

# VOCABULARY ACQUISITION WITH AFFIXATION: LEARNING ENGLISH WORDS BASED ON PREFIXES & SUFFIXES

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## ABSTRACT

This study was designed to investigate vocabulary learning. Non-native speakers have trouble in learning English word systems that have roots and standard rules for prefixes and suffixes that extend the way these core items are used. Therefore, I wanted to investigate which ways of studying vocabulary work best for non-native students: formally learning the underlying prefixes and suffixes or just incidentally learning without using the knowledge of affixation. This experiment was carried out over 10 weeks. Only 10 minutes out of each 50-minute class were used for studying the English words that I selected. A total of 54 students took part in this experiment at a private English School in Korea. In the main experiment, the groups of students were organized into two groups: one group was scheduled to memorize English words using knowledge gained from their teachers' affixation lectures, while the other group studied without instruction about affixation. The goal of the posttest was to determine how students acquired affixation patterns of English words and expanded their vocabulary knowledge and to investigate differences between the two groups. The assumption was that basic knowledge of commonly used affixes would help students learn English vocabulary much faster and avoid the need to repeatedly look up words.

## INTRODUCTION

English has a large, rich vocabulary, with a large number of English lexical items having been assimilated from other languages during the complex history of the language. Vocabulary is one of the most essential parts of second language acquisition and can be broadly defined as knowledge of words and word meaning. Ellis (1997) argues that vocabulary knowledge is a

precondition for learners' discourse comprehension, which allows grammatical rules to be patterned in the learners' mind. Additionally, Hudson (2007) says language is formed of words and learners' vocabulary is key in language and its acquisition. There are a variety of ways to effectively learn and teach vocabulary such as affixation practice, flash cards, intensive reading, and so on. Making students understand and then memorize a great deal of vocabulary is difficult for English teachers in Korea because the Korean language, Hangul, consists of simpler syllable structure and vowel harmony than English, which has complex syllable onsets and codas (Yoon, et al. 2002).

Because of the major emphases in the Seventh National Curriculum of Korea, English teachers in Korea have to cover many tasks related to reading translation, grammar, writing, and listening with various levels of students. Also, English teachers are evaluated through the results of their students' tests. Therefore, they tend to focus on how to improve students' ability to get higher scores on certain tests such as mid-term, final-term, or university entrance exams. As a result of following the National Curriculum and policies of the Ministry of Education, teachers and students are rarely exposed to any strategies for vocabulary acquisition. An emphasis on spelling rules and word meanings has been used widely in Korea because of this. Most English learners in Korea learn and memorize English vocabulary, focus on the spellings of vocabulary items, and try to memorize the English words with their meaning in Korean. However, if students of English can learn to use prefixes and suffixes effectively, this may help them understand and use vocabulary in reading comprehension and writing composition. This study compares two vocabulary learning strategies: one using a system of affixes and the other involving a traditional form where students memorize base words and their inflected forms. First, I will explore the concept of vocabulary acquisition, particularly as it relates to affixation in the English language. Then, I will move on to the purpose, followed by a discussion of the methodology of this study.

### ***Literature Review***

It is generally accepted as a truism that most students already know that memorizing English words is a very useful way to accomplish a variety of English learning acts. Examination of the best way to learn words has created a large body of research investigating how attention paid to the uses of affixal morphemes can improve overall growth in the effective vocabulary that a

student has. Several important ideas have emerged from this discussion of the importance of affixal learning in language acquisition: the direct effect of learning affixes; affixation with morphological awareness; experimental vocabulary used; and finally useful acquisition strategies.

***Direct effect of learning affixes.*** Graves (2004) argues that, in order to improve English, the most effective word-learning strategy is related to morphological awareness. Hatch (1983) believes that affixes are organized in the human mind differently from lexical items. She suggests that some high frequency complex words may be stored in their whole forms in the mind, ready to be accessed at any time, but that some others tend to be constructed on the spot by applying morphological processes such as derivation and inflection. Sudana (2006) provides one good example of this derivational affixation. Sudana says that the implementation of morphological competence in derivational affixation learning improves students' vocabulary acquisition. Sudana taught affixation in Bahasa Indonesia to English learners, in a way that resulted in significant improvement through mastery of several affixes used in affixation processes to create new words they would need.

Wysocki and Jenkins (1987) investigated whether fifth, sixth, and eighth graders use the vocabulary strategy of morphological analysis to understand complex words in their L1. Participants were given a training session two weeks before a test. They were tested on words they learned; one group studied the words related to morphological analysis and the other group did not. The researchers discovered that the students who studied vocabulary using the morphological strategy performed better, and participants understood new meanings by morphological generalization of those words sharing the same roots. Baumann et al. (2003) researched how effectively explicit instruction on affixes and roots helped elementary student speakers of English to unlock the meaning of newly encountered words that were unfamiliar. The results indicated that students who received instruction on affixes and roots outperformed the other students who were not taught them.

***Affixation with morphological awareness.*** *Morphological awareness* is consciousness of the meaning and structure of morphemes in relation to words (Carlisle, 1995). Wysocki and Jenkins (1987) have argued that the ability to perform morphological generation helps the development of vocabulary knowledge within an appropriate linguistic context. Knowledge of prefixes, such

as the *dis-* in *dislike*, or the *un-* in *unlock*, suffixes such as the *-ness* in *happiness* or the *-tion* in *connection* or *generation*, and compounds, are involved in derivational morphology and inflectional morphology and are related to grammatical inflections such as the *-s* in *cars* or the *-ed* in *jumped*. Morphological awareness is very flexible, and morphological awareness has a close relationship with vocabulary knowledge. Derivational morphology can change a word's lexical category such as *sing/singer* or *end/endless*.

English has *right-headedness*, which means that the right morpheme modifies the meaning and identifies the subcategory of words (Clark, Gelman, & Lane, 1985). Two examples, *classroom* and *football* illustrate this notion. The construction of *class-room* indicates that the dominant noun of the pair is *room*, and that *class*, while a noun itself, still modifies *-room*. In the same way, *foot-ball* places emphasis on the *-ball*, rather than on the *foot*, indicating to the English speaker that the object at hand is a ball, not a foot. An affix may attach to either side of the root or to either side of the initial segment or syllable of the lexical item. Affixations, such as head nouns, are important for English vocabulary learners, and are possibly associated with effective vocabulary study strategies.

Clark, et al. (1985) also emphasizes head noun knowledge by comparing how Chinese and English speakers acquire vocabulary. Both English-speaking and Chinese-speaking children acquire the head noun, which is the label of a basic category; learners are then able to add a modifier to the head noun as a subcategory. In both of these languages, children have learned the meaning of a head morpheme, which is the role a prefix plays in English and are therefore able to understand its role in compound words.

***Experimental vocabulary.*** Vocabulary is largely classified into three groups: high-frequency words, academic words, and technical words (Ortega, 2009). High-frequency words are those that are the most common and are uttered or written most often in all uses of the language. High-frequency words can also be labeled as general-service vocabulary. Coxhead (2000) states that approximately 2,000 English words (such as *clock*, *birth*, *admire*, *popular*) make up about 76 percent of all words used. Academic vocabulary can be defined as words that are commonly used in academic texts, rather than being used in general language. There have been many attempts to classify and categorize academic words into lists for teaching and learning purposes, but the main focus has been to prepare learners for the understanding of academic reading. Two such

attempts are Xue and Nation's University Word List (UWL; 1984), and Coxhead's Academic Word List (AWL; 2000). The UWL provides about 8.5 percent of text coverage, and AWL includes 570 word families whose words account for about 10 percent of the words appearing in an academic corpus. Finally, Chung and Nation (2003) estimate that technical words account for as many as one in three words in a science text they analyzed. Technical words are those occurring frequently in a single subject area such as accounting, nursing, or chemistry.

*Useful vocabulary acquisition strategies.* Schmitt (2008) says vocabulary acquisition is the most essential part of second language acquisition for enhancing L2 learners' language development. The use of learning affixes is explored in this study, which will show how students can effectively use the strategy to increase their body of vocabulary knowledge. Teaching vocabulary is crucial for improving L2 learners' language ability to understand reading, writing, speaking, and listening. Nation (2001) suggests four strands of vocabulary teaching. Each of them involves meaning, which Nation regards as significant when learning. They are: (a) meaning-focused input, (b) meaning-focused output, (c) language-focused learning, and (d) fluency development.

### ***Purpose***

The purpose of my research is to find ways to help learners learn vocabulary. I have had a number of questions myself about the most effective ways to teach vocabulary for quite a long time. This study is designed to examine the effects of learning English etymology as a means for expanding elementary and middle school students' ability to memorize English words, and aims to introduce a new way of teaching English vocabulary lessons more effectively. I base this idea on Nation's suggestion (2001) that when language learners who are eager to learn a foreign language are exposed to the four language skills (i.e., reading, listening, speaking, and writing), learners are able to utter, listen, and use the patterns of sentences in real life or in testing situations. Also, language learners can convey their ideas to others by combining correct grammar and relevant words. Moreover, through the memorized vocabulary that L2 learners have studied so far, they are able to analyze and then understand reading passages or reading tests.

