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International Students' Responses to Explicit Instruction on Vocabulary Learning Strategies:
Implications for EAP Courses

by

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Master of Arts in TESOL

at

Seattle Pacific University
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Abstract

Given that the importance of understanding the academic language is strongly associated with the academic vocabulary size, vocabulary knowledge is regarded as one of the most crucial areas of language competence to bolster academic achievement. The present study investigates the effectiveness of two different strategies of vocabulary acquisition in English including 1) learning from sample sentences and 2) learning from word parts. Results are significant for immediate testing and reveal the beneficial role of explicit instruction on vocabulary learning strategies that increases international students' English vocabulary learning ability. The study also discusses survey responses from the participants in relation to their use of vocabulary learning strategies and their own approaches to acquiring new vocabulary words. It is recommended that self-learning strategies should be explicitly taught in English for Academic Purposes (EAP) programs to help students acquire words from higher levels in academic settings. Some implications for teachers include integrating a variety of learning strategies and multimodal activities into vocabulary instruction and engaging students in learning pronunciation, common rules of word stress, word context, and word parts while encountering unfamiliar words.

KEY WORDS: *Vocabulary acquisition, vocabulary learning strategies, international students, English for Academic Purposes (EAP)*

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International Students' Responses to Explicit Instruction on Vocabulary Learning
Strategies: Implications for EAP Courses

Recently, there has been an increase in the number of academically bound youngsters who learn English as a second language in the United States. According to the Open Doors 2017 data, the overall international student enrollment in colleges and universities expanded by 3.4 percent during the 2016-2017 school year, logging an eleventh consecutive year that the survey reported expansion in the total number of international students in American higher education and marking a second consecutive year that the U.S. has hosted more than a million international students (Institute of International Education, 2017). As the understanding of the academic language is regarded as a strong indicator of literacy attainment at U.S. colleges, the need of preparing international students for American higher education remains strong over the years.

It is widely acknowledged that English for Academic Purposes (EAP) programs in the U.S. aim to develop the English language and study skills of English language learners in transition to the American education system. Many international students are drawn to study abroad in the U.S. because of the high quality and diverse opportunities offered by American colleges and universities. Meanwhile, given the pivotal role of academic literacy, there is considerable concern that international students' inadequate vocabulary may negatively influence their performance when writing essays, research papers and giving class presentations when they attend college-level classes. August and Shanahan (2006) found that "language-minority students who cannot read and write proficiently in English cannot participate fully in American schools, workplaces, or society. They face limited job opportunities and earning power" (p.1). Educators at almost all levels may experience challenges in meeting the academic

needs of international students and need to seek strategies for addressing the challenges considering the diverse languages, cultures, and educational backgrounds of these students.

As regards major difficulties faced by international students in EAP programs, problems related to word knowledge such as using words incorrectly, limited vocabulary size, and confusion between similar sounding/looking words may be more challenging to the majority of the students. Among earlier studies, Wilkins (1972) made a stark remark that "...while without grammar very little can be conveyed, without vocabulary nothing can be conveyed" (p.111). This point was manifested by Saville-Troike (1984), seeing vocabulary knowledge as "the single most important area of second language competence" in academic achievement (p.199). Particularly as students develop greater fluency and literacy skills in academic English, it is crucial for them to consistently acquire vocabulary knowledge and to focus on developing their own vocabulary learning strategies.

1.1 Purpose of the Study

While the effect of vocabulary knowledge on international students' academic literacy is profound, vocabulary instruction is either eliminated from developmental education curriculum or taught on a limited basis due to a vast amount of course material presented (Willingham & Price, 2009). In actuality, few teachers in EAP programs are closely familiar with the types of vocabulary practices that effectively help international students to foster academic reading and writing. Even fewer class activities are conducted, in particular, to expand their academic vocabulary repertoire. Perhaps the question is not whether vocabulary instruction in reading and writing is vital, but how vocabulary instruction can be most beneficial and incorporated into what is already being taught in EAP courses.

This study targeted international students, who have stayed in the U.S. for less than four years and who need to intensively study English language skills in higher intermediate-level EAP courses. The primary purpose of this study was to explore the effectiveness of explicit instruction on two types of learning strategies for academic vocabulary words, namely 1) searching context clues and 2) identifying morphological clues. Findings were used to discuss the pedagogical implications of incorporating vocabulary learning strategies in EAP programs for international students who enter with first language other than English.

To help EAP teachers better analyze the topic of vocabulary instruction in the context of academic reading and writing classes, this study also drew on international students' perception of the two vocabulary acquisition strategies and their own attitudes toward acquiring new vocabulary words. The findings were examined to identify the common weaknesses among international students that EAP teachers could focus on when they integrate vocabulary learning strategies into the classroom.

1.2 Definition of Terms

Most English for Academic Purposes (EAP) programs in the U.S. are specifically designed for international students at all levels who plan to pursue education in an American college or university at the undergraduate level. Such courses are usually intensive, offering classes on a daily basis. EAP programs aim to prepare students for success in an academic setting. Many of the programs require students to be tested and placed in levels from beginning to advanced according to their varied needs and abilities. The classes are dedicated to key language skills including listening, speaking, reading, writing, and grammar. Other university success skills such as critical thinking, note-taking, academic research, presentations are also included in the curriculum. EAP programs are mostly taught in community colleges.

The terms “International students”, or “Visa Students”, are referred to those who travel from other countries to study in the U.S. with an official student visa. Most of the students have completed or nearly completed high school in a non-English speaking country. They have built the academic knowledge in their first languages and formed the foundations of identities in their home countries. International students may miss their homes and families, but most of the time they are eager and willing to explore new cross-cultural experiences in many ways. Many of them may have little background knowledge about the American cultures and adjusting to another education system can be challenging to them.

Context clues are word hints for one to infer the meanings of new or unfamiliar words within sentences, paragraphs, or passages. A word or a phrase that offers semantic link, either directly or indirectly, to an unknown word in the same text is regarded as a context clue. Context clues can be used to promote lexical development by searching the meaning of a word through its use in a syntactic structure. Context clues can be a practical way for a reader to gain a sense of general meaning of a new word while reading; however, for more specific and precise definitions of words, a reader still needs to consult a dictionary.

Morphological clues are the morphemic elements inside a word. For learners of English language, the analysis of morphological clues can usually help them decipher the meanings and syntactic features of multisyllabic words. In English morphology, a morpheme refers to any of the minimal and irreducible part of a word that possesses meanings or grammatical functions. Morphemes are divided into two basic kinds: roots and affixes; affixes can be further divided into prefixes and suffixes. The clues related to morphemes not just show the lexical meaning but also encode grammatical meaning of a word.

In English, morphemes can also be named according to their functions. A derivational morpheme can alter the grammatical category of a word. For example, the verb *dress* becomes the noun *dresser* if the derivational morpheme *-er* is added. A derivational morpheme can be either a prefix or a suffix used to transform a word into another meaning. For example, the meaning of the noun *power* is changed when the suffix *-less* or the prefix *em-* is added to the word. On the other hand, an inflectional morpheme is a suffix that is attached to a word to mark the grammatical property of that word such as tense and possession, but such morpheme does not indicate the essential meanings or the grammatical category of a word.

Students with morphemic awareness tend to readily notice typical suffixes for parts of speech when they encounter new vocabulary, specifically the multisyllabic words originated from Latin and Greek as those words based on Greek and Latin roots frequently appear in more formal and academic texts. Activities such as learning the meanings of common Greek and Latin roots, finding new words using prefixes and suffixes, and linking typical suffixes to parts of speech and word families are promoted to assist students in building on word structure.

Literature Review

“The variety of factors which affect vocabulary learning means that there will never be one best’ teaching methodology, but the meta-principle of maximizing sustained engagement with the lexical items which need to be learned appears to underlie all effective vocabulary learning. (Schmitt, 2008, p. 354)

2.1 Overview

With an overview of research on second language vocabulary acquisition, it is recognized that word knowledge extensively encompasses phonological, morphological, and semantic aspects. Intentional learning of vocabulary should be incorporated into the classroom practices

for English language learners. Alongside vocabulary learning, EAP students' awareness of the semantic and collocational features of discrete lexical items should be raised through explicit instruction.

When acquiring the new language either orally or in a written form, ELL students generally view the limitation of word knowledge as one of the most challenging problems to overcome (Saengpakdeejit, 2014). A large number of students in EAP classes may encounter difficulties in reading, presenting topics, writing, and understanding lectures, due to the limited knowledge about academic words.

According to Nagy and Townsend (2012), "academic language is specialized because it needs to be able to convey abstract, technical, and nuanced ideas and phenomena that are not typically examined in settings characterized by social and/or everyday conversation" (p.92). Even though learning new words is more or less a daily practice for students who study abroad, words they learn from everyday conversations are least likely to help them thrive in academic schoolwork. Actually, a large number of academic words students learn from EAP classes are low-frequency words not used usually in spoken English but used regularly in academic texts and high-stakes tests such as IELTS and TOEFL.

When international students access academic texts, heavy uses of abstract nouns can present severe problems to students' comprehension (Fang, Schleppegrell, & Cox, 2006). In this sense, exposure to a sheer amount of academic reading is likely to hinder students, who are struggling with decoding those abstract and complex words, from gaining meaningful input. It is essential for international students to maximize their vocabulary size and depth in order to fill the gap in knowledge of academic words found in printed English and in the EAP classroom. They

should also be aware of the multiple dimensions of word knowledge, which interrelates with other aspects of the language such as syntax, morphology, and phonology.

In fact, most students are able to label at least a few features of academic language when they see it; however, “it is less clear whether they understand the mechanisms by which this type of language is created (Chun, 2014, p.57).” In addition to identifying academic language, those students who are new to the education system in the U.S. should understand academic words as the necessary component of the language of schooling and actively engage in developing their vocabulary learning strategies.

2.2 Vocabulary Instruction in EAP Courses

Students attending courses in EAP programs are often required to read and write expository texts and complete reading-to-write tasks which are demanding. Usually, students are asked to analyze, synthesize, and present views on ideas contained in a set of texts in academic discourses (Evans, 2008). As many of the general academic words in their textbooks are seldom explained by the teachers, academic vocabulary is a particularly challenging part of most international students’ learning in EAP classes. In view of the fact that students need to master a great deal of lexical items in order to succeed at college or university, rich instruction that provides strategies for autonomous word learning is needed.

Presumably, a practical question related to vocabulary teaching in EAP courses is: What are the most useful academic English words students should know before they enter college-level programs? It has been fiercely discussed that international students in EAP programs should study high frequency words which are used in an English academic register. Obviously, high-frequency words possess greater value during the vocabulary learning process and those words are worthy of attention in class. Nevertheless, there is always a debate on the amount of

academic words to be learned through classroom instruction and the amount of time allocated for vocabulary teaching.

One way of evaluating academic words is to group them based on their frequency and range of occurrence. Two notable attempts were conducted to develop academic vocabulary lists based on the language in texts in a broad range of academic subject disciplines. The University Word List (UWL), first constructed by Xue and Nation (1984), consists of 836 words which account for about 8% of the words in a typical academic text (Nation, 1990). A more recent attempt is Coxhead's Academic Word List (AWL) (2000) of 570 word families, developed from a written academic corpus of 3.5 million running words in texts for first-year students at a university (Coxhead, 2011).

