Lexical Knowledge and Korean EFL Learners' Vocabulary Acquisition

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Park, Eun-Jung. 2004 Lexical Knowledge and Korean EFL Learners' Vocabulary Acquisition. *SNU Working Papers in English Language and Linguistics* 3, #-#. This paper investigated the effects of two types of lexical knowledge, knowledge of meaning and knowledge of form, on the process of Korean EFL learners' vocabulary learning. For more precise description of the learning process, this research also adopted a lexical unit suggested by Cruse (1986) as the linguistic primary unit, which is a more functionally differentiated unit than a word. With test materials chosen through pretests, one hundred fifty two intermediate level students attending Seoul National University participated in three experiment to examine whether or not knowledge of meaning and knowledge of form makes it easer for L2 learners to acquire new lexical units. The results showed that overall knowledge of meaning and knowledge of form significantly contributes to L2 learners' acquisition of new lexical units. However, knowledge of form is helpful for L2 learner's short-term memory, on the other hand, knowledge of meaning is beneficial to their long-term memory as well as short-term memory in learning vocabulary. **(Seoul National University)**

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1. Introduction
1.1 Background and Motivation

Since the 1980s, even though there has been an increasing awareness of the role of vocabulary in L2 learners' reading, a majority of the early studies on L2 vocabulary had a tendency to focus on vocabulary size or breadth of lexical knowledge, such as how many words learners gain over time (Huckin, Haynes and Coady 1993, Nagy, Herman and Anderson, 1985) or how many words they learn through activities (Avila and Sadoski 1996, Cohen and Apek 1980). Certainly this line of studies provided some valuable information related to L2 learners' vocabulary learning, however, researchers have pointed out the limitations of not providing the adequate explanation of fundamental matters, especially, how individual words are

acquired over time.

In this sense, L2 researchers turned their attention to the mechanism of individual words. First of all, some of researchers, arguing that what it means to know a word should be clarified in the first place, attempted to establish the complete list of L2 learner' lexical knowledge that comprise full understanding of a word (Alexander 1982, Laufer 1997, Nation 1990, Richards 1976). According to them, knowing a word implies having the types of lexical knowledge in a list they suggested. Therefore, all the types of lexical knowledge in the given list should be acquired to reach the mastery level of the word.

In spite of numerous suggestions concerning the complete list of L2 learners' lexical knowledge, there are few studies on the fact how lexical knowledge plays a role in the process of vocabulary learning. In fact, though there have been a number of discussions about what makes a word easier or more difficult to learn (Ellis and Beaton 1993, Higa 1965, Hulstjn 1994, Laufer 1990, 1994, Nation 1990, Singleton 1994), little of them have explicitly linked different kinds of lexical knowledge.

However recently Bogaards (2001) investigated the influence of two different types of lexical knowledge on lexical development when Dutch learners acquired new French words. On the basis of the findings, he argued that while knowledge of the form is helpful, knowledge of the meaning doesn't affect vocabulary learning. A closer examination into this study, however, revealed several problems in the aspect of methodology including the selection of test material and participants. The failure in the methodological aspects leads to low reliability of Bogaards' study. Thus, more meticulously designed experimental research is necessary to obtain reliable, valid results of the effects of lexical knowledge on L2 vocabulary acquisition. In this sense, the present study was motivated to explore the effects of knowledge of form and knowledge of meaning on the process of vocabulary learning, supplementing the methodology of the previous study.

In addition, as a part of efforts to describe L2 learners' vocabulary more precisely, the present study adopted lexical units as the primary linguistic unit instead of words. For a long time, a word has taken the place as the linguistic primary units but the exact notion has not been established even among linguists. As a result, it has caused lots of problems in describing linguistic characteristics and in result some of linguists argued that the alternatives should be searched (Cruse 1986, Moon 1997). In particular, the

field like foreign language learning requires a more functionally differentiated unit than a word in order to describe and evaluate L2 learners' acquisition development more precisely (Bogaards 2001). Consist with the claim, a lexical unit, a combination of a lexical form and a single sense, was considered more desirable unit for this study in which the effects of two types of lexical knowledge on the process of L2 learners' vocabulary learning were described.