Some non-native speakers have trouble learning English word systems that have roots and standard rules for prefixes and suffixes that extend the way these core items are used. However, Spanish learners of English, for example, are able to acquire English vocabulary easier than Koreans. Saville-Troike (2006) says that morpheme acquisition in Spanish is virtually the same as in English. Moreover, the morphemes often used by both of these languages have similar bases and affixes, which allow learners to use them as cognates. Speakers of languages like Korean, which do not share these commonalities, have more difficulty because there are no apparent means of making cognitive comparisons. Thus, the absence or presence of morphemes like those of English in the learner's L1 will not only have strong effects on the acquisition of morphemes in English by Korean learners, but will also create difficulties in learning English vocabulary.

Furthermore, the Korean language has a different natural grammatical order from both English and Spanish. Vocabulary learning and teaching is a central activity in the L2 classroom. One way in which vocabulary learning can be fostered is through the use of learning strategies. These strategies are consciously or unconsciously learned techniques for processing information in order to enhance learning, comprehension, and retention (O'Malley & Chamot, 1990). Using morphological awareness and the mental lexicon, defined as the ability to use knowledge of word rules, learners are able to increase their vocabulary acquisition ability by disassembling complex words (differences = differ + ence + -s) into meaningful parts, roots, and affixes (i.e., prefixes and suffixes), and then expanding their word knowledge to include new meanings. This can greatly enhance the learners' ability to communicate. In addition, words are organized in the mental lexicon according to their phonological properties with morphological knowledge as a framework for storing words (Sandra, 1994). Therefore, I would like to determine whether formally studying prefixes and suffixes is more effective than studying vocabulary without any emphasis on affixation for Korean non-native students of English.

This study addresses two research questions:

1. How effective is it for Korean students to memorize new words using affixation strategy practices as opposed to through a word translation approach?
2. Why do Korean students have difficulty when trying to solve questions related into prefixes and suffixes, when they are presented with affixes as part of a known base word?

## METHODOLOGY

### *Participants*

As shown in Table 1, the students in this study included 54 Korean English language learners between 6<sup>th</sup> and 9<sup>th</sup> grade, who were 11-14 years old. They attended English classes at an English language institute in Yeosu city in South Korea. The majority of the students were in the 6<sup>th</sup> grade, with 18 participants. The remaining 36 participants were spread out across grades 7 through 9.

Table 1

*Number of Participants in Each Grade*

Grade	Number of Participants
6 <sup>th</sup>	18
7 <sup>th</sup>	11
8 <sup>th</sup>	16
9 <sup>th</sup>	9
Total	54

### *Procedure*

This study employed one placement test, thirty vocabulary tests, and one posttest. The participants were first given a placement test in order to measure their initial English ability, and this was used to help group the students into experimental and control groups. After taking the placement test, students were classified into two groups. They were ranked based on their placement test scores and assigned numbers based on their ranks. Participants with odd rankings were selected by the researcher into the Experimental Group (EG). Those with even ranks were placed in the Non Experimental Group (NEG). Table 2 shows the results of the placement test.

For the experiment, the EG was scheduled to memorize English words using affixation knowledge, while the NEG was taught vocabulary without affixation knowledge. The experiment was performed over 10 weeks, every Monday, Wednesday, and Friday. Classes at this school lasted for 50 minutes. Ten minutes out of each 50-minute class was devoted to studying selected English words.

Table 2

*Placement Test Results*

	EG (Experiment Group)			NEG (Non- Experiment Group)		
	<i>N</i>	Mean	<i>SD</i>	<i>N</i>	Mean	<i>SD</i>
<b>6<sup>th</sup> grade</b>	9	16.89	4.38	9	16.22	4.23
<b>7<sup>th</sup> grade</b>	7	21.83	3.62	6	20.6	4.27
<b>8<sup>th</sup> grade</b>	8	19.88	4.94	8	19.88	4.65
<b>9<sup>th</sup> grade</b>	4	21.00	4.44	5	21.40	2.73
<b>Total</b>	27	19.48	4.79	27	19.33	4.39

The EG was taught to use prefixes and roots to analyze English words. They were also taught suffixes and how to use them to analyze parts of speech. In the beginning part of the experiment, the teachers who took charge of the EG group explained the patterns of affixation with target words at the start of class for three to five minutes, and then the students spent the rest of the 10 minute period of instruction memorizing the words by themselves. The vocabulary list that the EG group studied consisted of 30 units, one per class day, and each unit explained the prefix used, so as to make usage clear and aid the teacher's lesson by providing additional information. Ten of the most frequently used English derivational affixes and suffixes in this study are shown in Table 3.

Table 3

*The Most Frequent Affixes and Suffixes Used in the Study*

prefixes	frequency	Suffixes	frequency
<b>con- &amp; com-</b>	33	<b>-ate</b> (v)	23
<b>re-</b>	21	<b>-al</b> (a)	20
<b>in-</b>	19	<b>-ion</b> (n)	12
<b>e- &amp; ex-</b>	18	<b>-ive</b> (a)	10
<b>de-</b>	11	<b>-able</b> (a)	9

For example, teachers explained the word, *interactive*, by using affixation knowledge. *Inter-* is a prefix with the meaning of *each other* and the root of the word is *act*. The suffix *-ive* is used with adjective, so teachers can demonstrate that this word is adjective, because *-ive* is adjective



suffix. (A full list of affixes and suffixes can be found in Appendix C.) In this way, participants were instructed in the patterns of word structures as well as grammatical function. In contrast, for the NEG, at first, the teacher spelled the word aloud for the target words, and then had the subjects of the NEG memorize the target words for the remainder of the time.

Thirty vocabulary tests were used to measure this vocabulary knowledge, and were conducted over ten weeks, on Mondays, Wednesdays, and Fridays. After 10 weeks, I collected the resulting scores on the two groups' vocabulary tests. On the final day of the research, students were given a posttest using the grammar and affix knowledge that is also used on the TOEIC practical (see Appendix B and C). I compared the scores from the pretest and posttest, as well as the scores between groups using *t*-tests to determine if students in the experimental group performed differently than those in the non-experimental group.

### ***Placement Test***

The placement test was conducted two days prior to the beginning of the experiment. The same placement test was given to all participants. I selected 50 words from 2067 basic English words of the Ministry of Education in Korea (2000). Most of the words from the list, such as *easy*, *go*, *jump*, were considered easy, so 50 words which were not easy such as *boast* and *emphasize* were selected to prepare the placement test. Next, the students were provided a list of 50 words ahead of the test, so as to prepare for the placement test. Finally, I randomly chose 30 words for the test from the original list of 50 words.

A *t*-test (Table 4) comparing the EG pretest mean on the placement test to the NEG pretest mean on the placement test was conducted and found  $t(52) = 0.116$  and  $p = 0.908$  which indicates that no significant difference was found between the EG mean of 19.48 and the NEG mean of 19.33.

Table 4

#### ***EG-NEG: Comparison of the Placement Test***

<i>t</i>	<i>df</i>	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
					Lower	Upper
.116	52	.908	.148	1.274	-2.408	-2.704

### ***Experimental Instrument***

Coxhead (2000) compiled the 2,000 most frequently occurring words of English from a corpus of 3.5 million running words of written academic texts by examining the range and frequency of words. However, 2,000 words were too many to use in this study, so I chose 570 words, extracted from the list in Coxhead (2000). Appendix C shows the complete list of 570 words printed with digits from 1 to 10. These numbers show the frequency in the Academic World List. Sub-list 1 is the most frequent words in the list, and Sub-list 10 indicates the least frequent. The 570 word families of the AWL constitute a list of vocabulary with good coverage of academic texts, regardless of the subject area. It accounts for 10% of the total tokens in the Academic Corpus, and more than 94% of the words in the list occur in 20 or more of the 28 subject areas of the Academic Corpus. The list also provides a useful basis for further research into the nature of academic vocabulary. I reduced Coxhead's list from 570 to 420 words, because the burden on students of memorizing or acquiring 19 words in ten minutes might reduce the ability of the students to absorb the material. In fact, 150 of the target words, from sublists 8 through 10, are considerably less frequent than those of other target word lists which have been filtered through a high-frequency range. I divided the 420 words across the 30 instructional units based on word frequency (i.e., how frequently a word occurs in English) (See Appendix D). Each unit ended up having 14 words for participants to study in each class. When Coxhead collected the words, he followed high-frequency order.

## **RESULTS**

This study examined the differences between the EG group and NEG group in their mean scores, analyzing the result of the vocabulary acquisition tests and the posttest. A *t*-test comparing the EG mean on the posttest to the NEG mean on the posttest was conducted to investigate which group was more effectively taught English vocabulary. [Note that using three *t*-tests in this study necessitated setting the *p* value for each comparison at .017 in order to maintain an overall alpha level for the study of .05.]

In order to answer the two research questions, first I first examined the total number of participants in each group, the mean scores, and the standard deviations for each test. Table 4 displays the descriptive statistics for both groups.

Table 5

*Descriptive Statistics for the 30 Days' Vocabulary Tests*

	<b>EG</b> <b>(Experiment Group)</b>	<b>NEG</b> <b>(Non- Experiment Group)</b>
<b>Number</b>	27	27
<b>Mean</b>	7.39	6.01
<b>Mode</b>	8.72	7.00
<b>Median</b>	7.43	6.00
<b>Max (average)</b>	9.63	8.70
<b>Min (average)</b>	4.63	3.20
<b>Range (average)</b>	6.00	6.50
<b>SD</b>	1.05	1.30
<b>VARIANCE</b>	1.15	1.76

The mean for the EG (7.39) was higher than the mean for the NEG (6.01), which might indicate an effect for the treatment. The result indicates that awareness of the morphological structure with affixation plays a key role on the Experimental Group (EG) because the mean scores (MEAN) of the EG achieved higher than those of the Non-Experiment Group (NEG). However, it is important to note that the average reliability of the vocabulary tests was reported at .44, indicating an overall low level of consistency in scores.