More recently, Gardner and Davies (2014) developed a corpus-based (Corpus of Contemporary American English) academic vocabulary list based on more than 120 million words of academic text. Unlike the previous word lists, the new academic vocabulary list covers the frequency data for specific genres and sub-genres.

In general, academic vocabulary instructions have shed light on the importance of all-purpose academic words that typically appear in scholar articles that college students read, for example, common academic reporting verbs ('assume', 'examine', 'illustrate') and enumerative nouns ('purpose', 'feature', 'approach'). Those words are frequently encountered across content areas (Mckeown et al., 1985; Townsend & Collins, 2009) and particularly relevant to reading comprehension. There is also a large number of intervention research on content-specific academic words (Chung & Nation, 2003; Schleppegrell & Go, 2007; August, Branum-Martin, Cardenas-Hangan, & Francis, 2009) and words with discipline-specific meanings in various disciplines (Hyland & Tse, 2007). However, fewer interventions emphasize morphologically

complex and abstract words which are in fact the key features of academic texts. Many of these words consist of multiple meanings ('concrete', 'argument', 'review') and some words contain simultaneous opposing or competing meanings ('ravel', 'sanction', 'overlook'). These words may place much of the learning burden on the international students when they learn vocabulary in academic settings. It is thus necessary to encourage students to take a larger role in recognizing the key vocabulary learning strategies which should enable them to make better language choices while deciphering the meanings of those words.

Designing EAP materials for vocabulary learning is an arduous task as the number of most relevant and useful words may be too many to teach throughout the program. It usually gives a misleading impression that EAP teachers can take uniform practices to teach academic vocabulary. Biber and Conrad (2001) indicated that "teachers, authors, and testing professionals constantly rely on their intuition to choose the most important words and structures to focus on (p.332)", yet such intuitions about the use of words are not reliable. Thus, EAP teachers should look beyond the academic word lists and be more mindful when using high-frequency word lists.

2.3 Orthographic Knowledge for English Vocabulary Learning

The study of orthography contributes to an understanding of how the sounds in a language are represented in written forms. In the word-learning procedures, different languages usually consist of different orthographic systems. Orthographic knowledge is not just considered as mastering actual spelling of particular words, but also "the recognition of the properties of words and sequences and typical positions of letters in English (Siegel, Share, & Geva, 1995, p.250)". When unfamiliar words are acquired, English language users need to capitalize on any similarities available across languages that help them memorize the words.

As always, there are differences between the learners' first language and English that make word learning difficult. Results from the research of Rosenthal and Ehri (2008) showed that orthographic knowledge benefits vocabulary acquisition and therefore students should pronounce spellings as well as identify meanings when they encounter novel vocabulary words.

In many cases, English language learners who encounter morphologically-complex words in academic reading pay more attention to what the words mean in contexts than to how the words are pronounced. A great majority of students might not necessarily need to know the accurate pronunciation of words in order to grasp the textual meanings in print materials. Clearly, it is a massive task for students to learn thousands of multisyllabic words in English when they rely on decontextualized forms of vocabulary learning such as rote memorization of definitions and studying word lists. However, the importance of orthographic awareness and the grapheme-phoneme knowledge for academic reading and writing seldom become the teaching items in EAP classes.

Whereas earlier studies have examined the effect of orthographic knowledge on second-language reading fluency and indicated that orthographic processing tasks made contributions to the prediction of reading comprehension (Nassaji & Geva, 1999; Shiotsu, T., 2010), the role and function of orthographic knowledge in second language vocabulary learning remains largely overlooked. Similarly, the topic of vocabulary acquisition on the effect of orthography is not extensively explored. Koda (1997) revealed that orthographic knowledge is highly attributable to second language reading and lexical processing. Language learners' previous orthographic experience appears to have a strong influence when they develop lexical processing skills and strategies in another language. Previous research (Sun-Alperin & Wang, 2011) also found that

cross-language phonological and orthographic transfer occurs among bilingual speakers and the first language's phoneme contribute unique variance to English word spelling.

When it comes to the investigation on how students acquire English vocabulary, there is a practical demand for research on orthographic patterns associated with the transfer of learners' first-language knowledge (Patel, Snowling, & de Jong 2011), as in some cases mispronouncing words can lead to spelling errors. The interdependence between first- and second-language skills may relate to the spelling matters and vocabulary challenges faced by struggling students who need to develop academic literacy skills. In academic settings, pronunciation mistakes and written mistakes in relation to spelling and word choices may impair the students' language performance.

Since the spelling issues are universally regarded as mechanical mistakes which are made by everyone who uses English, most language teachers are less aware that students' orthographic knowledge may powerfully affect the development of productive vocabulary in knowledge building. Admittedly, many spelling errors, including typos, might pose little impact on the general understanding of the content and it is possible that with a spell checker students are able to eradicate almost all of the spelling errors. However, the difference between pronunciation and spelling in English may be an underlying reason why some students make little progress in vocabulary growth.

Many English words are not spelled as they are spoken. Confusions about how complex words are spelled and pronounced, let alone mentioning an intricate relationship between American sounds and spellings, might dampens students' enthusiasm for acquiring and using new vocabulary words in academic context. Thus, it is worthwhile to draw students' attention to

both positive and negative transfer of their first-language knowledge and processes to English spellings when teaching vocabulary learning strategies.

2.4 Key Strategies for Autonomous Vocabulary Learning

In order to acquire unknown words, students need to take actions to discover the meanings. Vocabulary learning is incredibly demanding for students who learn a second language. It is reasonable to assume that a great majority of English language learners have developed their own approaches to vocabulary acquisition and practiced how to memorize vocabulary, regardless of whether the approaches are effective or not. In reality, learners are likely to combine different learning strategies to achieve their learning outcomes. Many research findings discuss conditions that facilitate students' learning of a substantial range of academic words, underscoring the factors such spaced repetition and the quality of attention at each encounter of words accounted for more effective vocabulary learning strategies (Hinkel, 2015; Laufer & Rozovski-Roitblat, 2011).

Meanwhile, there are plenty of studies attempting to define and classify the vocabulary learning strategies used by English language learners. Back in the 90-ies, learning strategies were known as “specific actions, behaviors, steps, or techniques - such as seeking out conversation partners, or giving oneself encouragement to take a difficult language task - used by students to enhance their own learning” (Scarcella & Oxford, 1992, p. 63). In terms of vocabulary learning, strategies should be consciously chosen by students and adapted to their individual learning style and language tasks at hand. Rubin and Thompson (1994) suggested several main categories of word-learning strategies that were found effective to language learners, such as explicit instruction in individual words and using mnemonics. In essence, students should be introduced

to the key vocabulary learning strategies in class. It is also useful to know what strategies are used by students to deal with their vocabulary learning.

Currently, there is a growing interest of research on teaching methodologies that encourage learner autonomy in vocabulary learning (Haddad, 2016; Webb & Nation, 2017). In particular, autonomous learning of vocabulary is essential to students who plan to study at the college level as the exposure to target vocabulary learning become less often and limited in college/university classes. Consequently, those students are expected to acquire vocabulary, which is regarded as a main predictor in academic achievement, through various ways and with deliberate efforts. The role of teachers in EAP classes in promoting students' autonomy in vocabulary is exceptionally important, given that students need to be taught the necessity of vocabulary development in their own learning ability.

2.4.1 Guessing from Context

Generally speaking, the majority of first-language learners tend to use clues from background knowledge of the topic or common sense to infer the meanings of unknown words. Similarly, when establishing the vocabulary learning strategies, English language learners from time to time refer to the contextual information and draw on the background knowledge that they have developed in their own languages. In a study aimed to examine the relationship between college students' strategies and outcomes in learning English (Gu & Johnson, 1996), the results indicated that contextual guessing, paying attention to word formation, and contextual encoding positively correlated with the vocabulary test scores.

For English language learners at more advanced levels, vocabulary size is usually developed along with reading and writing strategies such as contextual guessing and distinguishing meaning among words. Reciprocally, guessing from context appears to improve

as learners' vocabulary size increases. According to Webb and Chang (2015), "the problem for the lower level learners was not their ability to read but rather their ability to successfully infer words from context (p. 671)". As a result, learners' size of working memory in vocabulary is likely to expand through strategic training of guessing from context. A better understanding of how the lexical items contribute to meanings in context is said to help students reduce cognitive load of new and complex words.

Even though a single encounter of novel words from context might not make the word-learning process easier for students, especially when the meanings of words are subtle and abstract, contexts remain an indispensable source for language learners to acquire linguistic knowledge as well as background knowledge. Hence, when learning the use of guessing-from-context strategy, learners should not limit themselves to use it all the time to infer word meanings as the successful practice depends more on the quality but not the quantity of the strategy used (Nassaji, 2003).

2.4.2 Identifying Word Parts in Academic Texts

There is a wide agreement among scholars that students with better morphological awareness have more morphemic clues in inferring and retaining morphologically complex vocabulary. Due to the time limit in class, only a few words can be taught by direct instruction. Understanding the patterns of word meaning may help English language learners evaluate the possible meanings of an unfamiliar word (Nagy & Gentner, 1990) and better recognize the meaning of the word as a whole.

In academic texts, most abstract nouns are derived from more concrete words by adding suffixes: *-ance/ence* (*assistance, dependence*), *-cy* (*accuracy, democracy*), *-age* (*usage, mileage*), *-ment* (*employment, supplement*), *-ness* (*cleanliness, readiness*), *-ity* (*diversity, simplicity*) and -

ion (evolution, depression) etc. These derivational suffixes are typical for academic language and facilitate information flow and the development of arguments (Fang, 2008). They are fairly regular in meaning and can lead to useful vocabulary expansion. In other words, the uses of abstract words and nominalization are essential for the development of L2 writers' academic literacy. Besides suffixes, it is also sensible to teach the most commonly used prefixes because most prefixes have consistent meanings and spellings (Graves & Hammond, 1980). It is more likely that advanced learners of English with decent vocabulary size would be able to explore the words that contain Greek and Latin word elements.

In addition, Cao's (2016) study relating to the Chinese learners' processing of EFL derived words stated that the derived words posed a notable priming effect on their stems and the effect was not affected by the level of familiarity. The study showed that the processing of second-language derived words which was similar to L1 processing might be affected by the morphological structures. That said, the higher frequency of the stems was, the more possible they would be identified as the morphemes and the easier the decomposition processing mechanism in word recognition would be activated. This means that strategies related to analyzing the word parts of a complex word can make it possible for language learners to more easily memorize the word (Wei, 2015) and potentially help the learners acquire an impressive amount of new academic words.

Methodology

The importance of vocabulary knowledge is noteworthy in language learning. ELL students' lexical errors may impair their communication. Enhancing proficiency in a foreign language requires learners to know not just word meanings, but the words' derived forms,

spellings, pronunciations, and grammatical uses (Nation, 2001). It is suggested that language teachers should take a proactive step to guide their students to learn vocabulary effectively.

To understand the students' actual needs, language teachers should explore what their students think about the process of vocabulary learning and what actions they take to learn vocabulary. Plainly, students need to be supported in advancing their use of words and learning words at higher levels than their current language development level in order to enhance their vocabulary knowledge (Hollingsworth & Ybarra, 2013).

In earlier research, it was demonstrated that in first-language contexts, 12 exposures to a word through multiple uses and various occasions could lead to word learning (McKeown et al., 1985), while in second-language acquisition, the number of exposure increased to at least 10 to 12 for word learning (Nation, 2001). Therefore, the present study was designed to provide at least 10 exposures of the target words to students through the vocabulary learning activities and assessed their knowledge about the words in the process. It highlighted the two vocabulary learning strategies through direct instruction for higher-intermediate students who study in EAP classes in an American community college.