1.2 Research Scope and Research Questions

Among the whole types of lexical knowledge suggested by researchers, knowledge of form and knowledge of meaning were focused in this study not only because they are basic type of lexical knowledge but also because mixed arguments related to the effects of them have existed. Bauer and Nation (1993) and Laufer and Nation (1995) asserted that once L2 learners know the base form of a word, they would recognize all members all inflected and derived forms of a given base word, which are called a word family, without having to learn each form separately. This idea stemmed from the belief that knowledge of form would be helpful to other vocabulary learning. To the contrary, other researchers cast doubt on the claim and, instead, insisted on that of knowledge of meaning for vocabulary learning (Postman and Keppel 1970, Schmitt and Meara 1997). For instance, Postman and Keppel reported that in an association test, L2 learners could not normally give the members of a target word's family. On the basis of it, they argued that not knowledge form of a word but knowledge of meaning helps to associate related words and acquire other words.

Therefore, this study attempted to examine if knowledge of form or knowledge of meaning helps or impedes the learning of L2 vocabulary through experiments with the following three research questions.

[Question 1]

Is the semantic relatedness of a known lexical unit with the same form helpful or obstructive when L2 learners acquire a new lexical unit?

[Question 2]

Is knowledge of form helpful or obstructive when L2 learners acquire a new single word lexical unit?

[Question 3]

Is knowledge of form helpful or obstructive when L2 learners acquire a new multi-word lexical unit?

2. Theoretical background
2.1 Types of Lexical Knowledge

The competence and knowledge necessary to master a word is called lexical knowledge (sometimes word or vocabulary knowledge). Lots of researchers strived to clarify the concept of knowing a word before discussing the acquisition of lexical knowledge. Richards (1976) was the one who first defined knowing a word by connecting lexical knowledge. He suggested a list of lexical knowledge L2 learners should have, which native speakers possess when they know a word. The list included word frequency, vocabulary growth in native speakers, collocation, register, case relations, underlying forms, word association and semantic structure. On the contrary, according to Laufer (1997), knowing a word consists of the 6 types of lexical knowledge, forms, structure, syntactic pattern of the word in a phrase and sentence, meanings, lexical relations of the word with other words and common collocations. Singleton (2000) also mentioned 5 types of lexical knowledge while discussing the mental lexicon of L2 learners, which are what it sounds like, how it is spelled, what it means, what it behaves morphologically, how it behaves syntactically, how it associates with other words.

These studies, though the lists are somewhat different depending on researchers, provided us with useful information for understanding L2 learners' word knowledge beyond form and meaning and discussing lexical development. Moreover, a consideration of lexical knowledge would offer a frame of reference for the determination of objectives for vocabulary teaching and for the assessment of teaching techniques (Richards 1976).

2.2 Incremental Nature of Lexical Acquisition

When it comes to the acquisition of lexical knowledge, it is generally agreed that from the moment L2 learners face a word, they acquire types of lexical knowledge of the word separately or concurrently over time and finally reach the mastery stage. This incremental nature of vocabulary acquisition was proved in several empirical studies with empirical evidence (Bahn and Eldaw 1993, Paribakht and Wesche 1997, Schmitt 1998).

Paribakht and Wesche (1997) measured the knowledge status of L2 participants by using the five-point rating scale Vocabulary Knowledge Scale (VKS). L2 learners in this study were shown to go through the stages of knowledge of a word from total unfamiliarity through recognition and some idea of its meaning, to the ability to use the word with grammatical and semantic accuracy in a sentence.

Schmitt (1998)'s longitudinal research tracked acquisition of 11 orthographic words by three L2 learners at university level, measuring how well they know the spellings, meanings, grammatical behavior and associations over most of an academic year. He argued that at a starting point the students rarely knew a target word's meaning senses or derivational word forms but at the end of the experiment they had almost all types of lexical knowledge about the word. On the basis of results, he argued that lexical knowledge is not dichotomous but is incrementally acquired over time. Other than these two studies, previously, Meara (1984) and Smith (1984) confirmed the incremental nature of the acquisition of lexical knowledge. This empirical evidence ensures that the acquisition of a word doesn't happen at a time like "not acquired/acquired".

2.3 Word and Lexical Unit

The definition of a word has been one of problems for linguists because, however the term 'word' is defined, there are some items in some languages which speakers of those language call 'words' but which are not covered by the definition.

In the area of studies on vocabulary learning, the different point of word toward a word has often caused confusion in, for example, studies on the size of vocabulary acquired by L2 learners at a certain learning stage. In these kind of studies, there is always a big difference among the number of words L2 learners know or acquire due to linguists' various definitions of a word. Furthermore, in terms of incremental nature of lexical learning, with a word,

it is impossible to find plausible explanations of why several senses of one word are not acquired at the same time like *party* in (1)-(5) below. As some people argue, if each is considered different words sharing the same written form, there is no theoretical rationale to support their claims under the existing notions of a word.