Table 6

*EG-NEG: Comparison of 30 Days Vocabulary Tests Means*

<i>t</i>	<i>df</i>	<b>Sig. (2-tailed)</b>	<b>Mean Difference</b>	<b>Std. Error Difference</b>	<b>95% Confidence Interval of the Difference</b>	
					Lower	Upper
4.187	52	.000	1.37519	.32844	.71613	2.03424

As can be seen in Table 6, there was a significant difference in the average score for the 30 days vocabulary tests of EG ( $M=7.39$ ,  $SD=1.07$ ) and those of NEG ( $M=6.01$ ,  $SD=1.33$ ) conditions;  $t(52) = 4.19$ ,  $p < 0.000$ . It appears that affixation knowledge in learning English words was significantly more effective (based on the results of the  $t$ -test in Table 6).

**Posttest.** After the participants studied vocabulary for 30 experimental days, they took a posttest (Appendix E) to check their vocabulary knowledge. They had 20 minutes to complete 10 items on the day following the last experimental day. This was based on example patterns of affixation on the Test of English for International Communication (TOEIC), as shown in Table 7. The TOEIC is an English language test designed specifically to measure the everyday English skills of people working in an international environment. The Test of English for International Communication (TOEIC) is a multiple-choice test of English for non-native speakers of English. It consists of two sections: listening comprehension and reading. There are 100 questions in each section. Some of the questions in the reading comprehension section assess knowledge of suffixes. Uchibori et al. (2006) shows one example, which inquires about what may come between a quantifier and a noun. In this example, the answer to this question is *organized*, which is an adjective:

Example: *Most hotels offer many \_\_\_\_\_ tours.*

It inquires about what may come between a quantifier and a noun. The answer to this question is *organized*, which is an adjective.

Table 7

*Two Example Patterns Found in the TOELC Test*

<b>Pattern A</b>	
Please remember that the _____ of cameras and recording devices is prohibited during the performance.	
(A) operate	(C) operated
(B) operation	(D) operationally
<b>Pattern B</b>	
We would like to offer you a twelve month _____ to Family Business magazine.	
(A) subscription	(C) prescription
(B) description	(D) repetition

The TOEIC is a mandatory test for applicants for most professional jobs in South Korea involving English language skills. As the TOEIC tests parts of speech, as in Patterns A and B in Table 7, it is useful for students to know the rules or patterns of suffixation to help them when they study for the test. That is to say, knowing the patterns of word formation helps vocabulary learners to understand new words that the learners have never seen before.

The two patterns in Table 7 were used as the major patterns of the posttest. The answer to Pattern A is *operation*, which is a noun. At first glance, the question might be assumed to pertain primarily to the usage of an adjective, i.e., how a noun behaves grammatically. In fact, it inquires about what may come after a quantifier; *-ate* is a verb suffix and *-ly* is an adverb suffix. In addition, *-ed* can be used for an adjective or a past tense verb. Pattern B is a question about prefix knowledge.

Fowler and Lieberman (1995) showed that English word recognition has strong associations with morphological awareness, as seen in processes such as transition composition, clipping, blending, back-formation, acronyms, and affixation. Knowledge of the suffixes is highly related to knowledge of the parts of speech. If *-ly* is located at the end of a certain adjective, the part of speech becomes an adverb; for example, adding *-ly* to the adjective *certain* makes it an adverb, *certainly*. However, adding *-ly* to a noun makes it an adjective. The negative form of *happy* is *unhappy* because *un-* is a negative prefix, and the suffix *-ness* makes it noun.

Table 8

*The Results of the Posttest*

Statistic	Experiment Group (EG)	Non-Experiment Group (NEG)
Number	27	27
Mean	6.52	4.41
SD	2.20	2.02
Variance	4.84	4.09
Range (H/L)	7(10/3)	7(8/1)
Reliability	0.63	0.59

Table 8 shows that there were differences between the two groups in their mean scores. Compared with the results of the vocabulary acquisition tests, the posttest shows a clear effect of affixation in relation to grammar questions such as those in Table 8 and Appendix E.

As can be seen in Table 8, affixation knowledge is effective, since the mean score in the EG was almost two points (out of ten) higher than that of the NEG, showing strong proof that the EG learners were quite influenced by learning affixation knowledge, and the two groups' results varied as a result of the application or non-application of this process.

Table 9

*EG-NEG: Comparison of 30 Posttest Tests Means*

<i>t</i>	<i>df</i>	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
					Lower	Upper
3.601	52	.001	2.111	.586	.935	3.287

The *t*-test (Table 9) comparing the EG mean on the posttest to the NEG mean on the posttest was conducted and found  $t(52) = 3.60$  and  $p < 0.001$ . The EG scored significantly higher than the NEG.

## DISCUSSION

### *Effective Ways to Teach Vocabulary*

The first research question of this study concerns the effectiveness for L2 learners of memorizing new words through affixation strategy practice as opposed to through a word translation approach. When it comes to teaching vocabulary, teachers in Korea tend to use the word translation approach, which is focused on emphasizing spelling and meaning. However, teaching the morphological forms in addition to the target words appears to be important and effective additional way to learn vocabulary. Morphological awareness apparently plays a significant role in L1 vocabulary development.

The mean scores of the NEG showed only a modest improvement. In addition, given the differences found between the EG and NEG groups, there appears to be an advantage to teaching using affixation knowledge. This study showed that the two groups are different, and given the higher mean values for the EG group in both the daily vocabulary tests and the posttest, there is a

clear indication that using affixation training helped students acquire vocabulary better than regular grammar-translation methods.

In addition, I observed that some participants in the NEG were embarrassed when they got their posttest results back and most of them were very disappointed. In contrast, participants in the EG showed various reactions. Some of them tried to use their knowledge to figure out the answers, and others indicated that they wished the teacher had given them more time for the test. The results on the posttest and the behaviors of the students were different for the two groups, perhaps because affixation knowledge raises students' motivation to learn vocabulary effectively.

This study supports the claims that L2 morphological awareness appears to be developed gradually (Anglin, 1993; Ku & Anderson, 2003) and that understanding and manipulating the internal structure of words is correlated with L1 vocabulary growth (Anglin, 1993; Nagy & Scott, 1990). Morphemic analysis instruction can help L2 learners independently learn new vocabulary and take charge of their own vocabulary development. In addition, it is important that teachers utilize methods that suit the students' level and needs. Before deciding whether the learners need explicit morphological analysis to boost their vocabulary knowledge, the learners' morphological awareness and their vocabulary size should be investigated. In short, teachers should not neglect vocabulary acquisition. For example, before this experiment, I explained to teachers that using an affixation based teaching method was superior to pure memorization of vocabulary. My view is that the teacher's role is important because the teacher's interest and teaching style affects students' learning.

### ***Adaption Toward Questions Related to Prefixes and Suffixes***

The last question of this study is why Korean students have difficulty in answering test questions related to prefixes and suffixes. Comparing the two groups, it was apparent that the mean score of the EG, which was over one point higher than the mean for the other group, indicates the success for this model over the NEG. The NEG also appeared to have trouble processing and memorizing their new English words. One possible explanation is that the participants in the EG considered prefixes as a kind of vocabulary where the NEG did not. For the EG, one problem may have been confusion with certain prefixes, like *cap*, which means *head* in a word like *captain* and *take* in a word like *capture* (see Appendix C), because they had two different meanings. Having more than one meaning or diverse prefixes having the same meaning

might be considered a disadvantage for the participants in the EG, but it could also be overcome by being taught through lectures or naturally by being accepted through self-reading and self-study.

From another standpoint, it is possible that participants in the EG became more interested and more involved in learning vocabulary with affixation. Carlisle (2000) tested the relationship between third and fifth graders' awareness of morphological structure, and the relationship between morphological awareness and reading and comprehension. The results indicated that the fifth graders outperformed the third graders as they had more years of exposure to complex words. The present study showed that through teaching affixation knowledge, L2 English learners become able to use grammatical features or structures related to affixation questions that are essential for understanding the grammatical context. This *suffix strategy* could prove very useful for Korean students because through the suffixes, English learners in Korea could learn to guess the grammatical category of a word. In addition, by studying the frequency of grammatical features and structures, learners gain knowledge of structures that helpful in succeeding on the TOEIC test and other grammar tests related to parts of speech as well as vocabulary tests connected to affixation knowledge.

### ***Limitations and Suggestions for Future Studies***

Many Korean students spend a great deal of time studying vocabulary through the word translation approach, while English teachers explicitly teach the meaning of the vocabulary. At the same time, it is difficult for teachers in Korea to help their pupils understand and use vocabulary strategies, since they have to teach multiple skills such as reading translation, grammar, writing, and listening to various levels of students in class. Even though teachers in Korea realize that extensive reading and other skills are beneficial, they still feel obligated to focus on raising test scores. Nonetheless, teachers should consider presenting the morphological forms in target words.