3.1 Research Questions

In academic settings, for students to access their understanding of readings and assignments and explain their ideas in writing, the shortfall in their lexical knowledge often becomes a huge obstacle. Given that students' development of English academic language proficiency strongly correlates with the academic vocabulary size, vocabulary acquisition is conventionally regarded as a crucial area in language learning for students to bolster academic achievement. Still, in the academic vocabulary research field, the emphasis is put on which vocabulary words should be taught and what effective classroom instruction should be adopted,

while less is known about how vocabulary words are being directly learned by English language learners in academic settings and how learners use the learning strategies to acquire new or unfamiliar words on their own.

The present research study suggests the need of raising awareness of key vocabulary learning strategies among international students in EAP programs. The questions of interest were stated as follows:

- 1) How, and to what extent, will international students better acquire the meanings and spellings of the target words when they are exposed to vocabulary strategies in an EAP class?
- 2) What are some common errors in orthographic patterns and word forms that international students make in acquiring English academic vocabulary?
- 3) What word learning strategies and approaches do international students prefer when they acquire vocabulary?

3.2 Demographic Profile of Participants

Participants were international students who came mostly from Asian countries and had already studied English as a foreign language. They have been studying in the United States for less than two years. This study was administered in three separate classes at higher-intermediate levels between 4 and 6, including Advanced Academic Writing, College Bridge, as well as Lecture Comprehension & Discussion. The class size was around 10 to 15 students. 38 students participated in learning with sample sentences, and 33 students participated in learning with word parts. In total, 30 students engaged in both vocabulary learning activities.

The EAP courses the participants took focused intensively on the reading, academic writing, and other literacy skills needed in American colleges or universities. Students were

placed in levels ranging from 1 to 6 after taking a placement test prior to the first quarter they attended to classes. Many of them had almost completed high school in their countries.

Among 30 students who took attended both activities, they were originally from regions or countries such as Mainland China, South Korea, Japan, Vietnam, Saudi Arabia, Taiwan, Venezuela, and Congo. Half of them are male, and the other half are female. Most of them are from Asian countries.

Nearly all students were from 18 to 24 years old, representing 90% of the total (see Table 17.1). Some students in the group learned other languages besides English and their first language, including Korean, Japanese, Chinese, French, Norwegian, Russian, Portuguese, and Italian. Many students speak Chinese Mandarin or Chinese Cantonese as their first language, accounting for 53.33% of the total (see Table 17.2). 6 students are Vietnamese and 3 students are Japanese. 2 students' first language is Arabic. 10% of students in total speak Lingala, Spanish, and Korean.

Many students have been staying in the United States for 12 months or less, accounting for 70% of the total, among which 5 students, or 16.67% of the class, came to study in the country less than 6 months ago. The rest of the class, accounting for 29.99% of the total, have been studying in the United States for more than a year.

Table 1.1

Age of Participants

Age	Number of Students	Percentage (%)
18-24	27	90
25-29	2	6.67
Above 30	1	3.33

Table 1.2

First Language Spoken by Participants

Language	Number of Students	Percentage (%)
Chinese (Mandarin)	12	40
Chinese (Cantonese)	4	13.33
Vietnamese	6	20
Japanese	3	10
Arabic	2	6.67
Lingala	1	3.33
Spanish	1	3.33
Korean	1	3.33

Table 1.3

Length of Stay in the United States

Length	Number of Students	Percentage (%)
Less than 6 months	5	16.67
6-12 months	16	53.33
More than a year and less than 2 years	1	3.33
2-3 years	4	13.33
More than 3 years and less than 4 years	4	13.33

3.3 Research Design

The research was based on a mixed method, using both quantitative approach and the qualitative approach. Two approaches were combined in order to achieve a greater degree of validity in the results of the research and corroborate the implications discussed by the researcher. The first approach involved the conducting of a quantitative study, consisting of vocabulary tests designed to assess the participants' word-learning performance and linguistic knowledge about the target words. Two different vocabulary learning activities were carried out. In each activity, the students were told to complete a set of tasks related to 10 target words. The paired samples T test was used to compare the means of participants' scores in pretests and posttests.

The vocabulary learning tests were followed by the second approach, which was a qualitative survey. It was conducted to gather the participants' individual responses to the

vocabulary learning strategies and their own word-learning experience. The questions were predominately open-ended and sought to learn about the students' language background, foreign language learning experience other than English, and the approaches they take in second-language vocabulary learning process.

3.4 Research Instruments

The target words introduced in the two vocabulary learning activities are mainly complex and abstract words which combine meaningful smaller units or morphemes (i.e., prefixes, suffixes, and high-frequency stems) in the academic contexts. All words consist of at least three syllables.

Table 2.1

Syllable Table of Target Words – Learning with Sample Sentences

Target Words	Number of Syllables	Number of Stressed Syllables
dominant	3 / dom-i-nant	1 / <i>dom</i> -i-nant
qualitative	4 / qual-i-ta-tive	1 / <i>qual</i> -i-ta-tive
prosperity	4 / pros-per-i-ty	1 / pros- <i>per</i> -i-ty
paradigm	3 / par-a-digm	1 / <i>par</i> -a-digm
rationalism	4 / ra-tion-al-ism	1 / <i>ra</i> -tion-al-ism
reinforcement	4 / re-in-force-ment	1 / re-in- <i>force</i> -ment
utilize	3 / u-ti-lize	1 / <i>u</i> -ti-lize
minimize	3 / <i>min</i> -i-mize	1 / <i>min</i> -i-mize
initially	4 / in-i-tial-ly	1 / in- <i>i</i> -tial-ly
presumably	4 / pre-sum-a-bly	1 / pre- <i>sum</i> -a-bly

Table 2.2

Syllable Table of Target Words – Learning with Word Parts

Target Words	Number of Syllables	Number of Stressed Syllables
successive	3 / suc-ces-sive	1 / suc- <i>ces</i> -sive
conceivable	4 / con-ceiv-a-ble	1 / con- <i>ceiv</i> -a-ble
enforcement	3 / en-force-ment	1 / en- <i>force</i> -ment
clarification	5 / clar-i-fi-ca-tion	2 / <i>clar</i> -i-fi- <i>ca</i> -tion
presumption	3 / pre-sump-tion	1 / pre- <i>sump</i> -tion
manipulation	5 / ma-nip-u-la-tion	2 / ma- <i>nip</i> -u- <i>la</i> -tion
contradict	3 / con-tra-dict	2 / <i>con</i> -tra- <i>dict</i>
visualize	4 / vis-u-al-ize	1 / <i>vis</i> -u-al-ize

correspondingly	5 / cor-re- <u>spond</u> -ing-ly	2 / <i>cor-re-spond</i> -ing-ly
specifically	5 / spe-cif-i-cal-ly	1 / spe- <i>cif</i> -i-cal-ly

Considering that observation can barely retrieve mental processes with the help of quantitative test, another instrument used in the present study was a survey on students' strategies related to vocabulary learning. The survey was conducted upon completion of the two vocabulary learning activities. It identified strategies that students used to learn vocabulary in their previous study of English and discovered which way they preferred to use in order to learn new words. The questionnaire used in the present study was an adapted version of the survey used by Sanaoui (1992) who investigated how adult second language learners approached the task of vocabulary learning and what mnemonic procedures they used to retain the lexical items they were learning in a second language.

3.5 Procedures

Each participant attended two vocabulary learning activities that were conducted at a different time within two weeks. Their performance was assessed throughout the two activities. The strategies taught during the two vocabulary learning activities were 1) learning with sample sentences and 2) learning with word parts.

Participants, who were the students enrolled in three classes, learned 10 target words at a time and completed the vocabulary learning tasks for each activity on the same day. At the start of the classes, students were informed that the vocabulary activities aimed to help them practice using the strategies in the process of learning words. They were told to complete several tasks throughout a class which lasted for 50 minutes. The two activities were held separately, and each time included one vocabulary learning strategy. In the first activity, participants learned target words through searching meanings from sample sentences. In the second activity, the meanings

of another set of 10 target words were taught by exposure to the word parts (suffixes, prefixes, and stems).

Each activity followed a similar assessment model which had five components (see Appendix A):

Part A) Dictation of target words (pre-test)

Part B) Using a vocabulary learning strategy

Part C) Word definition test

Part D) Dictation of target words (immediate post-test)

Part E) Word form test

In part A, students were asked to write down the ten target words that they heard from the teacher. Each word was pronounced three times. The teacher then provided the correct spellings of the target words in class and asked the students to repeat the pronunciation of each word out loud.

In part B, the two word-learning strategies were instructed at a different time. When learning with sample sentences, students wrote down each target word beside its corresponding sample sentence then they were told to discuss in pairs and guess the meanings of target words from the sample sentences. For the word-part instruction, a word part chart was used and the teacher assisted students in recognizing meanings and uses of individual suffixes, prefixes, and roots within the target words. Part B focused on the instruction of using vocabulary learning strategies. The definitions of words were not directly given to the students.

Followed by the instruction in part B, participants in part C were tested based on their understanding of the word definitions of the target words. They needed to match the correct definitions with the target words in around 10 minutes.

In part D, students were asked again to write down the ten target words that they heard from the teacher. This part served as an immediate posttest of part A. Each word was pronounced twice. The order of the target words pronounced was different from part A.

Lastly, in part E students were told to fill out the correct word forms of the target words in a table which comprised of four categories of word forms (noun, verb, adjective, and adverb). Around 10 minutes were given to students. They were not allowed to discuss their answers in this part.

All parts in each activity were administered on the same day. Answers were checked with students in class after they completed the tasks. The teacher recorded individual scores for parts A, C, D, and E. Students were explicitly taught the use of vocabulary learning strategies and the steps of guessing meanings from target words in part B. Upon the completion of all testing included in the two vocabulary learning activities, each student was asked to fill out a questionnaire on vocabulary learning acquisition (see Appendix B).

Findings

The present study intended to investigate test results about vocabulary learning and self-reported responses about vocabulary learning strategies used by international students who study English in EAP classes. The findings were collected from tests that the students completed in two different vocabulary learning activities (learning with sample sentences and learning with word parts) and questionnaires that addressed the research questions mentioned in chapter I.

The chapter first focused on the research question 1 (*How, and to what extent, will international students better acquire the meanings and spellings of the target words when they are exposed to vocabulary strategies in an EAP class?*). It then presented the results of pretests and posttests in part A and part D as well as the scores in part C and part E from the two

vocabulary learning strategies. Followed by the test scores, tables regarding the errors regarding the words' syllables, stress, and forms were presented in order to address the research question 2 (*What are some common errors in orthographic patterns and word forms that international students make in acquiring English academic vocabulary?*).

Finally, sections 4.3 and 4.4 shed light on research question 3 (*What word learning strategies and approaches do international students prefer when they acquire vocabulary?*). The two sections described the participants' responses about language backgrounds and examined their beliefs and the strategies they used to learn vocabulary in English.

4.1 Results of Tests

The independent samples t-test was conducted to find any possible significant difference between the mean scores of the part A (pretest) and part B (immediate posttest) in the two vocabulary learning activities, learning with sample sentences and learning with word parts. Statistics of the tests regarding word definitions and word forms were shown as well.