(1) They gave a farewell *party* for her.
(2) The survivors worked together in the rescue *party*.
(3) He is obviously within his rights in expecting the guilty *party* to pay up.
(4) At the age of thirteen he joined the Communist *Party*.
(5) This *party* came up to me and asked for a light.

To solve these problems, Cruse (1986) suggested a new approach focusing on the individual lexical unit as the primary operational semantic unit by consigning the lexeme (corresponding to a word) to a secondary position. A lexical unit is defined as a combination of a lexical form and a single sense (form-meaning complexes). That is to say, a lexical unit is a meaningful form with a determinate grammatical function, whereas lexemes represent the items listed in the lexicon or 'ideal dictionary' of a language. Under this concept, *party* (1)-(5) can be considered as five different lexical units. In this respect, it is thought that a lexical unit having relatively stable and discrete semantic properties, can describe linguistic phenomena more precisely. Therefore, utilizing the lexical unit, the present study attempted to look into and describe the effects of lexical knowledge more accurately.

Up to now, along with previous studies on lexical knowledge, the problems of a word and the concept of a lexical unit were presented. As mentioned in Chapter 1, several methodological aspects, which had been problems in Bogaards' study (2001), were taken careful account into in this study. In the next chapter, the details of methodology of this study will be described.

3. Method
3.1 Instrument
3.1.1 Test Materials of Experiment

As a procedure of selecting test materials appropriate for the research purpose, pretests were carried out. First, in a semantic aspect two different types of test materials should be prepared, which were used later in Experiment 1, in which the effect of knowledge of meaning were tested. Forty lexical units whose forms were known but senses were unknown (e.g. *line* meaning "a series of persons, especially from one family" and *magazine* "a place for arms") were given to pretest participants who are advanced L2 learners (above 801 on the TEPS). And then they were asked to judge whether given items are semantically related lexical units or semantically unrelated lexical units on the basis of own lexical knowledge.

(6) The *line* of James was broken.
(7) Soldiers found a lot of arms in the enemy's *magazine* in the town.

For example, line meaning "a thin continuous mark" in (6), a majority of pretest participants classified it into semantically related lexical unit because they were easily able to find a common semantic ground in the senses they already knew such as "to deprive of life". In contrast, for *magazine* in (7) implying "a place for arms" since they had much trouble in finding semantic unity with any meanings they had known, it was included in semantically unrelated lexical units. For convenience, the former type was referred to "line-type lexical units or line-type" and the latter was referred to "magazine-type lexical units or magazine-type" hereafter. Fifteen lexical units were selected for each type comprising 12 nouns, 10 verbs and 8 adjectives/adverbs.

3.1.2 Test Materials of Experiment 2

For Experiment 2 in which the effects of knowledge of form at the level of a single word lexical unit were explored, two different types of lexical units were necessary. Fifteen magazine-type lexical units were used again as one type of lexical units whose form was known but sense was unknown. As a

counterpart, 15 lexical units which are totally unknown were chosen. For instance, a lexical unit of *arsenal* ("arsenal-type lexical units or arsenal-type" hereafter) was selected and compared with *magazine* of magazine type-lexical unit. Since Experiment 2 was to see only the effect of knowledge of form, the senses of counterparts were quite similar, not the same though. To make sure that test participants don't know the second type of lexical units, vocabulary knowledge test were administered for arsenal type lexical units.

3.1.3 Test Materials of Experiment 3

As materials of Experiment 3 targeting to investigate the influence of knowledge of form in a larger scale than single lexical units, two types of lexical units were selected. The first type was multiword lexical units consisting of familiar single lexical units. Because the senses of single lexical units don't contribute to that of the multiword lexical unit, L2 learners didn't know the meaning of multiword lexical unit as in (8).

(8) When I entered the room, he tried to *make off* with the money.
(9) He was charged with *abscond*ing with the money.

As seen above, though participants knew each sense of *make* and *off*, they could not predict the whole meaning of *make off* "having escaped". This type of lexical units was referred to "make off-type lexical units or make off-type" hereafter. For the comparison with make off-type lexical units, totally unknown 15 single word lexical units like *abscond* in (9) were chosen (abscond-type lexical units or abscond-type), whose sense are not quite same but similar as the other type.

3.2 Participants

Participants were divided into pretest participants and experiment/test participants. Pretest participants helping to select appropriate experiment materials are advanced learners, whereas experiment participants taking part in experiments and tests are intermediate proficiency level learners. In particular, to get rid of the influence language proficiency on test results as much as possible, all the experiments and tests participants were carefully

chosen in terms of English proficiency (their level ranges between 501 and 700 on the TEPS). Both groups were students attending at Seoul National University (SNU), whose majors were various from engineering to physical education.