The experiment reported in this paper, which compared pure vocabulary memorization with the learning of morphological forms (prefixes and suffixes), indicated that the learners who were taught through morpheme-based instruction made better inferences than those who were not. Future research might be useful into the degree to which teaching affixes is differentially beneficial for high-proficiency level learners and low-proficiency level ones.



Other research that tests English learners' long-term memory of vocabulary affixation knowledge might also prove useful. Teaching affixes may also be a more effective in terms of long-term memory of vocabulary. Ortega (2009) argued that vocabulary knowledge is one of the best-studied areas of long-term memory in SLA. Schmitt (2008) claimed that there are two kinds of long-term memory: explicit memory and implicit memory. Explicit memory supports recollection and implicit memory supports skills and habit learning. Memory is a kind of storage. If learners can arrange their storage space efficiently, perhaps the effects of learning vocabulary through affixation might be greater.

### CONCLUSION

Prefixes and suffixes are generally known as affixation. Affixation creates new English words by modifying or changing the meaning of a root word. One thing that students, teachers, materials writers, and researchers can all agree upon is that learning vocabulary is an essential part of mastering a second language. However, the best means of achieving good vocabulary learning is still uncertain, partly because it depends on a wide variety of factors (Groot, 2006). The ease or difficulty of acquiring another language is closely related to the target language's similarity with the learner's language. Shin and Milroy (2000) argued that the absence or presence of morpheme in the learner's L1 will have a strong effect on the acquisition of morphemes in English. According to Stockwell and Donka (2001), well over 80 percent of the total vocabulary of English is borrowed and most of its words can be used with affixation. Therefore, studying vocabulary with affix systems or patterns would seem to be much more effective language learners than just memorizing words. Furthermore, using affixation strategies has another benefit, which is that it helps learners naturally expand their knowledge of meaning or grammatical categories. Thus, teachers and learners of English should seriously consider using affixation-based instruction and learning of vocabulary.

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**APPENDIX A**

**50 words from basic 2067 words Designed by Education Department of Korea**

1. Accurate	26. Support
2. Announce	27. Without
3. Admire	28. Wheat
4. Artificial	29. Yawn
5. Boast	30. Wick
6. Betray	31. Whisper
7. Charity	32. Wrist
8. Congratulation	33. Tongue
9. Comprehend	34. Survive
10. Convenient	35. Uphold
11. Emphasize	36. Theory
12. Dispute	37. Superior
13. Devise	38. Shoulder
14. Determine	39. Season
15. Temperature	40. Question
16. Suppose	41. Either
17. Vital	42. Destroy
18. Violent	43. Deny
19. Temper	44. Delight
20. Treat	45. Chest
21. Vain	46. Concentrate
22. Trust	47. Charm
23. Valley	48. Assign
24. Thirsty	49. Border
25. Trick	50. Ashamed

**Placement Test**

**Grade:**

**Name:**

**Please write the meaning of words from English to Korean**

1. Accurate
2. Admire
3. Boast
4. Charity
5. Comprehend
6. Convenient
7. Emphasize
8. Devise
9. Determine
10. Temperature
11. Vita
12. Violent
13. Temper
14. Vain
15. Valley
16. Wheat
17. Whisper
18. Tongue
19. Survive
20. Announce
21. Congratulation
22. Theory
23. Ashamed
24. Concentrate
25. Border
26. Support
27. Without
28. Wrist
29. Yawn
30. Wick

**APPENDIX B****Target vocabulary (570 words)**

Extracted from Coxhead, A. (2000). A new academic word list. *TESOL Quarterly*, 34(2), 213-238.

Headwords2 of the Word Families in the Academic Word List Numbers indicate the sublist of the Academic Word List (e.g., abandon and its family members are in Sublist 8). Sublist 1 contains the most frequent words in the list, and Sublist 10 contains the least frequent.

**Vocabulary list**

abandon 8/ aspect 2/ coincide 9/ abstract 6/ assemble 10/ collapse 10/ academy 5/ assess 1/  
 colleague 10/ access 4/ assign 6/ commence 9/ accommodate 9/ assist 2/ comment 3/ accompany  
 8/ assume 1/ commission 2/ accumulate 8/ assure 9/ commit 4/ accurate 6/ attach 6/ commodity 8/  
 achieve 2/ attain 9/ communicate 4/ acknowledge 6/ attitude 4/ community 2/ acquire 2/ attribute  
 4/ compatible 9/ adapt 7/ author 6/ compensate 3/ adequate 4/ authority 1/ compile 10/ adjacent  
 10/ automate 8/ complement 8/ adjust 5/ available 1/ complex 2/ administrate 2/ aware 5/  
 component 3/ adult 7/ behalf 9/ compound 5/ advocate 7/ benefit 1/ comprehensive 7/ affect 2/  
 bias 8/ comprise 7/ aggregate 6/ bond 6/ compute 2/ aid 7/ brief 6/ conceive 10/ albeit 10/ bulk 9/  
 concentrate 4/ allocate 6/ capable 6/ concept 1/ alter 5/ capacity 5/ conclude 2/ alternative 3/  
 category 2/ concurrent 9/ ambiguous 8/ cease 9/ conduct 2/ amend 5/ challenge 5/ confer 4/  
 analogy 9/ channel 7/ confine 9/ analyses 1/ chapter 2/ confirm 7/ annual 4/ chart 8/ conflict 5/  
 anticipate 9/ chemical 7/ conform 8/ apparent 4/ circumstance 3/ consent 3/ append 8/ cite 6/  
 consequent 2/appreciate 8/ civil 4/ considerable 3/ approach 1/ clarify 8/ consist 1/ appropriate 2/  
 classic 7/ constant 3/ approximate 4/ clause 5/ constitute 1/ arbitrary 8/ code 4/ constrain 3/ area  
 1/ coherent 9/ construct 2/consult 5/ consume2/ contact5/ contemporary8/ context1/ contract1/  
 contradict8/ contrary7/ contrast4/ contribute3/ controversy9/ convene3/ converse9/ convert7/  
 convince10/ cooperate6/ coordinate3/ core3/ corporate3/ correspond3/ couple7/ create1/ credit2/



