement | practitioners |
|  | displaces | predominant |
|  | displacing | predominance |
| drama |  | predominantly |
|  | dramas | predominate |
|  | dramatic | predominated |
|  | dramatically | predominates |
|  | dramatise | predominating |
|  | dramatised | prospect |
|  | dramatising | prospective |
|  | dramatises | prospects |
|  | dramatisation | radical |
|  | dramatisations | radically |
|  | dramatist | radicals |
|  | dramatists | random |
|  | dramatization | randomly |
|  | dramatizations | randomness |
|  | dramatize | reinforce |
|  | dramatized | reinforced |
|  | dramatizes | reinforcement |
|  | dramatizing | reinforcements |
| eventua |  | reinforces |
|  | eventuality | reinforcing |
|  | eventually | restore |
| exhibit |  | restoration |
|  | exhibited | restored |
|  | exhibiting | restores |
|  | exhibition | restoring |
|  | exhibitions |  |
|  | exhibits |  |

exploit
exploitation
revise


## Sublist 9 of the Academic Word List




| compatible | minimal |
| :---: | :---: |
| compatibility | minimalisation |
| incompatibility | minimalise |
| incompatible | minimalises |
| concurrent | minimalised |
| concurrently | minimalising |
| confine | minimalist |
| confined | minimalists |
| confines | minimalistic |
| confining | minimalization |
| unconfined | minimalize |
| controversy | minimalized |
| controversies | minimalizes |
| controversial | minimalizing |
| controversially | minimally |
| uncontroversial | mutual |
| converse | mutually |
| conversely | norm |
| device | norms |
| devices | overlap |
| devote | overlapped |
| devoted | overlapping |
| devotedly | overlaps |
| devotes | passive |
| devoting | passively |
| devotion | passivity |
| devotions | portion |
|  | portions |

$\left.\begin{array}{cc}\text { supplement } \\ \text { supplementary } \\ \text { supplemented } \\ \text { supplementing } \\ \text { supplements }\end{array}\right\}$

## Sublist 10 of the Academic Word List

```
adjacent
albeit
assemble
    assembled
    assembles
    assemblies
    assembling
    assembly
collapse
    collapsed
    collapses
    collapsible
    collapsing
colleague
    colleagues
compile
    compilation
    compilations
    compiled
    compiles
    compiling
```

depress
depressed
depresses
depressing
depression
encounter
encountered
encountering
encounters
enormous
enormity
enormously
forthcoming
incline
inclination
inclinations
inclined
inclines
inclining
depress
depressed
depresses
depressing
depression
encounter
encountered
encountering
encounters
enormous
enormity
enormously
forthcoming
incline
inclination
inclinations
inclined
inclines
inclining
integrity
intrinsic
intrinsically
ongoing
panel
panelled
panelling
panels
persist
persisted
persistence
persistent
persistently
persisting
persists
pose
posed
poses
posing
reluctance
reluctant
reluctantly
so called
straightforward

| conceive | invoke | undergo |
| :---: | :--- | ---: |
| conceivable | invoked <br> conceivably |  |
| invokes | undergoes |  |
| conceived | invoking | undergoing |
| conceives | levy | undergone |
| conceiving | levies | underwent |
| inconceivable | likewise <br> inconceivably <br> nonetheless <br> notwithstanding |  |
| convince | odd |  |
| convinced |  | odds |

http://language.massey.ac.nz/staff/awl/sublists.shtml
Cited on http://llt.msu.edu/vol9num2/horst/default.html

## Appendix M

## Vocabulary Size Test

Complete the following 50 multiple-choice questions to estimate your vocabulary size. Choose one of 4 choices that's most appropriate for the word underlined in the sentence.

1 Many of the questions raised pertaining to cultural issues are new.
a) an important question in dispute and must be settled
0
c) trouble
d) publication
b) insurance

2 To help meet this need, we have compiled an annotated bibliography of models for evaluating open learning approaches and associated technologies.
a) associating
b) related
c) advanced
d) new

3 He had an edge on the competition.
a) border
b) a slight advantage
c) a slight margin
d) success

4 The applicants of the Proposal Competition are invited to provide the Frontier Science Research City Project with visions for creating a 21st century-style city.
a) performance
b) plan
c) business
d) communication

5 The dollar fell against the Euro for the fourth day in five and dropped against the yen on concern a recovery in the US economy is faltering.
a) evidence
b) interest
c) worry
C d) relief

6 I wonder if that factor is going to impact on XYZ Corp.
a) element
b) person
c) event
C d) action

7 Specifically, we are disappointed with the new emphasis on so-called high stakes testing as an instrument to assess and rank schools.
a) a device
b) a test
c) a system
d) a way

8 It is almost impossible to get it done today.
a) implicit
b) trivial
c) insignificant
d) totally unlikely

9 The closest the world has come to nuclear war was the Cuban Missile Crisis of October 1962.

| a) mission | ( ) atomic bomb |  |
| :--- | :--- | :--- |
| c) election | $C$ | d) a rocket-propelled vehicle |

10 The Complete and Utter Idiot's Guide to Ordering Pizza
a) new
b) absolute
c) practical
d) short

O

11 Would you prefer to rotate meeting locations or have a consistent meeting place?
O) alternate
b) set up
c) rent
d) inspect

12 The students will perform activities to learn how estimation and measurement would be important in the construction industry.
O
a) surveying $\quad$ b) dimension
c) development
d) budget