3.3 Procedure
3.3.1 Pretests

Three weeks before experiments, pretests had been administered for appropriate experimental materials. Given the fact that the results of Bogaards' study (2001) were doubtful due to some improper test items, the process of pretest was essential to obtain the reliability and validity of the present study. Different groups took part in each pretest.

First of all, semantic relatedness test was proceeded for materials to test the effect of knowledge of meaning. Through the pretest, 15 semantically related lexical units (line-type) and 15 semantically unrelated lexical units (magazine-type) were selected. There was no time limitation for semantic relatedness test. In this test, pretest participants were asked to judge semantic relatedness based on their lexical knowledge.

To make sure that the experiment participants of another experiment were not familiar with one type of lexical units, vocabulary knowledge test was conducted. Since the experiment was to see the effect of knowledge of form, participants were checked whether or not they know the type of lexical units through vocabulary knowledge test in advance.

In order to choose the materials for experiment upon the effect of knowledge of form in learning multiword lexical units, transparency test and vocabulary knowledge test were administered. The participants in transparency test were asked to translate underlined 35 multiword lexical units consisting of well-known constituents in a sentence in Korean. After scoring the students' answers, 15 multiword leixcal units and completely unknown 15 single word lexical units were chosen.

3.3.2 Experiments

Three weeks later, three experiments were administered. The procedure of this study followed that of the previous study by Bogaards (2001). They were conducted during the regular class time and in the regular lab classroom. The procedure is as follows.

First, Handout 1 and Handout 2 were distributed to experiment participants at a time. On Handout 1, two types of 30 single word lexical units selected through pretests were inserted in one sentence-long context. On the right side were Korean translations of them (see examples in Appendix 1). On Handout 2, Korean translations of 30 English lexical units were written in the same order of Handout 1 (see Appendix 2). Experiment participants were asked to find appropriate English lexical units for the translations, in each sentence of Handout 1 and write them beside Korean translations on Handout 2 for 10 minutes. Without collecting two handouts, Handout 3 written English target lexical words at random order was given (see Appendix 3). Participants were told to remember English lexical units, if possible, however, they were not prevented from consulting the previous two handouts for 10 minutes. Collecting all handouts, the researcher announced that they were going to take a test right away.

3.3.3 Posttests
3.3.3.1 Immediate Posttest

Right after the learning session, immediate posttests followed in the format of the multiple-choice test. In the test for Experiment 1, 30 Korean translations (mixed line-type with magazine-type) were presented without any context on the upper part of the test sheet. English lexical units in a random order were on the lower part of the sheet. The students had to match 30 Korean translations with right English lexical units out of 36 given items. The frequency of English distracters was similar as the rest of lexical units. This learning session took 10 minutes (see Appendix 4).

In the test for Experiment 2, magazine-type lexical units and arsenal-type lexical units were separately tested because there were two lexical units sharing similar sense like a pair of *magazine* and *arsenal*, there was a chance to confuse participants in choosing the answers. 15 magazine-type lexical units and its Korean translations were written on the half part of sheet and arsenal-type lexical units and English lexical units and its Korean translations were tested on the other half part of the sheet. In addition, considering that learners tend to remember better what are first tested, half of students took the test of magazine-type lexical units first and the other half took the test in reverse. The frequency of 5 English distracters in the test was similar as that of target lexical units. The test of Experiment 3 was administered in the same manner as in Experiment 2.

3.3.3.2 Delayed Posttest

Another three weeks later, the delayed posttests were conducted to measure L2 learners' long-term retention of the test materials. Due to a lack of the prior notice, 8 students were absent and only 134 students' data were analyzed for the delayed posttests. Through a questionnaire, no additional classes or study activities to enhance participants' vocabulary were confirmed. All test items and test procedures were proceeded in the exactly same way with the previous tests except the order of the test items on test sheets.

4. Results and Discussion
4.1 Effect of Knowledge of Meaning

As seen in Table 1 below, the difference of scores between semantically related lexical units (line-type) and semantically unrelated lexical units (magazine-type) was statistically significant ($p<.01$). This result indicates that L2 learners recognize lexical units even better when the sense of a new lexical unit is related to those of known ones. Therefore, semantic relatedness plays a positive role in storing a new lexical unit in L2 learners' short-term memory.