criteria<sup>3</sup>/ crucial <sup>8</sup>/ culture<sup>2</sup>/ currency<sup>8</sup>/ cycle<sup>4</sup>/ data<sup>1</sup>/ debate<sup>4</sup>/ decade<sup>7</sup>/ decline<sup>5</sup>/ deduce<sup>3</sup>/  
 define<sup>1</sup>/ definite<sup>7</sup>/ demonstrate<sup>3</sup>/ denote<sup>8</sup>/ deny<sup>7</sup>/ depress<sup>10</sup>/ derive<sup>1</sup>/ design<sup>2</sup>/ despite<sup>4</sup>/ detect<sup>8</sup>/  
 deviate<sup>8</sup>/ device<sup>9</sup>/ devote<sup>9</sup>/ differentiate<sup>7</sup>/ dimension<sup>4</sup>/ diminish<sup>9</sup>/ discrete<sup>5</sup>/ discriminate<sup>6</sup>/  
 displace<sup>8</sup>/ display<sup>6</sup>/ dispose<sup>7</sup>/ distinct<sup>2</sup>/ distort<sup>9</sup>/ distribute<sup>1</sup>/ diverse<sup>6</sup>/ document<sup>3</sup>/ domain<sup>6</sup>/  
 domestic<sup>4</sup>/ dominate<sup>3</sup>/ draft<sup>5</sup>/ drama<sup>8</sup>/ duration<sup>9</sup>/ dynamic<sup>7</sup>/ economy<sup>1</sup>/ edit<sup>6</sup>/ element<sup>2</sup>/  
 eliminate<sup>7</sup>/ emerge<sup>4</sup>/ emphasis<sup>3</sup>/ empirical<sup>7</sup>/ enable<sup>5</sup>/ encounter<sup>10</sup>/ energy<sup>5</sup>/ enforce<sup>5</sup>/ enhance<sup>6</sup>/  
 enormous<sup>10</sup>/ ensure<sup>3</sup>/ entity<sup>5</sup>/ environment<sup>1</sup>/ equate<sup>2</sup>/ equip<sup>7</sup>/ equivalent<sup>5</sup>/ erode<sup>9</sup>/ error<sup>4</sup>/  
 establish<sup>1</sup>/ estate<sup>6</sup>/ estimate<sup>1</sup>/ ethic<sup>9</sup>/ ethnic<sup>4</sup>/ evaluate<sup>2</sup>/ eventual<sup>8</sup>/ evident<sup>1</sup>/ evolve<sup>5</sup>/ exceed<sup>6</sup>/  
 exclude<sup>3</sup>/ exhibit<sup>8</sup>/ expand<sup>5</sup>/ expert<sup>6</sup>/ explicit<sup>6</sup>/ exploit<sup>8</sup>/ export<sup>1</sup>/ expose<sup>5</sup>/ external<sup>5</sup>/ extract<sup>7</sup>/  
 facilitate<sup>5</sup>/ factor<sup>1</sup>/ feature<sup>2</sup>/ federal<sup>6</sup>/ fee<sup>6</sup>/ file<sup>7</sup>/ final<sup>2</sup>/ finance<sup>1</sup>/ finite<sup>7</sup>/ flexible <sup>6</sup>/ fluctuate <sup>4</sup>/  
 focus <sup>3</sup>/ format <sup>5</sup>/ formula <sup>8</sup>/ forthcoming <sup>9</sup>/ foundation <sup>7</sup>/ found <sup>1</sup>/ framework <sup>6</sup>/ function <sup>2</sup>/  
 fund <sup>7</sup>/ fundamental <sup>4</sup>/ furthermore <sup>3</sup>/ gender <sup>7</sup>/ generate <sup>5</sup>/ generation <sup>10</sup>/ globe <sup>5</sup>/ goal <sup>5</sup>/ grade  
<sup>6</sup>/ grant <sup>10</sup>/ guarantee <sup>3</sup>/ guideline <sup>5</sup>/ hence <sup>1</sup>/ hierarchy <sup>2</sup>/ highlight <sup>7</sup>/ hypothesis <sup>5</sup>/ identical <sup>9</sup>/  
 identify <sup>4</sup>/ ideology <sup>1</sup>/ ignorance <sup>6</sup>/ illustrate <sup>1</sup>/ image <sup>9</sup>/ immigrate <sup>4</sup>/ impact <sup>2</sup>/ implement <sup>8</sup>/  
 implicate <sup>1</sup>/ implicit <sup>5</sup>/ imply <sup>6</sup>/ impose <sup>3</sup>/ incentive <sup>8</sup>/ incidence <sup>5</sup>/ incline <sup>6</sup>/ income <sup>6</sup>/  
 incorporate <sup>8</sup>/ index <sup>1</sup>/ indicate <sup>5</sup>/ individual <sup>5</sup>/ induce <sup>7</sup>/ inevitable <sup>5</sup>/ infer <sup>1</sup>/ infrastructure <sup>2</sup>/  
 inherent <sup>6</sup>/ inhibit <sup>6</sup>/ initial <sup>7</sup>/ initiate <sup>2</sup>/ injure <sup>1</sup>/ innovate <sup>7</sup>/ input <sup>6</sup>/ insert <sup>7</sup>/ minimize <sup>8</sup>/  
 precede <sup>6</sup>/ insight <sup>9</sup>/ minimum <sup>6</sup>/ precise <sup>5</sup>/ inspect <sup>8</sup>/ ministry <sup>6</sup>/ predict <sup>4</sup>/ instance <sup>3</sup>/ minor <sup>3</sup>/  
 predominant <sup>8</sup>/ institute <sup>2</sup>/ mode <sup>7</sup>/ preliminary <sup>9</sup>/ instruct <sup>6</sup>/ modify <sup>5</sup>/ presume <sup>6</sup>/ integral <sup>9</sup>/  
 monitor <sup>5</sup>/ previous <sup>2</sup>/ integrate <sup>4</sup>/ motive <sup>6</sup>/ primary <sup>2</sup>/ integrity <sup>10</sup>/ mutual <sup>9</sup>/ prime <sup>5</sup>/  
 intelligence <sup>6</sup>/ negate <sup>3</sup>/ principal <sup>4</sup>/ intense <sup>8</sup>/ network <sup>5</sup>/ principle <sup>1</sup>/ interact <sup>3</sup>/ neutral <sup>6</sup>/ prior  
<sup>4</sup>/ intermediate <sup>9</sup>/ nevertheless <sup>6</sup>/ priority <sup>7</sup>/ internal <sup>4</sup>/ nonetheless <sup>10</sup>/ proceed <sup>1</sup>/ interpret I  
<sup>/norm <sup>9</sup>/ process <sup>1</sup>/ interval <sup>6</sup>/ normal <sup>2</sup>/ professional <sup>4</sup>/ intervene <sup>7</sup>/ notion <sup>5</sup>/ prohibit <sup>7</sup>/ intrinsic  
<sup>10</sup>/ notwithstanding <sup>10</sup>/ project <sup>4</sup>/ invest <sup>2</sup>/ nuclear <sup>8</sup>/ promote <sup>4</sup>/ investigate <sup>4</sup>/ objective <sup>5</sup>/  
 proportion <sup>3</sup>/ invoke <sup>10</sup>/ obtain <sup>2</sup>/ prospect <sup>8</sup>/ involve <sup>1</sup>/ obvious <sup>4</sup>/ protocol <sup>9</sup>/ isolate <sup>7</sup>/ occupy  
<sup>4</sup>/ psychology <sup>5</sup>/ issue <sup>1</sup>/ occur <sup>1</sup>/ publication <sup>7</sup>/ item <sup>2</sup>/ odd <sup>10</sup>/ publish <sup>3</sup>/ job <sup>4</sup>/ offset <sup>8</sup>/</sup>

purchase 2/ journal 2/ ongoing 10/ pursue 5/ justify 3/ option 4/ qualitative 9/ label 4/ orient 5/  
quote 7/ labor 1/ outcome 3/ radical 8/ layer 3/ output 4/ random 8/ lecture 6/ overall 4/ range 2/  
legal 1/ overlap 9/ ratio 5/ legislate 1/ overseas 6/ rational 6/ levy 10/ panel 10/ react 3/ liberal 5/  
paradigm 7/ recover 6/ license 5/ paragraph 8/ refine 9/ likewise 10/ parallel 4/ regime 4/ link 3/  
parameter 4/ region 2/ locate 3/ participate 2/ register 3/ logic 5/ partner 3/ regulate 2/ maintain 2/  
passive 9/ reinforce 8/ major 1/ perceive 2/ reject 5/ manipulate 8/ percent 1/ relax 9/ manual 9/  
period 1/ release 7/ margin 5/ persist 10/ relevant 2/ mature 9/ perspective 5/ reluctance 10/  
maximize 3/ phase 4/ rely 3/ mechanism 4/ phenomenon 7/ remove 3/ media 7/ philosophy 3/  
require 1/ mediate 9/ physical 3/ research 1/ medical 5/ plus 8/ reside 2/ medium 9/ policy 1/  
resolve 4/ mental 5/ portion 9/ resource 2/ method 1/ pose 10/ respond 1/ migrate 6/ positive 2/  
restore 8/ military 9/ potential 2/ restrain 9/ minimal 9/ practitioner 8/ restrict 2/ retain 4/ status 4/  
thesis 7/ reveal 6/ straightforward 10/ topic 7/ revenue 5/ strategy 2/ trace 6/ reverse 7/ stress 4/  
tradition 2/ revise 8/ structure 1/ transfer 2/ revolution 9/ style 5/ transform 6/ rigid 9/ submit 7/  
transit 5/ role 1/ subordinate 9/ transmit 7/ route 9/ subsequent 4/ transport 6/ scenario 9/ subsidy  
6/ trend 5/ schedule 8/ substitute 5/ trigger 9/ scheme 3/ successor 7/ ultimate 7/ scope 6/  
sufficient 3/ undergo 10/ section 1/ sum 4/ underlie 6/ sector 1/ summary 4/ undertake 4/ secure 2/  
supplement 9/ uniform 8/ seek 2/ survey 2/ unify 9/ select 2/ survive 7/ unique 7/sequence 3/  
suspend 9/ utilize 6/ series 4/ sustain 5/ valid 3/ sex 3/ symbol 5/ vary 1/ shift 3/ tape 6/ vehicle 8/  
significant 1/ target 5/ version 5/ similar 1/ task 3/ via 8/ simulate 7/ team 9/ violate 9/ site 2/  
technical 3/ virtual 8/ so-called 10/ technique 3/ visible 7/ sole 7/ technology 3/ vision 9/  
somewhat 7/ temporary 9/ visual 8/ source 1/ tense 8/ volume 3/ specific 1/ terminate 8/ voluntary  
7/ specify 3/ text 2/ welfare 5/ sphere 9/ theme 8/ whereas 5/ stable 5/ theory 1/ whereby 10/  
statistic 4/ thereby 8/ widespread 8/

## APPENDIX C

## Vocabulary list (420 words)

**Day 1****A: without****Ab: away**1. **Abstract** 형) 추상적인**Ac, Ad, Af, Ag, Al: toward**2. **Academy** 명) 학회, 학원3. **Access** 동) 접근하다 명) 접근**Ac, Acr: 정확한**4. **Accurate** 형) 정확한5. **Achieve** 동) 성취하다6. **Acknowledge** 동) 인정하다7. **Acquire** 동) 요구하다8. **Adapt** 동) -에 맞게 변형하다.**Ad: to**9. **Adequate** 동) 적당한 equal:10. **Adjust** 동) 적응하다 just11. **Administrate** 동) 지배하다12. **Adult** 명) 성인13. **Advocate** 동) 지지하다 Voc:14. **Affect** 명) 영향**Day 2****Al: another**1. **Aggregate** 동) 모으다2. **Aid** 명) 도움3. **Allocate** 동) 할당하다 loc:4. **Alter** 동) 변형하다5. **Alternative** 형), 명) 대안책**Am, an: another**6. **Amend** 동) 수정하다7. **Analyses** 명) 분석8. **Annual** 부) 해마다9. **Apparent** 형) 명백한10. **Approach** 동) 접근하다11. **Appropriate** 형) 적당한12. **Approximate** 부) 부사13. **Area** 명) 지역**As, At: another**14. **Aspect** 명) 모양**Day 3**1. **Assess**2. **Assign** 동) -을 할당하다, 배정하다 sign:3. **Assist** 동) 돕다4. **Assume** 동) 추정하다 sum:5. **Assure** 동) 확신하다 sure:**Auto:** 자기자신6. **Attitude**7. **Attribute**8. **Author** 명) 작가9. **Authority** 명) 권위, 권력10. **Automate** 동) 자동으로 하다11. **Available** 형) 이용 가능한12. **Classic** 형) 고전의**Bene:** 좋은13. **Benefit** 명) 이득14. **Bond** 명) 인간관계의 유대, 결속**Day 4**1. **Brief****Cap: head, take**2. **Capable** 형) 가능한3. **Capacity** 명) 수용인원, 수용력4. **Category** 명) 범위, 분류5. **Challenge** 명) 도전6. **Channel** 명) 해협, 수로7. **Chapter** 명) 장8. **Chemical** 명) 화학**circum: around**9. **Circumstance** 명) 주변의 상황10. **Cite** 동) 인용하다11. **Civil** 형) 시민의12. **Classic** 형) 고전적인13. **Clause** 명) 법의조항, 문법의 절**Co, col, com: 같이, 함께**14. **Code** 명) 암호**Day 5**1. **Comment** 동) 언급하다2. **Commission** 명) 중개3. **Commit** 동) 죄를 행하다, -을 위임하다4. **Communicate** 동) 대화하다5. **Community** 명) 지역사회6. **Compensate** 동) 보상하다, 보상금을 주다7. **Complex** 형) 복잡한8. **Component** 명) 요소, 부품9. **Compound** 형) 합성의, 복합의 pound:10. **Comprehensive** 형) 포괄적인, 복합적인