4.1.1 Research Question 1: How, and to what extent, will international students better acquire the meanings and spellings of the target words when they are exposed to vocabulary strategies in an EAP class?

Samples t-tests were conducted to test if the pretest and immediate posttest results in the two activities which used different vocabulary learning strategies posted any significant difference.

The total score was 10 per test. The vocabulary pretest mean for learning with sample sentence group was 3.26 (SD = 2.668), and the immediate posttest mean was 7.29 (SD = 2.690) (see Table 3.1). The difference was statistically significant, with $t(38) = -10.757$, and the p-value was less than 0.05 (see Table 3.2). The mean percentage between the pretest and the immediate

posttest increased by 123.62%. Thus, the instruction of learning target vocabulary with sample sentences was shown to be effective and led to improved performance on the posttest.

Table 3.1

Means of Pretest and Posttest in Learning with Sample Sentences

	Mean	Number	Std. Deviation	Std. Error Mean
Part A Pretest	3.2632	38	2.66797	.43280
Part D Posttest	7.2895	38	2.69040	.43644

Table 3.2

Paired Samples Test of Pretest and Posttest in Learning with Sample Sentences

	Number	Mean	Std. Deviation	df	t	P
Pretest	38	-4.02632	2.30730	37	-10.757	.000
Posttest						

On the word definition test and word form test using sample sentences, the means and score distributions of 38 students were shown as below. In the word definition test, the mean was 6.87 (SD = 2.73) (see Table 4). Less than one-thirds of students received the score between 0-5, accounting for 26.31% of the total number (see Table 5). 17 students, or 44.74% of the class, received the score between 6 and 8, and 11 students, or 28.95% of the class, received high scores 9 to 10. The results showed that the majority of the students passed the test.

Table 4

Mean of Word Definition Test in Learning with Sample Sentences

	N	Minimum	Maximum	Mean	Std. Deviation
Word Definition Test	38	1.00	10.00	6.8684	2.73289

Table 5

Score Distributions of Word Definition Test in Learning with Sample Sentences

Test Score	Number of Students	Percentage (%)
0-2	2	5.26
3-5	8	21.05
6-8	17	44.74

9-10	11	28.95
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As regards the word form test, the mean was 8.29 (SD=2.18) (see Table 6). The number of students who scored 5 or less was 4, or 10.52% of the class. 11 students scored between 6 and 8, representing 28.95% of the class. More than half of the class scored 9 or a full mark, accounting for 60.53% of the total number of students (see Table 7).

Table 6

Mean of Target Word Form Test in Learning with Sample Sentences

	N	Minimum	Maximum	Mean	Std. Deviation
Word Form Test	38	2.00	10.00	8.2895	2.17986

Table 7

Score Distributions of Word Form Test in Learning with Sample Sentences

Test Score	Number of Students	Percentage (%)
0-2	2	5.26
3-5	2	5.26
6-8	11	28.95
9-10	23	60.53

As for the vocabulary learning activity using word parts, the vocabulary pretest mean of the group was 2.55 (SD = 2.43), and the immediate posttest mean was 6.55 (SD = 3.26) (see Table 8.1). The difference was statistically significant, with $t(33) = -11.40$ and $p\text{-value} < .000$ (see Table 8.2). The percentage difference between the pretest and the immediate posttest was +156.86%. The students' performance on the immediate posttest after the instruction on the learning strategy with word parts was substantially better than their performance on the pretest.

Table 8.1

Means of Pretest and Posttest in Learning with Word Parts

	Mean	N	Std. Deviation	Std. Error Mean
Part A Pretest	2.5455	33	2.42501	.42214

Part D Posttest	6.5455	33	3.26047	.56758
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Table 8.2

Paired Samples Test of Pretest and Posttest in Learning with Word Parts

	Number	Mean	Std. Deviation	df	t	P
Pretest	33	-4.00000	2.01556	32	-11.400	.000
Posttest						

On the word definition test and word form test in the vocabulary learning activity using word parts, the means and score distributions of 33 students were shown as follows. In the word definition test, the mean was 6.33 (SD = 2.15) (see Table 9). Only 1 student scored between 0 to 2 in the test, representing 3.03% of the class (see Table 10). 9 students, or 27.27% of the class, received the score between 3 and 5. Over a half of the class obtained the score between 6 and 8, representing 54.55% of the total. 5 students scored 9 or 10, accounting for 15.15% of the class.

Table 9

Mean of Word Definition Test in Learning with Word Parts

	N	Minimum	Maximum	Mean	Std. Deviation
Word Definition Test	33	1.00	10.00	6.3333	2.14573

Table 10

Score Distributions of Word Definition Test in Learning with Word Parts

Test Score	Number of Students	Percentage (%)
0-2	1	3.03
3-5	9	27.27
6-8	18	54.55
9-10	5	15.15

As regards the word form test, the mean was 8.82 (SD = 1.63) (see Table 11). No student scored less than 2. The number of students who scored between 3 and 5 was 3, or 9.09% of the class. 5 students scored between 6 and 8, representing 15.15% of the class. Slightly more than

two-thirds of the class scored 9 or a full mark, accounting for 75.76% of the total number of students (see Table 12).

Table 11

Mean of Word Form Test in Learning with Word Parts

	N	Minimum	Maximum	Mean	Std. Deviation
Word Forms	33	4.00	10.00	8.8182	1.62893

Table 12

Score Distributions of Word Form Test in Learning with Word Parts

Test Score	Number of Students	Percentage (%)
0-2	0	0
3-5	3	9.09
6-8	5	15.15
9-10	25	75.76

A total of 30 students participated in both sample-sentence group and word-part group. The average means of the pretests and the posttests taken by the students were similar (see Table 13.1) in the two groups. The figures showed that students learning vocabulary with sample sentences received 2.97 in the pretest and 6.60 in the posttest. For those who learned vocabulary with word parts, they received 2.13 in the pretest and 6.64 in the posttest. In word definition test, the means of the scores received by the students in the sample-sentence group and the word-part group were 6.30 and 6.53, respectively. Speaking of the word form test, the students achieved a higher mean (8.77) of scores in the word-part group. The mean of scores in the sample sentence group was 8.13.

Table 13.1

Comparison of Means of Test Results between Sample-sentence Group and Word-part Group

	N	Mean	Std. Deviation
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Part A Pretest			
Sample-sentence Group	30	2.97	2.66
Word-part Group	30	2.13	2.13
Part D Posttest			
Sample-sentence Group	30	6.60	2.71
Word-part Group	30	6.43	3.23
Word Definition Test			
Sample-sentence Group	30	6.30	2.64
Word-part Group	30	6.53	2.01
Word Form Test			
Sample-sentence Group	30	8.13	2.30
Word-part Group	30	8.77	1.72

*Total score per test was 10

In particular, when comparing the results of pretests and posttests of the sample-sentence group to the results of the word-part group, the paired samples tests revealed statistically significant changes in both groups (see Table 13.2). In the sample-sentence group, $t(30) = -8.67$ and $p\text{-value} < .000$. The difference in means of the scores equaled to 3.53. The pretest-posttest pair in the word-part group showed a larger discrepancy in means of scores, which was 4.30, and $t(30) = -10.56$, with $p\text{-value} < .000$.

Table 13.2

Paired Samples Tests of Pretests and Posttests in Learning with Sample Sentences and Word Parts

	Number	Mean	Std. Deviation	df	t	P
Sample-sentence Group Pretest-Posttest	30	-3.63	2.30	29	-8.67	.000
Word-part Group Pretest-Posttest	30	-4.30	2.23	29	-10.56	.000

4.1.2 Research Question 2: What are some common errors in orthographic patterns and word forms that international students make in acquiring English academic vocabulary?

The study intended to find out two types of errors in relation to the orthographic patterns of the target words. The following results showed the means of the two types of errors made in the pretests and the posttests of the two vocabulary learning activities. The number of questions not attempted and the number of incomplete answers (including one syllable or a few of meaningless letters) were also recorded. The tables covered results from 30 students who participated in both activities.

Syllable Number error resulted in a change in the total number of syllables of the target words. Syllable Stress error occurred in either stressed or unstressed syllables of the target words. For example, the misspelled word *presomtion (presumption) would be marked to have an error that led to no change in the number of syllables of the target word “presumption” while the error appeared in a stressed syllable (-sump-) of the target word. Another misspelled word *rasionlism (rationalism) would contain an error that resulted in a change in the number of syllables of the target word “rationalism” and errors appeared in unstressed syllables (-tion- and -al-) of the target word.

On the pretest of learning with sample sentences, the mean of Syllable Number errors relating to no change in the total syllables of the target words was 4.27 (SD = 2.033) (see Table 13.1) while the mean of Syllable Number errors relating to a change in the total syllables of the target words was 1.67 (SD = 1.749). For the posttest, the mean of Syllable Number errors pertaining to a change in the number of syllables and no change in the number of syllables dropped to 2.07 (SD=1.617) and 0.73 (SD = 1.172) respectively. There was a significant

difference between the means in pretests and posttests. For the pretest-posttest pair of errors relating to the change in the number of syllables, $t(30) = 6.339$ and $p\text{-value} < .000$ (see Table 13.2). For the pretest-posttest pair of errors relating to no change in the number of syllables, $t(30) = 3.161$ and $p\text{-value} = .004$.

In regard to the Syllable Stress errors which occurred in stressed syllables of the target words, the mean was 2.43 (SD = 1.832), and the mean of errors that occurred in unstressed syllables was 8.13 (SD = 4.848). For the posttest, the mean of Syllable Number errors pertaining to a change in the number of syllables and no change in the number of syllables dropped to 2.07 (SD = 1.617) and 0.73 (SD = 1.172) respectively. The means of Syllable Stress errors in the posttest also declined to 1.27 (SD = 1.701) relating to the stressed syllables of target words and 3.23 (SD = 3.23) relating to the unstressed syllables of target words. The means in pretests and posttests indicated a significant difference. For the pretest-posttest pair of errors appearing in the stressed syllables of the target words, $t(30) = 3.040$ and $p\text{-value} = .005$ (see Table 13.2). For the pretest-posttest pair of errors relating to unstressed syllables, $t(30) = 6.346$ and $p\text{-value} = .000$.

Table 14.1

Means of Errors of Pretest and Posttest in Learning with Sample Sentences

	Minimum	Maximum	Mean	Std. Deviation
Pretest- No Change in Syllables	0	9	4.27	2.033
Posttest- No Change in Syllables	0	7	2.07	1.617
Pretest- Change in Syllables	0	5	1.67	1.749
Posttest- Change in Syllables	0	5	.73	1.172
Pretest- Stressed Syllables	0	7	2.43	1.832
Posttest- Stressed Syllables	0	6	1.27	1.701
Pretest- Unstressed Syllables	1	16	8.13	4.848
Posttest- Unstressed Syllables	0	12	3.23	3.481

Table 14.2

Paired Samples Test of Error Types of Pretest and Posttest in Learning with Sample Sentences

		Mean	Std. Deviation	df	t	P
Pair 1	Pretest No Change in Syllables – Posttest No Change in Syllables	2.200	1.901	29	2.910	.000
Pair 2	Pretest Change in Syllables – Posttest Change in Syllables	.933	1.617	29	3.161	.004
Pair 3	Pretest Stressed Syllables – Posttest Stressed Syllables	1.167	2.102	29	3.040	.005
Pair 4	Pretest Unstressed Syllables – Posttest Unstressed Syllables	4.900	4.229	29	6.346	.000

In the pretest of learning with sample sentences, the mean of the number of blank answers was 0.53 (SD = 1.525) (see Table 13.3) while the mean of the number of incomplete answers was 0.37 (SD = 0.718). In regard to the posttest, the mean of the number of blank answers decreased to 0.20 (SD = 1.095), and the mean of the number of incomplete answers was 0.17 (SD = 0.531).