13 He has a unique talent to inspire and compel each person to recognize his or her own personal uniqueness and value.
©
a) force
O) cheer
c) command
C d) lead

C

14 Survey show that the silence majority agree with me and not you.
a) minority
b) major
c) senior
d) bulk

15 The lowering of the threat level is not a signal to government, law enforcement or citizens that the danger of a terrorist attack is passed.
a) throat
b) thread
C
c) territory
d) terror

16 That person can help you decide whether you do need to lose weight and, if so, the best way to achieve and maintain a weight that is healthy for you.
a) reduce
b) increase
O
c) alter
C
d) hold

17 This is a short report on our trip to Colorado.
a) strip
b) journey
c) mission
d) research

18 The estimates above could therefore represent an under-estimate of the total consumer detriment in the economy.
a) population
O) confidence
c) damage
d) behavior

19 Ooops, I meant to say shouldn't deny love.
C
a) refuse
b) addict to
c) hurt
d) confuse

20 Nobody asked me to prove it.
a) show evidence of
b) test
c) demonstrate
C d) investigate

C

21 Scripture does not forbid anything which God has given us for our use.
C
a) support
c) describe
b) encourage
d) prevent

22 It wasn't long before she was off the hill
a) hip
b) natural elevation
c) mountain
d) pond

C

23 We're seeking to strengthen intellectual property protection.
a) increase
b) fortify
c) improve
d) change

24 In this sample chapter, you'll learn how to compose a message and send it.
a) write
b) compile
c) complain
d) conduct

25 Students seem to complain about the lack of a dating scene.
a) scenario
b) picture
C) shot
O d) guide

26 The risk of loss or damage is transferred to the buyer.
a) replaced
b) minimized
c) shifted
d) diminished

27 Great Lakes signal great shift in seasonal changes.
C
a) translation
b) shaft
c) switch
d) example

28 The holes should be a little larger than the coin or washer.
C
a) penny
O betal
c) pipe
d) corn

29 So, your focus is not inward on your own processes, but outward, on supply chain processes.
a) based
b) dependent
c) inside
d) inbound

30 Ours is a field increasingly driven by both rapidly evolving solutions to existing problems and by new interpretations of the nature of the problems we face.
a) method
b) mixture
c) lotion
C d) problem

31 How did she keep it secret for nine years.
a) secretary
b) mystery
d) information
c) hidden

32 The new program will integrate social and employment services with treatment for drug addicted persons and their families.
a) assistance
b) treat
C c) care
d) discussion

33 Customers qualify for a Standard license if no Small Business Server software is currently licensed.
a) copy
b) permission
c) freedom
d) software

34 Each Christmas, our family enjoys decorating the tree with our homemade ornaments.
a) made by yourself
b) trendy
c) sophisticated
d) made by hand

35 Wall Street bankers met behind closed doors (under the auspices of the New York Federal Reserve Bank) to put the finishing touches on the renegotiation of Korea's shortterm debt.
a) roof
$C$
b) protection
c) power
d) guidance

36 We also provide vacation \& leisure travel for the employees of these top companies as well.
a) relaxation
b) freedom
c) fancy
d) discount

37 There are many things on the Net that are put there by one person or group that has a certain opinion.
a) credibility
b) idea
c) view
d) origination

38 Since his election to the Legislature in 1994, Sen. Kermit Brashear of Omaha has made a name for himself as a man who carefully considers what he believes in and then forcefully argues his point.
a) body of lawmakers
O b) lecturer
O
c) congress
O d) army

39 No wonder, many companies are finding difficult to sustain the growth.
O
a) expand
O
b) subdue
c) maintain
d) reverse

C

40 They're supposed to be preparing us for the meeting.
O
a) scheduled
b) believed
c) forced
d) replaced

41 Particular attention is paid to the repertoire and quality of performance presented on the audition.
a) originality
b) a collection of works
c) uniqueness
d) depth

C

42 Retail petrol price decreased in April.
a) gas
b) oil
c) computer
d) grain

43 Governor Bush and first lady proclaim September 23 Family Day in Florida.
C
a) claim
b) recognize
c) announce
(d) declare formally

44 The Warden told him that I was his roommate before he died.
C
a) official in charge of army
b) official in charge of a company
c) official in charge of a prison
d) official in charge of a county

45 I like cauliflower.
C
a) flower
b) vegetable
c) fish
d) cat

46 Here it is paired with metallic twill, the latest trend in twill.
a) ornament
b) art work
c) shoe
d) cloth

0

47 These structural changes have also led to a palpable change in attitude towards foreign investment.
a) significant
b) dramatical
C) tangible
d) drastical

48 This paper is lighted in a way to accentuate the motley color distribution..
C a) visible
b) fuzy
c) mixed
d) new

49 Plan to photograph stars along a swath running perpendicular to the Milky Way.
a) strip
b) vertical line
0
c) area
d) $\operatorname{star}$

50 A new project is funded to investigate Estrogen's effects on the female body.

C a) Yoga
c) hormone
b) vegetable
C) vitamin
http://www.insightin.com/test/take_test.phtml


[^0]:    Source: Data from D. Biber, S. Johansson, G. Leech, S. Conrad, and E. Finegan, Longman Grammar of Spoken and Written English (Essex: Longman, 1999)
    Activity