11. **Comprise** 동) 구성하다, 차지하다
12. **Compute** 동) 계산하다
13. **Concentrate** 동)집중하다 center:
14. **Concept** 명)개념

**Day6**

1. Conclude 동) 포함하다
2. **Conduct** 동)지휘하다, 안내하다 **do**
3. **Confer** 동)상의하다 수여하다 ferry:
4. **Confirm** 동)사실임을 보여주다
5. Community 명) 지역사회
6. **Consent** 명) 동의, 합의 send:
7. Complex 형) 복잡한
8. Considerable 형) 상당한
9. **Consist** 동) 되어 (이루어져) 있다
10. **Constant** 형)끊임없는, 거듭되는
11. **Constitute** 동)~을 구성하다
12. Constrain 동) 제한하다
13. **Construct** 동) 건설하다, 구성하다 structure:
14. **Consult** 동) 상담하다, 상의하다

**Day7**

1. **Consume** 동) 소비하다
2. **Contact** 명) 연락, 접촉
3. **Context** 명) 맥락, 전후 사정 text:
4. **Contract** 명) 계약, 살인청부 track:
5. **Contrary** 명) 대조
6. **Contrast** 명) 차이, 대조, 대비
7. **Contribute** 동) 공헌하다
8. **Convene** 동) 소집하다, 회합하다 venue:
9. **Convert** 동) 전환시키다
10. **Cooperate** 동)협력하다, 협조하다 operate:
11. **Coordinate** 동) 협조하다
12. **Core** 명) 중심부, 핵심
13. Corporate 동) 협동하다
14. **Correspond** 동)일치하다,해상하다 respond:

**Day8**

1. Couple 명) 두 사람, 몇 개의
2. **Create** 동) 만들다
3. **Credit** 명) 신용거래, 신용도
4. Criteria 명) 표준, 기준
5. **Culture** 명) 문화
6. Cycle 명) 회전, 원
7. Data 명) 자료, 정보
- De:** 아래, 부정
8. Debate 명) 토론, 논의 battle

9. **Decade** 명)10년 dec:
10. **Decline** 명) 감소, 하락, 축소 line:
11. **Deduce** 동) 추론하다, 추정하다
12. Define 동) 한정하다
13. Definite 형) 명백한
14. **Demonstrate** 동) 입증하다 demon:

**Day9**

1. Deny 동) 부정하다
2. Derive 동) 유래하다, 파생하다 drive:
3. **Design** 명) 디자인, 설계 sign:
4. Despite 전) – 입에도 불구하고
- Di:** not, away, off
5. **Differentiate** 동) 구별하다, 구분 짓다
6. Dimension 명) 치수
- Dis:** seperate
7. **Discrete** 형) 별개의
8. **Discriminate** 동) 구별하다
9. **Display** 동) 전시하다, 진열하다 play:
10. **Dispose** 동) 배치하다 pose:
11. Distinct 형) 뚜렷한, 분명한
12. **Distribute** 동) 나누어 주다, 분배하다
13. **Diverse** 형) 다양한 verse:
14. **Document** 명) 서류, 문서

**Day10**

1. Domain 명) 영토
2. Domestic 형) 국내의
3. Dominate 동) 지배하다
4. Draft 명) 초안
5. Dynamic 형) 활동적인
- E:**out
6. Economy 명) 경제, 국가 coin
7. Edit 동) 편집하다, 수정하다
8. Element 명) 요소
9. Eliminate 동) 제거하다
10. Emerge 동) 나오다, 모습을 드러내다
11. Emphasis 명) 강조, 역점
12. Empirical 형) 실험적인
13. **Enable** 동) 가능하게 하다
14. **Energy** 명) 활기, 기운

**Day11**

**En:** verb

1. **Enforce** 동) 집행하다, 실행하다 force:
2. **Enhance** 동) 높이다, 향상시키다 hand
3. **Ensure** 동) 보장하다 sure:
4. Entity 명) 실재
5. Environment 명) 환경
- Eq:** the same
6. **Equate** 동) 동일시하다 equal

- 7. Equip 동) (모양을) 갖추다
- 8. **Equivalent** 형) 동등한, 상당한 equal:
- Err:wonder**
- 9. Error 명) 실수, 오류
- 10. Establish 동) 설치하다
- 11. **Estate** 명) 사유지, 단지 state:
- 12. Estimate 동) 예상하다
- 13. Ethnic 형) 민족의, 종족의
- 14. Evaluate 동) 평가하다, 감정하다 value:

**Day12**

- 1. Evident 형) 분명한, 눈에 띄는 vi:
- 2. Evolve 동) 발달시키다, 진전하다
- Ex: 밖으로**
- 3. Exceed 동) 넘다, 초과하다
- 4. Exclude 동) 제외하다, 배제하다
- 5. Expand 동) 확대되다, 확장되다
- 6. Expert 명) 수출
- 7. Explicit 형) 명백한
- 8. Export 동) 수출하다 port:
- 9. Expose 동) 드러내다, 노출시키다 pose:
- 10. External 형) 외부의, 밖의
- 11. Extract 명) 발채, 추출물 track:
- Fac: make, do**
- 12. Facilitate 동) 가능하게 하다
- 13. Factor 명) 요인, 인수, 양
- 14. Feature 명) 특징

**Day13**

- 1. Federal
- 2. Fee 명) 수수료, 요금
- 3. File 명) 파일, 줄, 열
- 4. Final 형) 마지막의, 최종적인
- 5. Finance 명) 재정
- 6. Finite 형) 무한한
- Flex, flux: run, flow**
- 7. Flexible 형) 유연한, 융통성 있는
- 8. Focus 동) 집중하다 (포카) for
- 9. Formula 명) 공식
- 10. Foundation 명) 기반
- 11. Framework 명) 뼈대, 골조
- 12. Function 명) 기능
- 13. Fund 명) 기금, 자금, 돈
- 14. Fundamental

**Day14**

- 1. Furthermore, 부)뿐만 아니라, 더욱이
- Ge: make, type**
- 2. Gender 명) 성, 성별
- 3. Generate 동) 발생시키다, 만들어내다
- 4. Generation 명) 세대

- 5. Globe 명) 지구본
- 6. Goal 명) 목표
- Gra: step**
- 7. Grade 명) 학년, 품질, 등급
- 8. Grant 동) 인정하다, 승인하다
- 9. Guarantee 명) 믿음
- 10. Hence 접) 그래서
- 11. Hierarchy 명) 등급
- 12. Hypothesis 명) 가설
- 13. Identical 형) 똑같은
- 14. Identify 동) 확인하다

**Day15**

- 1. Ideology 명) 이데올로기, 이념, 관념 logy
- 2. Ignorance 명) 무시
- 3. Illustrate 동) 묘사하다
- Im: 안에, 아니다**
- 4. Image 명) 이미지, 영상
- 5. Immigrate 동) 이민해 오다
- 6. Impact 명) 영향, 충돌, 충격
- 7. Implement 동) 실행하다
- 8. Implicate 동) 암시하다
- 9. Imply 동) 넉지시 나타내다, 비치다 apply  
fly
- 10. Impose 동) 도입하다, 부과하다 pose:
- 11. Incentive 명) 장려정책, 우대정책 cent:
- In: 안에, 부정**
- 12. Incidence 명) 사건
- 13. Income 명) 소득, 수입
- 14. Incorporate 동) 단체 조직으로 만들다

**Day16**

- In: cor, operate**
- 1. Index 명) 지수, 지표
- 2. Indicate 동) 나타내다, 보여주다 dic:say
- 3. Individual 형) 개인의 di: vidual:
- 4. Infer 동) 추론하다 ferry:
- 5. Inhibit 동) 금지하다
- 6. Initial 명) 첫글자,
- 7. Initiate 동) 시작하다
- 8. Injure 동) 다치다
- 9. Innovate 동) 혁신하다
- 10. Input 명) 투입 put:
- 11. Insert 동) 삽입하다
- 12. Instance 명) 사례, 경우 stand:
- 13. Institute 명) 학원
- 14. Instruct 동) 지시하다, 가르치다 study:

**Day17**

- 1. Integrate 동) 통합하다

2. **Intelligence** 명) 지능, 기밀, 정보 tell:

Inter: each other

3. **Interact** 동) 상호 작용하다 act:

4. **Internal** 형) 내부의, 체내의 tunnel:

5. **Interpret** 동) 번역하다, 해석하다

6. **Interval** 명) 간격, 사이

7. **Intervene** 동) 간섭하다

8. **Invest** 동) 투자하다 vest:

9. **Investigate** 동) 조사하다

10. **Involve** 동) 포함하다

11. **Isolate** 동) 떨어지다, 고립되다

12. **Issue** 명) 발행, 발간, 출판물 sue:

13. **Item** 명) 항목, 조항, 품목

14. **Job** 명) 직업, 일

**Day18**

Jour: write

1. **Journal** 명) 일기, 일지 journey

2. **Justify** 동) 정의하다

3. **Label** 명) 꼬리표, 벽보, 딱지

4. **Labor** 명) 노동, 노력

5. **Layer** 명) 층

6. **Lecture** 명) 강의, 강연 true:

7. **Legal** 형) 합법적인

8. **Legislate** 동) 등록하다

9. **Liberal** 명) 자유

10. **License** 명) 면허증

11. **Link** 명) 고리, 연결로, 링크

12. **Locate** 동) ~의 장소를

알아내다, 찾아내다

13. **Logic** 명) 논리학, 논리학 서적, 논리

14. **Maintain** 동) 유지하다

**Day19**

1. **Major** 형) 중요한, 주요한, 일류의

Mani: hand

2. **Margin** 명) 가장자리, 가, 판매수익

Max: big, large

3. **Maximize** 동) ~을 최대로 하다,

4. **Mechanism** 명) 기계장치

5. **Media** 명) 대중매체, 매스미디어

6. **Medical** 형) 의학의, 의료의

7. **Mental** 형) 마음의, 정신의

8. **Method** 명) 방법

9. **Migrate** 동) 이주하다, 옮겨살다

Mini: small

10. **Minimum** 명) 최저액, 최저

11. **Ministry** 명) (행정부의) 부서.

12. **Minor** 형) 보다 적은, 보다 작은

13. **Mode** 명) 방식, 방법

14. **Modify** 동) 변경하다, 수정하다

**Day20**

1. **Monitor** 명) 모니터 동) 감시하다

2. **Motive** 명) 동기, 진의

3. **Negate** 동) 부정하다, 부인하다

4. **Network** 명) 네트워크 net:

5. **Neutral** 형) 중립의

6. **Nevertheless** 부) 그럼에도 불구하고

7. **Normal** 형) 평범한

8. **Notion** 명) 개념

9. **Objective** 명) 목적, 목표

10. **Obvious** 형) 명확한

11. **Occupy** 동) 차지하다

12. **Occupy** 동) 차지하다

13. **Occur** 동) 발생하다

14. **Option** 명) 선택, 옵션

**Day21**

1. **Orient** 동) 초점을 맞추다

2. **Outcome** 명) 결과

3. **Output** 명) 생산량, 출력

4. **Overall** 형) 전반적인

5. **Overseas** 형) 해외의

6. **Paradigm** 명) 사고방식, 모범

7. **Parallel** 형) 같은 방향의

8. **Parameter** 명) 요소

9. **Participate** 동) 참가하다

10. **Partner** 명) 동반자, 애인, 동업자

11. **Perceive** 동) 감지하다, 인지하다

12. **Percent** 명) 퍼센트

13. **Period** 명) 기간, 시기

14. **Perspective** 형) 투시의, 원근의

**Day22**

1. **Phase** 명) 단계, 시기

2. **Phenomenon** 명) 경이로운 것, 현상

3. **Philosophy** 명) 철학

4. **Physical** 형) 육체의

5. **Policy** 명) 정책

6. **Positive** 형) 긍정적인

7. **Potential** 형) 잠재적인

Pre, Pri: before, top

8. **Precede**

9. **Precise** 형) 정확한, 정밀한 size:

10. **Predict** 동) 예견하다, 예측하다 dic:

11. **Presume** 동) 추정하다, 여기다 sum:

12. **Previous** 형) 이전의, 먼것번의

13. **Primary** 형) 주된, 중요한

14. **Prime** 형) 제 1 의, 최고의

**Day23**

1. **Principal** 명) (학교 등의) 교장
2. **Principle** 명) 원리, 이론
3. **Prior** 형) 사전의, 우선하는
4. **Priority** 명) 선호도

**Pro: toward, go ahead**

5. **Proceed** 동) 진행하다
6. **Process** 명) 과정, 공정
7. **Professional** 형) 전문적인
8. **Prohibit** 동) 금지하다
9. **Project** 명) 계획, 기획
10. **Promote** 동) 승진하다, 승급되다
11. **Proportion** 명) 몫

**Psy: mental**

12. **Psychology** 명) 심리학, 심리

**Pub: people**

13. **Publication** 명) 출판, 발행 **public:**
14. **Publish** 동) 출간하다, 발행하다

**Day24**

1. **Purchase** 동) 구매하다
2. **Pursue** 동) 추구하다, 밀고 나가다
3. **Quote** 동) 인용하다
4. **Range** 명) 범위
5. **Ratio** 명) 비율, 비
6. **Rational** 형) 급진적인
7. **React** 동) 반응하다
8. **Recover** 동) 회복되다

**Regi: king**

9. **Regime** 명) 정권, 제도, 체제
10. **Region** 명) 지방, 지역
11. **Register** 동) 등록하다
12. **Regulate** 동) 규제하다

**Re: again**

13. **Reinforce** 동) 강화하다 **force:**
14. **Reject** 동) 거부하다

**Day25**

1. **Release** 동) 풀어주다, 해방하다
2. **Relevant** 형) 적절한
3. **Rely** 동) 의지하다, 신뢰하다
4. **Remove** 동) 제거하다, 없애다
5. **Require** 동) 요구하다
6. **Research** 명) 연구, 조사
7. **Reside** 동) 살다, 거주하다
8. **Resolve** 동) 해결하다, 다짐하다
9. **Resource** 명) 자원, 재료
10. **Respond** 동) 응답하다, 대답하다
11. **Restrict** 동) 제한하다, 방해하다
12. **Retain** 동) 유지하다, 보유하다

13. **Reveal** 동) 폭로하다
14. **Revenge** 명) 복수

**Day26**

1. **Reverse** 형) 거꾸로
2. **Role** 명) 역할, 역
3. **Scheme** 명) 사업계획, 구상
4. **Scope** 명) 범위, 영역, 시야

**Se: apart, away**

5. **Section** 명) 부분, 부문
6. **Sector** 명) 부분, 분야
7. **Secure** 형) 안전한, 확실한
8. **Seek** 동) 찾다, 추구하다
9. **Select** 동) 선택하다
10. **Sequence** 명) 연속적인 사건들
11. **Series** 명) 연속, 연쇄, 시리즈
12. **Sex** 명) 성
13. **Shift** 명) 변화
14. **Significant** 형) 중요한

**Day27**

**Sim: same**

1. **Similar** 형) 비슷한
2. **Simulate** 동) ~한 체 하다
3. **Site** 명) 위치, 현상
4. **Sole** 명) 영혼
5. **Somewhat** 부) 다소
6. **Source** 명) 원천, 근원

**Spec: see, look**

7. **Specific** 형) 구체적인
8. **Specify** 동) 명시하다
9. **Stable** 형) 안정된
10. **Statistic** 명) 통계자료
11. **Status** 명) 지위, 상태
12. **Strategy** 명) 전략
13. **Stress** 명) 스트레스
14. **Structure** 명) 구조

**Day28**

1. **Style** 명) 방식, 유행, 스타일
2. **Submit** 동) 제출하다
3. **Subordinate** 형) 부속적인
4. **Subsidy** 명) 보조금, 장려금
5. **Substitute** 동) 교체하다
6. **Successor** 명) 상속인
7. **Sufficient** 형) 충분한
8. **Sum** 명) 총계, 합계
9. **Summary** 명) 요약, 개요
10. **Survey** 동) 전망하다
11. **Survive** 동) 살아남다

- 12. Sustain 동) 유지하다
- 13. Symbol 명) 상징
- 14. Tape 명) 납작한 끈

**Day29**

- 1. Target
- 2. Task

**Tech: 기술**

- 3. Technical 형) 과학 기술의, 기술적인
- 4. Technique 명) 기법, 기술
- 5. Technology 명) 기술, 기계, 장비
- 6. Text 명) 문자
- 7. Theory 명) 이론
- 8. Thesis 명) 주제
- 9. Topic 명) 주제
- 10. Trace 명) 발자국, 흔적
- 11. Tradition 명) 전통

**Trans: move**

- 12. Transfer 동) 옮기다, 이동하다
- 13. Transform 동) 변형시키다

- 14. Transit 명) 수송, 통과, 환승

**Day30**

- 1. Transmit 동) (전송, 방송) 하다
- 2. Transport 명) 수송, 차량, 이동
- 3. Trigger 동) 무슨 일을 시작시키다
- 4. Ultimate 형) 궁극적인, 최후의