Table 14.3

Means of Blank/Incomplete Answers of Pretest and Posttest in Learning with Sample Sentences

	N	Minimum	Maximum	Mean	Std. Deviation
Pretest_Blank	30	0	7	.53	1.525
Posttest_Blank	30	0	6	.20	1.095
Pretest_Incomplete	30	0	3	.37	.718
Posttest_Incomplete	30	0	2	.17	.531

Speaking of the pretest of learning with word parts, the mean of Syllable Number errors relating to no change in the total syllables of the target words was 3.93 (SD = 1.87) (see Table 14.1) while the mean of Syllable Number errors relating to a change in the total syllables of the target words was 2.6 (SD = 1.69). For the posttest, the mean of Syllable Number errors pertaining to a change in the number of syllables and no change in the number of syllables

dropped to 1.80 (SD = 1.40) and 1.27 (SD = 1.55) correspondingly. It indicated a significant difference between the means in pretests and posttests. For the pretest-posttest pair of errors relating to the change in the number of syllables, $t(30) = 5.525$ and $p\text{-value} < .000$ (see Table 14.2). For the pretest-posttest pair of errors relating to no change in the number of syllables, $t(30) = 6.509$ and $p\text{-value} < .000$.

In regard to the Syllable Stress errors which occurred in stressed syllables of the target words, the mean of the pretest was 4.40 (SD = 2.513), and the mean of errors that occurred in unstressed syllables in the pretest was 6.87 (SD = 3.646). For the posttest, the mean of Syllable Number errors pertaining to a change in the number of syllables and no change in the number of syllables dropped to 1.26 (SD = 1.552) and 1.80 (SD = 1.340) respectively. The means of Syllable Stress errors in the posttest also declined to 1.90 (SD = 1.989) relating to the stressed syllables of target words and 2.93 (SD = 3.362) relating to the unstressed syllables of target words. The means between pretests and posttests posted a significant difference. For the pretest-posttest pair of errors appearing in the stressed syllables of the target words, $t(30) = 6.382$ and $p\text{-value} < .000$ (see Table 14.2). For the pretest-posttest pair of errors relating to unstressed syllables, $t(30) = 7.011$ and $p\text{-value} < .000$.

Table 15.1

Means of Errors of Pretest and Posttest in Learning with Word Parts

	N	Minimum	Maximum	Mean	Std. Deviation
Pretest No Change in Syllables	30	.00	7.00	3.9333	1.87420
Posttest No Change in Syllables	30	.00	5.00	1.8000	1.39951
Pretest Change in Syllables	30	.00	7.00	2.6000	1.69380

Posttest Change in Syllables	30	.00	5.00	1.2667	1.55216
Pretest Stressed Syllables	30	.00	10.00	4.4000	2.51341
Posttest Stressed Syllables	30	.00	7.00	1.9000	1.98876
Pretest Unstressed Syllables	30	1.00	15.00	6.8667	3.64581
Posttest Unstressed Syllables	30	.00	10.00	2.9333	3.36240

Table 15.2

Paired Samples Test of Error Types of Pretest and Posttest in Learning with Word Parts

		Mean	Std. Deviation	df	t	P
Pair 1	Pretest No Change in Syllables – Posttest No Change in Syllables	2.13333	1.79527	29	6.509	.000
Pair 2	Pretest Change in Syllables – Posttest Change in Syllables	1.33333	1.32179	29	5.525	.000
Pair 3	Pretest Stressed Syllables – Posttest Stressed Syllables	2.50000	2.14556	29	6.382	.000
Pair 4	Pretest Unstressed Syllables – Posttest Unstressed Syllables	3.93333	3.07306	29	6.346	.000

In the pretest of learning with word parts, the mean of the number of blank answers was 0.60 (SD = 1.221) (see Table 14.3) while the mean of the number of incomplete answers was 0.33 (SD = 0.922). In regard to the posttest, the mean of the number of blank answers decreased to 0.17 (SD = 0.75), and the mean of the number of incomplete answers was 0.43 (SD = 1.25).

Table 15.3

Means of Blank/Incomplete Answers of Pretest and Posttest in Learning with Word Parts

	N	Minimum	Maximum	Mean	Std. Deviation
Pretest_Blank	30	.00	5.00	.6000	1.22051
Posttest_Blank	30	.00	4.00	.1667	.74664
Pretest_Incomplete	30	.00	4.00	.3333	.92227
Posttest_Incomplete	30	.00	6.00	.4333	1.25075

In order to learn about the frequency of the error types in the word form test, the number of errors which were classified into four main word forms (nouns, adjectives, adverbs, and verbs)

was listed, along with the respective error percentage out of total responses. The tables showed the number of errors which occurred when students misplaced the target words.

As regards learning with sample sentences, the majority of error made by the students was an adjective *dominant*, accounting for 36.84% (see Table 15). The students tended to make much less errors related to verbs *utilize* and *minimize*, which represented 7.89% and 10.52% respectively. The total number of errors in the vocabulary learning activity with sample sentences was 66 and the average number of error per student was 1.74.

Table 16

Error Distribution of Word Parts of Word Form Test in Learning with Sample Sentences

Target Word	Part of Speech	Number of Errors	Percentage of Errors (%) Out of Total Responses
Dominant	Adjective	14	36.84
Qualitative	Adjective	6	15.79
Prosperity	Noun	8	21.05
Paradigm	Noun	5	13.16
Rationalism	Noun	5	13.16
Reinforcement	Noun	6	15.79
Utilize	Verb	3	7.89
Minimize	Verb	4	10.52
Initially	Adverb	7	18.42
Presumably	Adverb	8	21.05

Note: Total number of students was 38

On the word form test for the activity of learning the target words with word parts, the total error made by the students amounted to 35, and the average number of error per student was 0.92 (see Table 16). The most common error type appeared to be found in verb form. The percentage of errors of verbs *visualize* and *contradict* accounted for 15.15% and 18.18% respectively.

Table 17

Error Distribution of Word Parts of Word Form Test in Learning with Word Parts

Target Word	Part of Speech	Number of Errors	Percentage of Errors (%) Out of Total Responses
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Successive	Adjective	4	12.12
Conceivable	Adjective	3	9.09
Enforcement	Noun	4	12.12
Clarification	Noun	2	6.06
Presumption	Noun	3	9.09
Manipulation	Noun	3	9.09
Visualize	Verb	5	15.15
Contradict	Verb	6	18.18
Correspondingly	Adverb	1	3.03
Specifically	Adverb	4	12.12

Note: Total number of students was 33

4.1.3 Research Question 3: What word learning strategies and approaches do international students prefer when they acquire vocabulary?

Responses were collected from 30 international students who attended both vocabulary learning activities. The questionnaire was completed individually upon the completion of the two activities. This session highlighted the results of certain questions regarding the participants' approaches to learning vocabulary.

For the preference of the vocabulary learning strategy, 25 students liked learning with sample sentences more, representing 83.33% of the total (see Table 17.1). The rest of students, or 16.67%, of the group preferred to learn with word parts. Most of the students found vocabulary in English learning very important, accounting for 73.33% of the total. 8 students believed the position of vocabulary in English learning was important. No one answered that vocabulary in English learning was not important.

When asked how much time they spent each week, on average, learning English vocabulary in activities they had out of class, 3 students did not spend time learning words outside the classroom. 10 students said they spent one hour or less weekly learning vocabulary. 13 students, or 43.33%, chose 2-3 hours. The number of students who answered 6-10 hours and more than 10 hours was equal, accounting for 6.67% of the total respectively.

In response to the question that how often the students reviewed the English words they wrote down, 7 of them, or 23.33% of the group, stated they never or rarely reviewed the English words. The large number of the students, accounting for 63.33%, said they sometimes reviewed the words. The remaining 4 students often reviewed the words.

Table 18.1

*Survey Questions and Responses***Which vocabulary learning activity do you like more?**

<u>Answer</u>	<u>Number of Students</u>	<u>Percentage (%)</u>
Learning with Sample Sentences	25	83.33
Learning with Word Parts	5	16.67

In your opinion, what is the position of vocabulary in English Learning?

Very important	22	73.33
Important	8	26.67
Not important	0	0

How much time do you spend each week, on average, learning English vocabulary in activities you have out of class?

No time	3	10
One hour or less	10	33.33
2-3 hours	13	43.33
4-5 hours	0	0
6-10 hours	2	6.67
More than 10 hours	2	6.67

How often do you review the English words you write down?

Never/Rarely	7	23.33
Sometimes	19	63.33
Often	4	13.33

Almost two-thirds of the students, accounting for 73.33% of the total, responded that they learned vocabulary from activities in English classes, from homework assigned in their courses, and from self-initiated learning activities they did outside the classroom (see Table 17.2). The rest of the group said they learned vocabulary most from activities in class time and from the

homework assigned for class. Most of the students, 73.33% of the total, said they kept minimal written records but made a mental note of the English words they learned in and/or outside of class. 8 students, or 26.67% of the total, said they kept good written records of the English words they were learning in class and/or outside of class. Less than half of the group, representing 40% of the total, said their main reason for writing down English words they were learning was to review them later. 60% of the group, or 18 students out of the total, said their main reason for writing down English words was to help them memorize that word.

Around 50% of the students said their opportunities for practicing the English words they were learning came mostly from class activities and from homework assigned in English courses, accounting for 53.33% of the total. 14 students, or 46.67% of the class said their opportunities for practicing the English words came mostly from class activities and from activities in class, homework assigned in English courses, and from activities they joined out of class during the week.

Table 18.2

Statement Questions and Responses

Statement	Number of Students	Percentage (%)
I learn vocabulary most from activities in English classes, and from the homework assigned for class.	8	26.67
I learn vocabulary from activities in English classes, from homework assigned in my courses, and from self-initiated learning activities I do outside class time.	22	73.33
Total Number of Students	30	
I keep good written records of the English words I am learning in class and/or outside of class (i.e. in a vocabulary book, on cards, etc.).	8	26.67

I keep minimal written records but make a mental note of the English words I learn in and/or outside of class.	22	73.33
Total Number of Students	30	
My main reason for writing down English words I am learning is to come back and review them later.	12	40
My main reason for writing down English words I am learning is to help me memorize that word.	18	60
Total Number of Students	30	
My opportunities for practicing the English words I am learning come mostly from class activities and from homework assigned in English courses	16	53.33
My opportunities for practicing the English words I am learning come from activities in class, homework assigned in English courses, and from activities I join out of class during the week.	14	46.67
Total Number of Students	30	

4.2 Qualitative Results

Among the participants, many of them, accounting for 17 of the group, usually learned vocabulary by reading repeatedly. The number of participants who usually learned vocabulary by writing automatically was 7. A few participants said they learned vocabulary by association and by keeping word cards with pictures, photographs, objects, and so on. The other responses included “by looking at affixes and roots”, “by leaning on the Internet”, “by speaking and hearing”, and “by watching movies” (see Appendix C).