   In literature based on the concept of word, line-type and magazine type lexical units are called polysemys or homonyms. Kantor (1978), who studied English-speaking learners' acquisition of Hebrew polysemy, reported that leaners in this study were often reluctant to abandon a new sense of polysemy even though it did not make any sense in context. Laufer (1997) also argued the similar tendency of reluctance when learners know one meaning of a polysemy (line-type) or a homonym (magazine-type). However, this study shows that the learners' reluctance of acquiring a new sense is applicable to lexical unit which is not semantically unrelated to known lexical units (homonym).

Table 1
Paired t-test Results for the Immediate Posttest in Experiment 1

| Type | Paired Differences | | | | | t | df | Sig. (2-tailed) |
| | M | SD | Std. Error Mean | 95% Confidence Interval of the Difference | | | | |
				Lower	Upper			
line - magazine	1.1224	1.6283	.2326	.6547	1.5902	4.825	48	.000**

*Difference in means between two types is significant at **$p < .01$ for both tests.

The following Table 2 shows that knowledge of meaning continuously affects L2 learners' long-term retention. Even after three week, test/experiment participants showed much higher retention of line-type lexical than that of magazine-type (p <. 01). Therefore, knowledge of meaning gives an overall benefit to the acquisition of lexical units.

Table 2
Paired t-test Results for the Delayed Posttest in Experiment 1

| Type | Paired Differences | | | | | t | df | Sig. (2-tailed) |
| | M | SD | Std. Error Mean | 95% Confidence Interval of the Difference | | | | |
				Lower	Upper			
line - magazine	4.8974	2.3597	.3779	4.1325	5.6624	12.961	38	.000**

*Difference in means between two types is significant at **$p < .01$ for both tests.

In Figure 1, the recognition rates of each type in between the immediate test and the delayed test were presented. One interesting fact is that compared to the change of recognition rate of line-type (97% to 65%), that of magazine-type lexical units shows a dramatic drop from 89% to 32%. Especially, while more than half of line-type lexical units were remembered, magazine-type lexical units were limited to only 33%.

Figure 1
Comparison of the Results between the Immediate Posttest and the
Delayed Posttest in Experiment 1
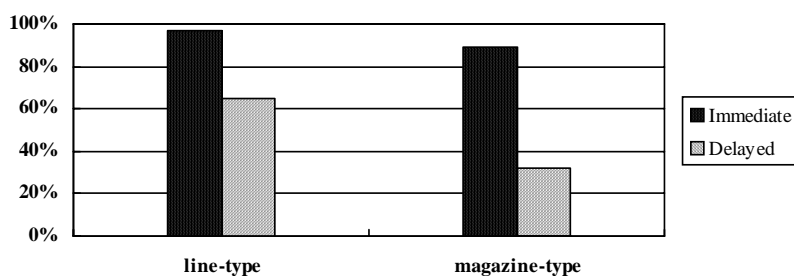
Concerning the high retention rate of line type of lexical unit, one of the reason was explained from the perspective of learning burden, the amount of effort required to learn words. Nation (1990) stated that the more a word represents familiar patterns and knowledge, the lighter its learning burden. Thus, in case of line-type lexical units, L2 learners could find the similar meaning pattern with lexical units they already knew as well as familiar forms, it may make learners' learning burden much lighter , so that it is possible enough to remember over 50% of them after three weeks.

4.2 Effect of knowledge of form in learning single word lexical units

Table 3 below shows the results of the immediate posttest in Experiment 2. As seen in Table 3, L2 learners' scores of magazine-type lexical units were significantly higher than those of arsenal-type lexical units (p < .01). It implies that knowing the written form (spelling) gives L2 learners a significant help to recognize new lexical units.

Table 3
Paired t-test Results for the Immediate Posttest in Experiment 2

Type	Paired Differences					t	df	Sig. (2-tailed)
	M	SD	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
magazine-arsenal	1.4000	2.6748	.3987	.5964	2.2036	3.511	44	.000**

*Difference in means between two types is significant at **p < .01 for both tests.

This result reminds us of the study of Sieroff and Posner (1988a, 1988b, 1989). They examined the difference between acquisition of familiar words and that of unfamiliar words from the neuro-psychological perspective. They showed that the visual recognition for familiar word by normal fluent adults proceeds in a different manner and at a different brain location than the visual recognition of unfamiliar letter strings. Familiar words are processed automatically at a nonattentional location of the prestriated left-side posterior visual area of the brain. On the contrary, unfamiliar words are processed in an attended manner at the right-side posterior visual attention brain site. Though this study was successful to show the difference caused by familiarity of form, nothing showed us how different they are. Therefore, the result of Experiment 2 is meaningful in a sense that the effectiveness of familiarity of form was confirmed through empirical evidence.