**Under: down**

- 6. Underlie 동) 바탕을 이루다
- 7. Undertake 동) 착수하다

**Uni: one**

- 8. Uniform 명) 제복, 교복, 유니폼
- 9. Unique 형) 독특한, 특별한
- 10. Utilize 동) 활용하다
- 11. Valid 형) 근거가 확실한
- 12. Vary 동) 수정하다
- 13. Version 명) 다른형태, -판

**Vi: see**

- 14. Vision 명) 시력, 눈, 시야



APPENDIX D

Daily test

**Day 1**

Please write the meaning of words in Korean.      Grade:      Name:

(If you know the part of speech, you can write it)

**Day 1**

	Meaning of Korean	(part of speech)
1. Abstract	_____	
2. Adequate	_____	
3. Access	_____	
4. Accurate	_____	
5. Affect	_____	
6. Acknowledge	_____	
7. Advocate	_____	
8. Adapt	_____	
9. Administrate	_____	
10. Adjust	_____	

**Day2**

1. Aggregate
2. Apparent
3. Allocate
4. Approximate
5. Alternative
6. Amend
7. Appropriate
8. Annual
9. Analyses
10. Approach

**Day3**

1. Authority
2. Assign
3. Classic
4. Assume
5. Automate

6. Attitude
7. Attribute
8. Author
9. Benefit
10. Available

**Day4**

1. Circumstance
2. Capable
3. Capacity
4. Category
5. Challenge
6. Clause
7. Chapter
8. Chemical
9. Civil
10. Cite

**Day5**

1. Concept
2. Commission
3. Concentrate
4. Communicate
5. Comprise
6. Compensate
7. Complex
8. Component
9. Compound
10. Comprehensive

**Day6**

1. Constant
2. Consent
3. Confer
4. Constrain
5. Community
6. Constitute

7. Complex
8. Considerable
9. Consist
10. Conclude

**Day7**

1. Consume
2. Contact
3. Coordinate
4. Contract
5. Corporate
6. Contrast
7. Contribute
8. Convene
9. Correspond
10. Cooperate

**Day8**

1. Demonstrate
2. Create
3. Definite
4. Criteria
5. Culture
6. Define
7. Deduce
8. Debate
9. Decade
10. Decline

**Day9**

1. Document
2. Distinct
3. Distribute
4. Despite
5. Differentiate
6. Dimension
7. Discrete
8. Discriminate
9. Diverse
10. Dispose

**Day10**

1. Eliminate
2. Domestic
3. Dominate
4. Emphasis
5. Dynamic
6. Economy
7. Empirical
8. Element
9. Domain
10. Enable

**Day11**

1. Estimate
2. Enhance
3. Estate
4. Entity
5. Environment
6. Equate
7. Ethnic
8. Equivalent
9. Evaluate
10. Establish

**Day12**

1. Evident
2. Evolve
3. Extract
4. Facilitate
5. Expand
6. Expert
7. Explicit
8. Feature
9. Factor
10. External

**Day13**

1. Federal
2. Formula
3. Function
4. Foundation
5. Finance
6. Finite
7. Flexible
8. Fund
9. Fundamental
10. Framework

**Day14**

1. Identical
2. Gender
3. Generate
4. Generation
5. Hypothesis
6. Identify
7. Furthermore
8. Hierarchy
9. Guarantee
10. Hence

**Day15**

1. Ideology
2. Ignorance
3. Illustrate
4. Incorporate
5. Immigrate

6. Incidence
7. Implement
8. Implicate
9. Incentive
10. Impose

**Day16**

1. Instruct
2. Indicate
3. Individual
4. Instance
5. Inhibit
6. Initial
7. Initiate
8. Injure
9. Innovate
10. Institute

**Day17**

1. Investigate
2. Intelligence
3. Isolate
4. Interpret
5. Internal
6. Interval
7. Intervene
8. Invest
9. Integrate
10. Involve

**Day18**

1. Journal
2. Justify
3. Locate
4. Logic
5. Layer
6. Lecture
7. Maintain
8. Legislate
9. Liberal
10. License

**Day19**

1. Modify
2. Mechanism
3. Maximize
4. Margin
5. Ministry
6. Medical
7. Mental
8. Method
9. Migrate
10. Minimum

**Day20**

1. Occupy
2. Motive
3. Negate
4. Network
5. Neutral
6. Nevertheless
7. Option
8. Notion
9. Objective
10. Obvious

**Day21**

1. Orient
2. Perspective
3. Perceive
4. Overall
5. Overseas
6. Paradigm
7. Parallel
8. Parameter
9. Participate
10. Outcome

**Day22**

1. Phenomenon
2. Presume
3. Philosophy
4. Physical
5. Previous
6. Primary
7. Potential
8. Precede
9. Precise
10. Predict

**Day23**

1. Principal
2. Publication
3. Psychology
4. Professional
5. Proceed
6. Process
7. Priority

8. Prohibit
9. Project
10. Publish

**Day24**

1. Purchase
2. Pursue
3. Quote
4. Reinforce
5. Reject
6. Rational
7. Regulate
8. Register
9. Regime
10. Region

**Day25**

1. Release
2. Relevant
3. Retain
4. Restrict
5. Require
6. Research
7. Reveal
8. Resolve
9. Resource
10. Respond

**Day26**

1. Reverse
2. Significant
3. Scheme
4. Scope
5. Section
6. Sector
7. Secure
8. Shift
9. Select
10. Sequence

**Day27**

1. Similar
2. Simulate
3. Strategy
4. Status

5. Somewhat
6. Source
7. Specific
8. Specify
9. Structure
10. Statistic

**Day28**

1. Sustain
2. Submit
3. Subordinate
4. Subsidy
5. Substitute
6. Successor
7. Sufficient
8. Symbol
9. Summary
10. Survey

**Day29**

1. Tradition
2. Transform
3. Technical
4. Technique
5. Technology
6. Transit
7. Theory
8. Thesis
9. Transfer
10. Trace

**Day30**

1. Transmit
2. Transport
3. Trigger
4. Ultimate
5. Unique
6. Valid
7. Undertake
8. Vary
9. Undertake
10. Utilize

**APPENDIX E**  
**Posttest**

Please choose correct answer.

Grade:

Name:

1. He had heart attack, but he didn't need an \_\_\_\_\_ .  
 (A) operate (C) operated  
 (B) operation (D) operative
2. Mr. Hanson plugged his cellphone in to \_\_\_\_\_ it to use next day.  
 (A) recharge (C) discharge  
 (B) overcharge (D) mischarge
3. Applicants should remember that the first \_\_\_\_\_ is most important.  
 (A) impress (C) impressive  
 (B) impressively (D) impression
4. The contract stipulates that employees injured are assured of immediate \_\_\_\_\_ .  
 (A) compensate (C) compensation  
 (B) compensatory (D) compensated
5. Capital and labor are very \_\_\_\_\_ in the modern corporation.  
 (A) import (C) important  
 (B) importantly (D) importance
6. Her \_\_\_\_\_ to her country has never been in doubt.  
 (A) loyalty (C) loyal  
 (B) loyalties (D)loyally
7. Flowers make a lot of \_\_\_\_\_ to a room.  
 (A) differences (C) different  
 (B) differ (D)differently
8. The participants did not start until the wind \_\_\_\_\_ .  
 (A) upside (C) inside  
 (B) subside (D) outside
9. We would like to offer you a twelve month \_\_\_\_\_ to Family Business magazine.  
 (A) subscription (C) description  
 (B) prescription (D) repetition
10. When people apply for the driver license, people must show the personnel two forms of \_\_\_\_\_ .  
 (A) identify (C) identification  
 (B) identifies (D) identifiable

APPENDIX F  
UNIVERSITY OF HAWAII

**CHILD ASSENT TO TAKE PART IN A RESEARCH STUDY**  
**Ages 7 to 13**

**Study Title:** Vocabulary Acquisition with Affixation

**Study Doctor:** Cholo Kim

We are asking you to take part in a research study to help us learn more about how brains develop in healthy children.

Before you decide whether to take part in this study, it is important that you know that:

- It is your choice to be part of this study or not;
- If you decide to join the study, you can stop at any time; and
- Your parent or guardian must also agree for you to be in this study.

What will you be asked to do if you join this study?

I would like to find out which way of studying vocabulary for non-native students is better between learning complicated system, prefix and suffix, and just normal way without using knowledge of affixation.

**Exam:** First, you will be asked to take tests after learning vocabulary from your teachers with vocabulary that you have to memorize in class. Each test consists of 10 questions.

**Materials and Time:** 360 English words will be served to study for 6 weeks. Every day, from Monday to Friday, you should study 12 words at the beginning of class and have to be tested.

**Who will be given information about you?**

Personal information about you will be kept private by the study staff. If you want to know the result of test, contact me I will send you by e-mail.

**Will you get paid for being in this study?**

You don't have to be in the study if you don't want to. It's up to you. Even if you start, you can stop later if you want. No one will be mad at you.

**How do you get your questions answered?**

If you have any questions about the study, you may call Principle at English Academy(061-654-1449) or ask me (cholo@hawaii.edu)

**Agreement to take part in the study:**

Signing your name at the bottom of this form means that you agree to be in this study. You and your parents will be given a copy of this form after you have signed it.

\_\_\_\_\_  
Your name (print)

\_\_\_\_\_  
Your Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Researcher's Name

\_\_\_\_\_  
Researcher's Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name of Parent or Guardian (print)