Students’ responses to the question where they wrote English words they were learning in class or independently included many different ways, such as books, notebooks, on top of the words, paper, notes, cellphone, and post-its. When asked how they usually reviewed the English

words they wrote down, the participants reacted differently. Some of them said they did not really review the words and only review the words before the tests. The majority of them chose to repeat the words and read the words out loud during the review. Repetition was the most common way that the students took to review the English words.

As regards the question that asked the students to list words that they had learned in or out of class since the course began, the students reported far more words that they learned in class than the words that they learned out of class. Quite a few of the words that were reported being learned out of the class were misspelled, such as *habor (harbor) and *intial (initial).

Discussion

As there are too many words in English for teachers to instruct directly, it seems more likely that students need to increase knowledge about the process of acquiring words. The vast majority of international students in the United States, particularly those who study in college preparatory courses, may encounter most academic words they need to learn through their schoolwork. Attending classes becomes the major access for those students to learn less frequent words that are weightier and more important in expressing concepts and helping a logically organized flow of ideas in academic texts.

5.1 Overview of the Study

In the present study, the importance of direct instruction for the development of academic vocabulary is extensively discussed. The results demonstrated that the intervention effects of teaching students the meanings of academic words along with the strategies for using information from sample sentences and morphological clues. While most language teachers view vocabulary acquisition as a continual process that probably extends across a learner's lifetime, survey responses from this study showed that many English language learners who attended the

research rarely have a conscious attempt to learn and review vocabulary words outside of school, and they may not consider that spelling, pronunciation, stress rules, morphology, and meanings are equally important in developing word knowledge. Not surprisingly, most of the participants learn more words in the English texts when they are taught and required for vocabulary tests.

There is considerable evidence from the previous studies showing that vocabulary development is highly correlated with other literacy skills such as reading and writing as well as phonemic and morphological awareness (Marzano, 2010; Ramos, 2015). Acquisition of unfamiliar words most of the time happens by guessing the meanings and through extensive reading and writing practices. Previous research (Carlo et al., 2008) indicated a positive effect of direct vocabulary instruction on English language learners whose vocabulary knowledge and reading comprehension generally improved when compared to their English-speaking peers.

Explicit instructional tasks encompassing word analysis not just deepen students' knowledge of the target words but also help students associate the words with their past experiences. The vocabulary learning strategies used in the research particularly emphasize the teaching of receptive vocabulary, which includes academic words that students need to recognize and understand the meanings and forms. It is prudent to single out the usefulness of academic vocabulary development for international students who are in EAP programs as the relationship between vocabulary knowledge and academic achievement is interrelated.

Discussion of the Findings

The results of the tests during the academic vocabulary learning activities in this study revealed several crucial findings. Target words were presented to the students through tasks that involved listening, speaking, reading, and spelling. The experimental group of international students learned and practiced the pronunciations, spellings, and meanings of vocabulary words

effectively when they received explicit instruction on learning strategies, including learning words with sample sentences as well as word parts.

The positive effect was evident on posttests assessing instructional outcomes of strategies and spellings of the target words. The advantage of exposing the students to written forms of the words, along with words' pronunciations, meanings, and morphological features, suggested a significant improvement on the students' overall performance of the vocabulary tests, involving the word definition test and word form test. This indicated that the international students made great gains in memorizing the written forms and meanings of the individual vocabulary words through the explicit instruction and intentional learning. Guessing word definitions from sample sentences and inferring word meanings by recognizing word parts proved beneficial to the part of vocabulary learning.

Another purpose of the present study was to investigate the common errors regarding orthographic patterns and word forms of the target words. This study arrived at the result that during the study of both strategies, students made more spelling errors relating to lexical stress than the number of syllables. A number of spelling errors of target words involved the erroneous stress placement. A plausible explanation was that many unstressed or unaccented sounds in English words were reduced to the schwa sound, which is a central mid vowel that usually appears in unstressed syllables in oral language. Such sound was hard to be detected by English language learners. The errors in the unstressed syllables and junction of syllables may reveal the difficulties that the students face in differentiating correct vowels in the word as those vowels are often changed into the schwa sound. Compared to the word stress errors, the students seemed to have less difficulty in counting the correct number of syllables within a target word. It is recommended that international students, even at higher-intermediate level, should greatly

expand their orthographic system of English words and have a deeper understanding of the phonemic and morphological structure of words. In doing so, students should learn spelling and sound features of the morphologically-complex English words better through embedding a particular set of vocabulary learning strategies across the curriculum such as identifying suffixes for parts of speech, recognizing stressed and unstressed sounds of new words, learning typical word parts, and discussing meanings of words in contexts.

Pretests and posttests in the study also showed that a significant number of students' spelling attempts of the target words conflicted with the orthographic patterns of words in English. For example, students were confused about the syllabic boundary and phonological rules of English. The false syllable structures of the target words, such as *corrspondagly (correspondingly), *contrtect (contradict), *successf (successive) and *caraphycation (clarification), revealed a lack of knowledge about rules on what kinds of sounds may or may not combine in the English language. From students' own responses regarding the words that they learned, it was also common to note that they misspelled some of the basic words. A certain amount of evidence from this study supported that the lexical stress is closely related to the word formation errors. The inaccurate recognition of word stress and orthographic patterns may affect students' perception of word features and understanding the words' phonological representations.

In comparison of the sample sentence and word part conditions, there was no statistically significant difference in students' performance of the spelling tests and the word definition tests. The students learning words with either sample sentences or word parts achieved similar scores in the tests that aimed at testing spellings and meanings of target words. Both strategies helped

the students receive better scores on average in spelling posttests. Nevertheless, students did not show any specific pattern in errors related to word forms.

While both sample-sentence and word-part groups did not generate salient differences in correctly spelling the target words and matching word definitions, the students who learned words with word parts made much less errors in the word form test. This implied that recognizing derivational endings in words could possibly be a strategy to build up students' awareness on the syntactic forms of words, particularly the long-syllable words, in complex sentences that often appeared in academic contexts.

Overall, the test scores of the students showed that strategies requiring them to spell words, to find clues about words from sentences, and to learn meaningful parts of words were likely to improve the surface-level knowledge of word meanings and structures.

Additionally, the findings from the word form tests showed that the average number of errors made by the group during the word learning with word parts was far less than the number of errors made during the word learning with sample sentences. The results were consistent with the study of Oz (2014), stating the advantage of teaching prefixes, suffixes, and stems as part of direct vocabulary instruction in the classroom that helped students analyze different morphological structures and meanings of words. The idea that morphological awareness became connected to the memory of word forms was also supported by the present study. It was also demonstrated by the results of the word form tests that the students who learned how to recognize the meaningful units of words as such inflectional and derivational markers were able to effectively identify the morphological forms of the target words.

As the participants described their own vocabulary learning, they were aware of certain types of strategies including reading repeatedly, association, and keeping word cards, yet only a

few of them usually learned vocabulary by looking at affixes and roots. The survey showed that the strategy of identifying word parts within unknown words was rarely used by the participants. When asked which vocabulary learning activity they liked more, the majority of students in the experimental group preferred learning with sample sentences to learning with word parts. This finding implied that not many of the students were familiar with the impact of morphological awareness and orthographic knowledge on vocabulary learning.

All of the participants reported that the position of vocabulary in English learning was either very important or important, while many of them said they sometimes or rarely reviewed the English words they wrote down. Most of the participants spent less than 2 to 3 hours on average learning English vocabulary in activities they had out of class. The findings showed that the students who hoped to increase their vocabulary size mostly applied the word learning strategies in a haphazard and unstructured way. Methods such as repetition and rote learning were reportedly used by many of the participants to help them link new words and meanings. The main means used by the participants to learn vocabulary words was to learn the meanings by rote and memorizing words from vocabulary books and dictionaries.

That is to say, rote memorization has been a frequently used way for English language learners to learn vocabulary items, and large percentage of the students still rely on recitation and memorization as their approaches to vocabulary acquisition. Even though rote learning of words has been taught and useful to a certain extent in the English language teaching context, students should be introduced to a repertoire of productive vocabulary learning strategies that help them increase lexical knowledge and orthographic awareness by relating unfamiliar words to known words or word parts.

Conclusion

The main objective of the present study was to explore how explicit instruction on the learning strategies influences students' ability to acquire unfamiliar words. In brief, this study concluded that some skills such as guessing from contexts and remembering word parts posed a significant positive impact on an English language learner's academic vocabulary development. It may be more important for students in EAP classes to acquire lexical knowledge by means of multi-faceted exposure. It is necessary to explain that word study is developmental and define terms such as vocabulary learning and vocabulary size. Also, phonological awareness and orthographic awareness also play a key role in helping language learners to remember the new words. It is particularly helpful to those students who were not well aware of the English orthographic patterns and pronunciation when they learned English as a foreign language in their countries before coming to study in the United States.

6.1 Summary

The present study found that contextual analysis and morphological skills are likely to be significant for language learners to better know words, especially for those multisyllabic words. This study suggested that language teachers should raise their students' awareness on the use of vocabulary learning strategies and orthographic processes that help lessen their cognitive load when acquiring unfamiliar words. The additional aid for vocabulary learning should be provided through explicit instruction in the EAP classroom. Instead of employing a methodology which heavily relies on rote memorization and repetition of vocabulary word lists, EAP teachers should present academic vocabulary items by linking the meanings of words to their applications in different contexts as well as demonstrating the strategies that students could employ in learning new words, abstract words, words that interest them, and complex words that they find

problematic. The same way is that students should be motivated to employ the variety of learning strategies to practice using vocabulary inside and outside of classes.

More significantly, international students enrolled in academic writing and reading classes need to foster the ability of reviewing and manipulating words through the guidance of language teachers. They should be taught how to augment new words effectively when they encounter them in textbooks and better understand the process of learning vocabulary words. As Grabe (2010) observed, “almost every current review of vocabulary now stresses the importance of making students aware of the new words they encounter” (p.279). Directing students’ attention to notice what it means to know a word is even more crucial, in particular identifying commonly used affixes and stems and inferring the meanings of words from context.

6.2 Pedagogical Implications

The present results yielded several implications for vocabulary instruction in EAP programs. The target group consisted of young international students learning academic English in order to prepare for college classes in the United States. One implication of the study involved teaching academic words along with the illustration of learning strategies as a part of classroom activities. Students should not just be taught the word definitions and pronunciation of unfamiliar words. Rather, they should learn how to decipher the meanings of new words along with the strategies that help them access different aspects of word knowledge, such as orthography, morphology, meanings, and parts of speech. The teaching of words should be performed in a consistent way that develop English language learners’ metalinguistic awareness of the new words.

Vocabulary learning strategies highlighted in the findings involved learning morphological parts of words and inferring of meanings from context. Alternative learning

strategies such as using corpus, forming visual images, searching collocations, and understanding pronunciation of unfamiliar words should also be encouraged through direct instruction in the classroom. Regardless of which strategies are used, both language teachers and students should take part in researching the meanings of words and exploring how words are being learned. The role of teachers in vocabulary instruction should be that of a facilitator sharing practical resources with students and invite them to participate in the process of learning words in their own cultures and contexts. Ultimately, international students should be able to cultivate their creativity in using the vocabulary learning strategies when they encounter a number of new words from college-level texts.