However, when it comes to learners' long-term memory between two types, no significant difference was found as seen in Table 4. Therefore, both results of the immediate posttest and the delayed posttest lead us to a conclusion that L2 learners benefit from knowing a written form of lexical units for recognition of lexical units but it does not for retaining them.

Table 4
Paired t-test Results for the Delayed Posttest in Experiment 2

| Type | Paired Differences | | | | | | | |
| | M | SD | Std. Error Mean | 95% Confidence Interval of the Difference | | t | df | Sig. (2-tailed) |
				Lower	Upper			
magazine-arsenal	3.8958	3.7259	.5378	2.8139	4.9777	7.244	47	.000**

*Difference in means between two types is significant at **$p < .01$ for both tests.

Interesting enough, as seen in Table 4, there is no significant difference between two types. Furthermore, regardless of type, the rates of the L2 learners' memory plummeted to almost 30 % (34%, 30% respectively) as seen in Figure 2. Therefore, unlike knowledge of meaning, knowing a form doesn't seem to be helpful for L2 learners' long-term memory.

Figure 2
Comparison of the Results between the Immediate Posttest and the Delayed Posttest in Experiment 2
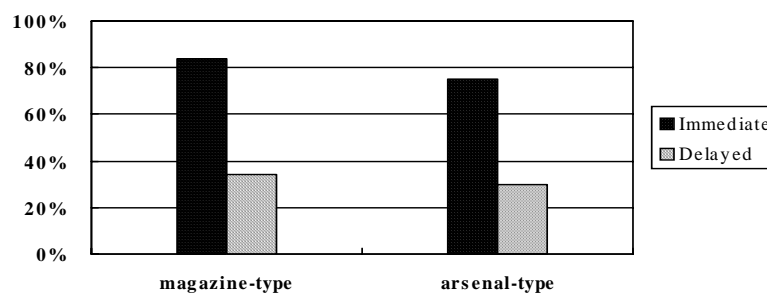
4.3 Effect of knowledge of form in learning multiword lexical units

In comparison of multiword lexical units consisting of known constituents with single-word lexical units with unknown forms, the results of the immediate test are shown in Table 5 below. According to the results, knowledge of form made a significant difference in recognizing these two types of lexical units ($p < .01$).

Table 5
Paired t-test Results for the Immediate Posttest in Experiment 3

Type	Paired Differences					t	df	Sig. (2-tailed)
	M	SD	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
make off-abscond	3.8958	3.7259	.5378	2.8139	4.9777	7.244	47	.000**

*Difference in means between two types is significant at **$p < .01$ for both tests.

As indicated in Table 6, the influence of knowledge of form still lasted even three weeks after the experiment. L2 learners performed significantly better for make off-type lexical units than abscond-type lexical units ($p < .01$).

Table 6
Paired t-test Results for the Delayed Posttest in Experiment 3

Type	Paired Differences					t	df	Sig. (2-tailed)
	M	SD	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
make off-abscond	3.9231	3.8278	.6129	2.6823	5.1639	6.400	38	.000**

*Difference in means between two types is significant at **$p < .01$ for both tests.

Reflecting on the study of Harrison (1980), however, it is somewhat unexpected that make off-type lexical units, which is longer than its counterparts, showed higher recognition and retention rate. According to him, vocabulary length has been considered a good indicator of difficulty. Arnaud and Savignoon (1997) agreed, stating "another source of difficulty is that complex lexical units tend to have much longer signifiants than simple units, which might involve a greater memory load (p161)." The study of Meara (1984: 234) showed the same result, in which, Chinese learners of L2 English were found to have difficulty with long words.

Accordingly, in spite of disadvantage of length, seeing that L2 learners

recognized and remembered multiword lexical units with known forms much better than single word lexical units with unknown forms in both posttest, knowledge of form seems to play stronger role in learning vocabulary than the length of vocabulary. However, it seems to be more research into this matter.

Combining the results of Experiment 2 with that of Experiment 3, except short-term retention, knowledge of form is helpful in learning new lexical units type irrespective of type.

In the following Figure 3, the recognition rates of two type of lexical units were shown between in the immediate test and in the delayed test. In case of multiword lexical units (make off-type) show 93% recognition rate in the immediate test and 49% in the delayed test. The other type, totally known single word lexical units (abscond-type), was acquired at 67% in the immediate test and at 22% in the delayed test.

Figure 3
Comparison of the Results between the Immediate Posttest and the Delayed Posttest in Experiment 3
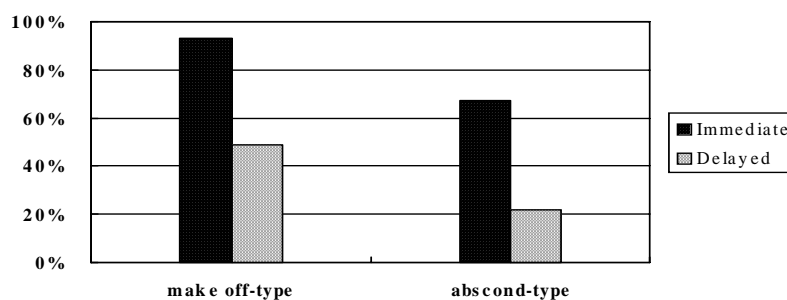
One thing to be noticed is the fact that 50% of make off-type lexical units were retained as seen above, while only 34% of magazine-type lexical units were retained (Figure 2). In both types, forms were known but the meaning is unknown. However, further studies are necessary in this matter as well.

5. Conclusion
5.1 Pedagogical Implications

So far, this study showed the results that both knowledge of form and knowledge of meaning facilitate overall L2 learners' recognition and retention while learning new lexical units. However, the effectiveness of knowledge of form was not shown after a while. This study, especially, confirmed that knowledge of meaning is beneficial to L2 learners' lexical learning, which has been questioned among scholars.

The findings of this study suggest several implications for L2 vocabulary learning and teaching. Until now, L2 teachers and researchers have taught all of L2 vocabulary in the same light. However, as seen in the results of this study, when L2 learners acquire new vocabulary, learning patterns are various depending on the possession of types of lexical knowledge. Thus, it is suggested that more specialized approaches to vocabulary education is be necessary.

In addition, since L2 learners benefit from being familiar with form, making them exposed and familiar with as many lexical units as possible seem to be a good way to lighten the burden of vocabulary learning. Therefore, it is noteworthy that L2 educators and researchers should develop educational programs that provide such opportunities as extensive reading.

5.2 Limitations and Suggestions for Further Studies

It is acknowledged that this study has several limitations. First, the present study had difficulty establishing the reliable criteria for semantic relatedness and transparency of lexical units. In fact, setting up the criteria for these two concepts is one of troublesome issues among linguists because the decision about whether a lexical unit is semantically related to another lexical unit or not is a very much subjective matter.

Furthermore, as to the test materials, this study showed another limitation that the degree of difficulty was not the same between the counterparts.

As to research scope, the present study focused on two lexical knowledge, knowledge of form and knowledge of meaning. As Schmitt (1985) emphasized, the non-form and meaning kinds of lexical knowledge should be explored in order to fully understand what is occurring in vocabulary

learning and understand the patterns and process of L2 learners' lexical acquisition and their roles in language development.

Reference

Alexander, R. 1982. What's in a four-letter word? Word meaning in English and second language learning. *Die Neueren Sprachen*, 81: 219-224.

Avila, E., and Sadoski, M. 1996. Exploring new applications of the key word method to acquire English vocabulary. *Language Learning*, 46: 379-395.

Bauer, L., and Nation, P. 1993. Word families. *International Journal of Lexicography*, 6: 253-279.

Bogaards, P. 2001. Lexical unit and the learning of foreign language vocabulary. In *Studies in Second Language Acquisition*, 23: 321-343

Cohen, A. D., and Apek, E. 1980. *Retention of second-language vocabulary over time: Investigating the role of mnemonic association. System*, 8: 221-235.

Cruse, D. A. 1986. *Lexical Semantics*. New York: Cambridge University Press.

Huckin, T., Haynes, M., and Coady, J. 1993. *Second language reading and vocabulary learning*. Norwood, NJ: Ablex.

Kantor, H. 1978. *An analysis of lexical errors in the interlanguage of Hebrew learners*. Bar-Ilan University: MA thesis.

Laufer, B. 1997. What's in a word that makes it hard or easy: some intralexical factors that affect the learning of words. In N. Schmitt and M. McCarthy (eds.), *Vocabulary: Description, acquisition, and pedagogy*. 140-155. Cambridge: Cambridge University Press.

Laufer, B., and Nation, P. 1995. Vocabulary size and use: Lexical richness in L2 written production. *Applied linguistics*, 1: 307-322.

Meara, P. 1984. The study of lexis in interlangauge. In A. Davies, C. Criper, and A.P.R. Howatt (eds.), *Interlanguage*: 225-235. Edinburgh, Scotland: Edinburgh University Press.

Moon,R. 1997. Vocabulary connections: Multi-word items in English. In N. Schmitt and M. McCarthy (Ed.), *Vocabulary: description, acquisition, and pedagogy*. 40-63. Cambridge: Cambridge University Press.