Based on the analysis of the present study, a relatively high percentage of the international students had limited knowledge about the vocabulary development and the interference of their first languages on English vocabulary acquisition. Some of them showed little interest in knowing and reviewing vocabulary words even though they agreed that vocabulary knowledge played a key role in language learning. Many students' self-learning strategies focused on the memorization of vocabulary words by rote. They showed more reliance on classroom instruction that became a major source of new words that they learned. Hence, EAP teachers should assist their students in noticing the word structures and new sound system used in the English language. Students need to be taught that many English academic words are borrowed from other languages and associate word meanings with context. It is useful to illustrate how words are formed and originated in English. The vocabulary teaching, in this situation, should help students retain the meanings of the new words more efficiently. Moreover, academic words shared the same affixes and roots could be grouped and learned together for students to practice the recognition of typically used word parts. Specifically, it was

recommended that students should learn the common morphological clues that helped them know the parts of speech or grammatical functions of abstract words in academic settings.

Another possible implication referred to the explicit instruction of the contribution of orthographic knowledge and the common stress rules. Many teachers may not be aware of the significance of orthography for higher-level international students who learn English words. By diagnosing the way that students misspell the words or common errors that they make during vocabulary learning, teachers may be able to develop lessons and strategies focusing on the actual needs of students facing vocabulary learning difficulties. It is advisable that teachers should spend time explaining the concept of the English sound system, stress rules, and pronunciation when teaching morphologically complex words in classes.

Bear, Invernizzi, Templeton, and Johnston (2008) found that “students’ spellings provide a direct window into how they think the system works” (p.8). Having interpreted the students’ erroneous patterns in relation to orthography and pronunciation, the present study proposed that teachers could pay more attention to students’ recurring errors in word forms and spellings, and such information could be used for diagnosis that discloses the students’ current understanding of how terms are pronounced and how the word patterns work. Spiro (2013) recommended that new words that have been taught in class should be revised frequently or recycled through patterns of word groups and word forms in different contexts, since the lexical knowledge is culminated over frequent encounters with the words.

In sum, the study acknowledged the significant impact of teaching vocabulary learning strategies on English language learners studying in academic settings, as the instruction enables them to maximize their practice opportunities through various types of word-processing activities. Including vocabulary learning strategies in the classroom instruction was strongly

encouraged. The findings of the study also showed the contribution of connecting word learning strategies to teaching word meanings in the field of vocabulary acquisition for the pre-college level of language education.

6.3 Limitations

The present study revealed a distinctive progress in acquiring words through instruction on two vocabulary learning strategies, involving sample sentences and word parts. Still, some limitations of the study can be identified. There were no pretests and posttests for the word definition test and word form test, and the number of participants was not sufficient enough to form both control groups and experimental groups for the study. The two word lists used by the study were not matched for length in letters and syllables, and number of stressed syllables, so the comparable analysis of the word-part group and the sample-sentence group was limited. The students who were sampled were enrolled in upper intermediate courses with large majority populations growing in Asian countries, particularly China and Vietnam. Findings and test results may be specific to the Chinese and Vietnamese students of particular backgrounds. Future research should collect a larger size of samples and show that the findings can be generalized to other types of participants. Control groups will be needed to reevaluate the effectiveness of the vocabulary learning strategies.

6.4 Suggestions for Future Research

More analysis of whether the vocabulary learning strategies taught through explicit instruction could have a long-term transfer for international students is highly recommended. Future research should also examine how English language learners use the strategies such as identifying morphological parts and contextual clues to review words that they learned in academic settings after they are introduced to the strategies in classes. An in-depth qualitative

data collection may be beneficial for the analysis of the effect of vocabulary learning strategies on EAP students' academic vocabulary retention. Moreover, the possible effect of vocabulary learning strategies on the spelling-meaning connection that applies to academic word acquisition is worth further research.

References

- August, D., Branum-Martin, L., Cardenas-Hangan, E., & Francis, D. J. (2009). The impact of an instructional intervention on the science and language learning of middle grade English language learners. *Journal of Research on Educational Effectiveness*, 2(4), 345-376.
<http://dx.doi.org/10.1080/19345740903217623>
- August, D., & Shanahan, T. (2006). *Developing literacy in second-language learners: Report of the national literacy panel on language minority children and youth*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Bartolotti, J. (2017). Orthographic knowledge and lexical form influence vocabulary learning, *Applied Psycholinguist*, 38(2), 427-456.
- Bear, D. R. Invernizzi, M., Templeton, S., & Johnston, F. (2008). *Words their way: Word study for phonics, vocabulary, and spelling instruction*. Upper Saddle River, NJ: Pearson-Prentice Hall.
- Biber, D. & Conrad, S. (2001). Quantitative corpus-based research: Much more than bean counting. *TESOL Quarterly*, 35(2), 331-336.
- Carlo, M. S., August, D., McLaughlin, B., Snow, C., Dressler, C., Lippman, D., Lively, T. J., & White, C. E. (2008). Closing the gap: addressing the vocabulary needs of English-language learners in bilingual and mainstream classrooms. *The Journal of Education*, 189, 57-76. <http://www.jstor.org/stable/42748660>
- Chun, C. W. (2014). *Power and Meaning Making in an EAP Classroom: Engaging with the Everyday*. Bristol, UK: Multilingual Matters.
- Chung, T. W., & Nation, P. (2003). Technical vocabulary in specialised texts. *Reading in a Foreign Language*, 15(2), 103-116.

Coxhead, A. (2011). The academic word list 10 years on: research and teaching implications.

TESOL Quarterly, 45(2), 355-362

Evans, S. (2008). Reading reaction journals in EAP courses. *ELT Journal*, 62(3), 240-247.

<http://dx.doi.org/10.1093/elt/ccm018>

Fang, Z. (2008). Going beyond the fab five: Helping students cope with the unique linguistic challenges of expository reading in intermediate grades. *Journal of Adolescent & Adult Literacy*, 51(6), 476-487.

<http://dx.doi.org/10.1598/JAAL.51.6.4>

Fang, Z., Schleppegrell, M. J., & Cox, B. E. (2006). Understanding the language demands of schooling: Nouns in academic registers. *Journal of Literacy Research*, 38(3), 347-273.

http://dx.doi.org/10.1207/s15548430jlr3803_1

Gardner, D., & Davies, M. (2014). A new academic vocabulary list. *Applied Linguistics*, 35(3),

305-327. <http://dx.doi.org/10.1093/applin/amt015>

Grabe, W. (2010). *Reading in a Second Language: Moving from Theory to Practice*. Cambridge, UK: Cambridge University Press.

Graves, M.F., & Hammond, H. K. (1980). A validated procedure for teaching prefixes and its effect on students' ability to assign meaning to novel words. In M. L. Kamil & A. J. Moe (Eds.), *Perspectives on reading research and instruction: Twenty-ninth yearbook of the National Reading Conference* (pp.184-188). Washington, DC: National Reading Conference.

Gu, Y., & Johnson, R. K. (1996). Vocabulary learning strategies and language learning outcomes. *Language Learning*, 46(4), 643-679.

Haddad, R. H. (2016). Developing learner autonomy in vocabulary learning in classroom: How and why can it be fostered? *Social and Behavioral Sciences*, 232, 784-791. <http://dx.doi.org/doi:>

10.1016/j.sbspro.2016.10.106

Hinkel, E. (2015). *Effective Curriculum for Teaching L2 Writing: Principles and Techniques*.

New York, NY: Routledge.

Hyland, K., & Tse, P. (2007). Is there an “academic vocabulary”? *TESOL Quarterly*, 41(2), 235-253.

Institute of International Education (2017). *The 2016 Open Doors Report on International Educational Exchange*. Retrieved Nov 15, 2017 from

<http://www.iie.org/Research-and-Publications/Open-Doors>

Koda, K. (1997). Orthographic knowledge in L2 lexical processing: A cross-linguistic perspective. In J. Coady, & T. Huckin (eds.) *Second Language Vocabulary Acquisition: A Rationale for Pedagogy* (pp.35-52). New York, NY: Cambridge University Press.

Laufer, B., & Rozovski-Roitblat, B. (2015). Retention of new words: quantity of encounters, quality of task, and degree of knowledge. *Language Teaching Research*, 19(6), 687-711.

Marzano, R. J. (2010). *Teaching Basic and Advanced Vocabulary: A Framework for Direct Instruction*. Boston, MA: Cengage ELT.

McKeown, M. G., Back, I. L., Omanson, R. C., & Pople, M. T. (1985). Some effects of the nature and frequency of vocabulary instruction on the knowledge and use of words.

Reading Research Quarterly, 20(5), 522-535. <http://dx.doi.org/10.2307/747940>

Nagy, W. E., & Townsend, D. (2012). Words as tools: Learning academic vocabulary as language acquisition. *Reading Research Quarterly*, 47(1), 91-108.

Nassaji, H. (2003). L2 vocabulary learning from context: strategies, knowledge sources, and their relationship with success in L2 lexical inferencing. *TESOL Quarterly*, 37(4), 645-670.

- Nassaji, H., & Geva, E. (1999). The contribution of phonological and orthographic processing skills to adult ESL reading: evidence from native speakers of Farsi. *Applied Psycholinguistics*, 20, 241-267. <http://dx.doi.org/10.1017/S0142716499002040>
- Nation, I. S. P. (1990). *Teaching and Learning Vocabulary*. New York, NY: Newbury House.
- Oz, H. (2014). Morphological awareness and some implications for English language teaching. *Social and Behavioral Sciences*, 136, 98-103.
<http://dx.doi.org/10.1016/j.sbspro.2014.05.296>
- Patel, T. K., Snowling, M. J., & de Jong, P. F. (2004). A cross-linguistic comparison of children learning to read in English and Dutch. *Journal of Educational Psychology*, 96(4), 785-797.<http://dx.doi.org/10.1037/0022-0663.96>
- Ramos, R. (2015). Incidental vocabulary learning in second language acquisition: A literature review. *Profile Issues in Teachers' Professional Development*, 17(1), 157-166.
<http://dx.doi.org/10.15446/profile.v17n1.43957>
- Rosenthal, J., & Enri, L. C. (2008). The mnemonic value of orthography for vocabulary learning. *Journal of Educational Psychology*, 100(1), 175-191.
- Rubin, J., & Thompson, I. (1994). *How to be a More Successful Language Learners*. Boston, MA: Heinle & Heinle Publishers.
- Saville-Troike, M. (1984). What really matters in second language teaching for academic achievement? *TESOL Quarterly*, 18(2), 199-219
- Saengpakdeejit, R. (2014). Awareness of vocabulary learning strategies among EFL students in KhnoKaen University. *Theory and Practice in Language Studies*, 4(6), 1101-1108.
- Scarcella, R. C. & Oxford, R. L. (1992). *The Tapestry of Language Learning: The Individual in the Communicative Classroom*. Boston, MA: Heinle & Heinle Publishers.