Nagy, W.E., Herman, P.A., and Anderson, R.C. 1985. Learning words from context. *Reading Research Quarterly*, 19, 304-330

Nation, I.S.P. 1990. *Teaching and learning vocabulary*. Rowley, MA: Newbury House.

Paribakht, T.S., and Wesche, M.B. 1993. The relationship between reading comprehension and second language development in a comprehension-based ESL program. *TESL Canada Journal*, 11: 9-29.

Postman, L., Keppel, G. 1970. *Norms of word associations*. New York: Academic Press

Read, J. 1993. The development of a new measure of L2 vocabulary knowledge. *Language Testing*, 10: 355-371.

Richards, J. C. 1976. The role of vocabulary teaching. *TESOL Quarterly* 10 (I): 77-89

Schmitt, N. 1998. Tracking the Incremental Acquisition of Second Language Vocabulary: A Longitudinal Study. Language Learning, 281-317

Schmitt, N., and Meara, P. 1997. Researching vocabulary through a word knowledge framework: Word associations and verbal suffixes. *Studies in Second Language Acquisition*, 19: 17-36

Sieroff, E., Pollatsek, A., Posner, M. I. 1988. Recognition of visual letter strings following injury to theposterior visual attention system. *Cognitive Neuropsychology*, 5: 427-449.

Singleton, D. 2000. *Language and lexicon; an introduction.* New York: Oxford University Press Inc.

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Appendix 1

ENGLISH	KOREAN
1. A farmer happened to find a magazine in the forest.	한 농부가 우연히 숲 속에서 무기고를 발견했다.
2. It is impossible to predict how the factor is going to effect on the picture of our country.	그 요소가 우리나라의 상황에 어떤 영향을 미칠 지 예측하는 불가능하다.
3. Be careful not to trip.	발이 걸려 넘어지지 않도록 조심해라.
4. It seems to be fine gas in the space.	그 공간에는 가스가 희박한 것 같다.
5. They knew that he had owned to the fact.	그들은 그가 사실을 인정했다는 것을 알고 있었다.
6. He gave a direct answer to my question.	그는 내 질문에 솔직한 대답을 했다.
7. He handled fruits those days.	그는 그 당시에 과일장사를 했다.
8. The line of the Kennedy is broken.	케네디가의 혈통이 끊어졌다.
9. He lifted the part from somewhere.	그는 어디선가에서 그 부분을 표절했다.
10. He was in a fix but I didn't know it.	그가 곤경에 처해 있었지만 나는 그 사실을 몰랐다.
11. That accident happened in the fresh of the morning.	그 사건은 아침 일찍이 일어났다.
12. Let the towel steep for a while and it will be okay.	수건을 물에 얼마동안 담가두면 괜찮아 질 것이다.
13. Feet is killing me.	발이 무지 아프다.

Appendix 2

1. 무기고
2. 상황
3. 걸려서 넘어지다
4. 희박한
5. 인정하다
6. 솔직한
7. 장사하다
8. 혈통
9. 표절하다
10. 곤경
11. 초기
12. 담그다

Appendix 3

1. advance
2. beat
3. fit
4. wind
5. close
6. color
7. fine
8. direct
9. fair
10. fast
12. picture

Appendix 4

1. 무기고	( )	16. 고착된	(	)
2. 솜씨	( )	17. 꽐작	(	)
3. 안색	( )	18. 그럴싸한	(	)
4. 걸려서 넘어지다	( )	19. 상황	(	)
5. 의미심장한	( )	20. 혈통	(	)
6. 담그다	( )	21. 표절하다	(	)
7. 서식지	( )	22. , 호흡	(	)
8. 장사하다	( )	23. 심한고통을 주다	(	)
9. 희박한	( )	24. 쇄도하다	(	)
10. 수월한	( )	25. 각상막하의	(	)
11. 외출을 금지시키다	( )	26. 순찰	(	)
12. 승진하다	( )	27. 자식	(	)
13. 솔직한	( )	28. 불구의	(	)
14. 인정하다	( )	29. 곤경	(	)
15. 초기	( )	30. 호통 치다	(	)

1) advance	7) direct	13) fix	19) handle	25) light	31) pregnant
2) address	8) fair	14) flood	20) home	26) line	32) steep
3) beat	9) fast	15) fresh	21) issue	27) magazine	33) thunder
4) close	10) find	16) game	22) kill	28) own	34) trip
5) color	11) fine	17) ground	23) leave	29) park	35) well
6) develop	12) fit	18) hand	24) lift	30) picture	36) wind