- Schleppegrell, M. J. & Go, A. L. (2007). Analyzing the writing of English learners: A functional approach. *Language Arts*, (84)6, 529-538.
- Schmitt, N. (2008). Instructed second language vocabulary learning. *Language Teaching Research*, 12(3), 329-363.
- Shiotsu, T. (2010). *Components of L2 Reading: Linguistic and Processing Factors in the Reading Test Performances of Japanese EFL Learners*. Cambridge, UK: Cambridge University Press.
- Siegel, L. S., Share, D., & Geva, E. (1995). Evidence for superior orthographic skills in dyslexics, *Psychological Science*, 6(4), 250-254.
- Spiro, J. (2013). *Changing Methodologies in TESOL*. Edinburgh, UK: Edinburgh University Press.
- Sun-Alperin, M. K., & Wang, M. (2011). Cross-language transfer of phonological and orthographic processing skills from Spanish L1 to English L2, *Reading and Writing*, 24(5), 591-614.
- Townsend, D., & Collins, P. (2009). Academic vocabulary and middle school English learners: An intervention study. *Reading and Writing*, 22(9), 993-1019.
<http://dx.doi.org/10.1007/s11145-008-9141-y>
- Webb, S., & Chang, A. C.-S. (2015). How does prior word knowledge affect vocabulary learning progress in an extensive reading program? *Studies in Second Language Acquisition*, 37(4), 651-675.
- Wei, Z. (2015). Does teaching mnemonics for vocabulary learning make a difference? Putting the keyword method and the word part technique to the test. *Language Teaching Research*, 19(1), 43-69.

Willingham, D. & Price, D. (2009). Theory to practice: Vocabulary instruction in community college developmental education reading classes: What the research tells us. *Journal of College Reading and Learning*, 40(1), 91-105.

<http://dx.doi.org/10.1080/10790195.2009.10850326>

Wilkins, D. (1972). *Linguistics in Language Teaching*. London, UK: Arnold.

Xue, G. & Nation, I. S. P. (1984). A university word list. *Language Learning and Communication*, 3(2), 215-229.

Appendices

APPENDIX A

HANDOUTS OF VOCABULARY LEARNING ACTIVITIES

Vocabulary Learning Activity A – Learning with Sample Sentences

Student Name: _____

Class: _____

**Part A. Please write down the words that you hear from the teacher.
(You will hear each word three times)**

1.	6.
2.	7.
3.	8.
4.	9.
5.	10.

Part B. Sample Sentences**Please fill in the correct words.**

1.	Health and education were the _____ issues of the last general election.
2.	The research showed a _____ difference between the two teaching methods.
3.	While _____ is great, being successful is not the key to happiness.
4.	Her recent book provides us with a new _____ for modern biography.
5.	He was a convinced opponent of _____ in religion.
6.	The teacher introduced the new vocabulary words and then used a game as a _____.
7.	The company will _____ funds to build a new factory.
8.	We need to _____ the chance of error.
9.	It turned out that the situation was not as serious as we had _____ believed.
10.	_____, he'll come later.

Test your vocabulary size: <http://my.vocabularysize.com/session/evsthan>

Part C. Definitions

Please match the correct definitions with the words.

1. Dominant		A. the belief that actions and opinions should be based on reason rather than on emotion or religion
2. Qualitative		B. more important, powerful, or successful than most or all others
3. Prosperity		D. used to say what you think is the likely situation
4. Paradigm		E. the act of strengthening or encouraging something
5. Rationalism		F. to make (something bad or not wanted) as small as possible
6. Reinforcement		G. the state of being successful usually by making a lot of money
7. Utilize		G. Relating to how good something is
8. Minimize		H. to use (something) for a particular purpose
9. Initially		I. a theory or a group of ideas about how something should be done, or thought about
10. Presumably		J. at the beginning

**Part D. Please write down the words that you hear from the teacher.
(You will hear each word twice)**

1.	6.
2.	7.
3.	8.
4.	9.
5.	10.

Part E. There are FOUR categories of word forms in the table. Please match the words with the correct word form and fill out the table.

- | |
|----------------------|
| Dominant |
| Rationalism |
| Initially |
| Minimize |
| Prosperity |
| Utilize |
| Presumably |
| Reinforcement |
| Paradigm |
| Qualitative |

Noun	Verb	Adjective	Adverb

Vocabulary Learning Activity – Learning with Word Parts

Student Name: _____

Class: _____

**Part A. Please write down the words that you hear from the teacher.
(You will hear each word three times)**

1.	6.
2.	7.
3.	8.
4.	9.
5.	10.

Part B. Word Part Chart

Prefix – a word part that is attached to the **beginning** of a word

Suffix – a word part that is attached to the **end** of a word

Base word – basic part of the word that carries meaning and can **stand alone**

Root – a word part that carries meaning but **cannot stand alone**

1. Enforcement _____
2. Clarification _____
3. Presumption _____
4. Manipulation _____
5. Visualize _____
6. Contradict _____
7. Conceivable _____
8. Successive _____
9. Specifically _____
10. Correspondingly _____

Part C. Definitions

Please match the correct definitions with the words.

1. Enforcement		A. to say the opposite of (something that someone else has said)
2. Clarification		B. behavior that influences someone or controls something in a clever or dishonest way
3. Visualize		C. able to be imagined: imaginable or possible
4. Presumption		D. to form a mental picture of (someone or something)
5. Successive		E. an explanation or more details that makes something clear or easier to understand
6. Correspondingly		F. the process of making sure that people obey something such as a law or rule
7. Contradict		G. following one after the other without any break
8. Manipulation		H. in a definite and exact way
9. Specifically		I. a belief that something is true even though it has not been proved
10. Conceivable		J. used for saying that one thing is related to another, or is caused by another

**Part D. Please write down the words that you hear from the teacher.
(You will hear each word twice)**

6.	6.
7.	7.
8.	8.
9.	9.
10.	10.

Part E. There are FOUR categories of word forms in the table. Please match the words with the correct word form and fill out the table.

- Enforcement**
- Visualize**
- Clarification**
- Presumption**
- Successive**
- Correspondingly**
- Contradict**
- Manipulation**
- Specifically**
- Conceivable**

Noun	Verb	Adjective	Adverb

APPENDIX B

DEMOGRAPHICS QUESTIONNAIRE

Questionnaire on Vocabulary Learning Acquisition**Survey Questions****Part I. Demographics**

Name: _____ (Preferred Name: _____)

Age: 18-24 / 25-29 / Above 30 (Please circle your age group)

1. Female / Male
2. Where were you born? _____
3. What is your first language? _____
4. What *other* languages besides **English** and **your first language** do you know?

5. *How old* were you when you first started studying English? _____
6. *How long* have you lived in an English-speaking country (the United States)? _____
7. How did you learn English (*Academically/Naturalistically*)? _____ How many years?

Part II. Approach to Learning Vocabulary

1. Which vocabulary learning activity do you like more? (A) Learning with sample sentences / (B) learning with word parts? _____ (Please choose *one* of them)
2. In your opinion, what is the position of vocabulary in English learning?
Very important / Important / Not important
3. How do you usually learn vocabulary?
By reading repeatedly / By writing automatically / By looking at affixes and roots / By association / By keeping word cards with pictures, photographs, objects, etc. /Others:

4. Please check one of the statement below that best describes what happens when you learn English vocabulary:
___ I learn vocabulary most from activities in English classes, and from the homework assigned for class.
___ I learn vocabulary from activities in English classes, from homework assigned in my courses, and from self-initiated learning activities I do outside class time.
5. How much time do you spend each week, on average, learning English vocabulary in activities you have out of class?
___ No time ___ One hour or less ___ 2-3 hours
___ 4-5 hours ___ 6-10 hours ___ More than 10 hours
6. Please check off all the learning activities listed below that you sometimes do outside of class. Beside each, write the average time you spend on each one per week.

TIME:

- I listen to English programmes on the radio
 I watch TV programs, movies, etc. in English
 I have conversations in English with native speakers
 I talk to myself in English (mentally or out loud)
 I write letters to people in English
 I read books in English regularly
 I read newspapers in English regularly
 I read English magazines regularly
 I follow English directions in order to perform various tasks (reading recipes, following instructions)
 I play games in English (including computer games)
 I look up English words I encounter during the week in my bilingual or English-English dictionary
 I play English vocabulary games in my mind (using themes, word categories, making lists, etc.)
 I practice English vocabulary I have just learned
 I engage in other activities, such as _____ (Please fill in your own answers)

7. Which statement below best describes what you do? Choose one:

- I keep good written records of the English words I am learning in class and/or outside of class (i.e. in a vocabulary book, on cards, etc.).
 I keep minimal written records but make a mental note of the English words I learn in and/or outside of class.

8. Which statement below best describes what you do? Choose one:

- My main reason for writing down English words I am learning is to come back and review them later.
 My main reason for writing down English words I am learning is to help me memorize that word.

9. When you write down English words you are learning in class or independently, where do you write them?

10. How often do you review the English words you write down? Check one:

never/rarely sometimes often

11. How do you usually review the English words you write down?

12. Which statement best describes what you do? Check one:

- My opportunities for practicing the English words I am learning come mostly from class activities and from homework assigned in English courses.
 My opportunities for practicing the English words I am learning come from activities in class, homework assigned in English courses, and from activities I join out of class during the week.

13. List six words below that you have learned in or out of class since this course began (i.e. you didn't know them before). Did you learn them in or out of class?

1. _____	_____ In	_____ Outside
2. _____	_____ In	_____ Outside
3. _____	_____ In	_____ Outside
4. _____	_____ In	_____ Outside
5. _____	_____ In	_____ Outside
6. _____	_____ In	_____ Outside

(Adapted from Sanaoui, 1992, pp. 167-17)

APPENDIX C

STUDENTS' RESPONSES TO OPEN-ENDED QUESTIONS

Table 17. Students' responses to the question "*How do you usually learn vocabulary?*"

Methods	Number of Students
By reading repeatedly	17
By writing automatically	7
By looking at affixes and roots	1
By association	5
By keeping word cards with pictures, photographs, objects, etc.	4
Others:	
By learning on the Internet	1
By speaking and hearing	1
By watching movies	1

Students' responses to the question "*When you write down English words you are learning in class or independently, where do you write them?*"

Books
Notebooks
On top of the words
Paper
Note
Anywhere I can reach easily
Cellphone
Taking pictures
Post-its

Students' responses to the question "*How do you usually review the English words you write down?*"

I don't really review the words
I only review the words before the test
I read them out loud many times
I google the word again and then make a sentence by using it
I read the article that I found the words again
I read aloud and rewrite the words
I look up the dictionary and search the meaning of the words again

I review the words when I have free time
 I review the notes
 Repetition
 I read the words again and again

Students' responses to the question "List six words below that you have learned in or out of class since this course began (i.e. you didn't know them before). Did you learn them in or out of class?"

Words learned in class	Words learned out of class
Contest	Verge
Frigid	Joint
Occupant	Correspond
Resilient	Deduce
Dominant	Demonstrate
Qualitative	Initial
Prosperity	Contribute
Contradict	Instance
Successive	Strike
Visualize	Bathtub
Manipulation	Browse
Clarification	Checkers
Enforcement	Sewer
Sufficient	Evade
Vandalize	Approach
Violate	Childish
Inalienable	Intuition
Secular	Adjust
Accurate	Sketchy
Equation	Evaluation
Regulate	Literary
Commission	Dynamic
Cease	Anchor
Integrate	Maintain
Visualize	Specifically
Presumption	Stress
Avert	Recipe
Expel	Bossy
Conceivable	Perceive
Appalled	Habor*
Reference	Suks*
Released	Mule
Novice	Preference

Eraser Staff Quantity Engage Encourage Appropriate Stereotype Intelligent Correspondingly manipulate Womb vast Sociology Poverty Paradigm Rationalism Mental issues Concept Conversation Task Furtively Casual Demographic Spouse Mortgage Spasm Phobia Clivl* right Bias Sensitive Variable	Demand
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