

The Effects of Retrieving Words in Decontextualized Vocabulary Instruction

Jin-Hee Huh

Kongju National University

Huh, Jin-Hee. (2009). The effects of retrieving words in decontextualized vocabulary instruction. *Modern English Education*, 10(3), 17-41.

Vocabulary learning is an integral area of language teaching and plays an incremental role in language learning. With the increasing awareness of the importance of vocabulary, the present study aimed to investigate the effects of retrieving words in decontextualized vocabulary instruction. For the purpose this study compared the results of three different vocabulary task groups focusing on repetition, retrieval and generation. Immediate and delayed posttests were administered just after performing the assigned vocabulary tasks. In the immediate posttest, there was no statistically significant difference among the three groups even though the retrieval group got the highest score, whereas in the delayed posttest, the retrieval group performed significantly better than any other group. It may be because retrieval strengthens the connection between the cue and the retrieved knowledge. As regards word recognition and production, retrieval was more effective for word production. It is suggested that in a time-limited learning condition, having opportunities to retrieve words many times is more effective than putting more mental efforts into vocabulary learning for middle school students.

[vocabulary instruction/retrieving words/어휘 지도/어휘 회상]

I. INTRODUCTION

Vocabulary learning is an integral area of language teaching and plays an incremental role in language learning, whether the language is first, second, or foreign. Read (2000) states that words are the basic building blocks of language,

the units of meaning from which larger structures such as sentences, paragraphs and whole texts are formed. Richards (2000) also argues that communication can be achieved with a little false grammar to some degrees, but it is common sense that without words there can be no proper communication.

However, only about a quarter of a century ago, vocabulary teaching was often neglected because it was thought that vocabulary could simply be left to take care of itself. There is now general agreement among vocabulary specialists that lexical competence is at the very heart of communicative competence, the ability to communicate successfully and appropriately (Coady & Huckin, 1997). Decarrico (2001) also argues, "interest in its role in second language (L2) learning has grown rapidly in recent years and specialists now emphasize the need for a systematic and principled approach to vocabulary by both the teacher and the learner" (p. 285).

Research suggests that memory for an item improves when one is allowed to retrieve the item (Slamecka & Graf, 1978). That suggests that memory for words improves when one is allowed to retrieve words. Retrieving words is an essential process in both oral and written language production, especially in an educational context with time restrictions imposed. The efficiency of lexical retrieval, an essential subprocess of productive language skills, is crucial in fluent writing and speaking. Nation (2001) refers to retrieval of words and decontextualization of the target words as main conditions that make learners pick up new vocabulary as they are read to.

Several studies (Barcroft, 2007; Jin-Hee Huh, 2008; Nation, 2001) has discussed the positive role of retrieval in vocabulary learning. However, explicitly paying attention to lexical retrieval as a way to facilitate foreign language learning has been lacking. As regards the area of decontextualized vocabulary instruction, more studies are needed.

In Korean secondary language classrooms, it can be easily recognized that vocabulary items are presented in decontextualized settings. First language translation of new words, presenting synonyms or antonyms and using word lists or word cards are favored vocabulary teaching methods. In order to make students familiar with newly presented words, teachers let students write words repeatedly, complete sentences by filling out blanks with new words or write a

sentence incorporating new words. However, it seems that the effects of the vocabulary strategies used in decontextualized settings has not been researched much in Korean EFL context. More studies are needed to help learners with their vocabulary learning.

In this light, the current study sought to investigate the effects of retrieving words in decontextualized vocabulary instruction by comparing the results from three different vocabulary tasks. The research questions are as followed:

- 1) Did the students perform vocabulary tasks in decontextualized vocabulary instruction differently in the immediate and delayed posttests?
- 2) Are the opportunities to retrieve words in decontextualized vocabulary instruction effective for recognizing words or producing words?

II. LITERATURE REVIEW

1. The Necessity of Vocabulary-focused Instruction in EFL Classroom Context

In the past, vocabulary instruction was often unplanned and incidental, primarily driven by student questions and “teachable moments.” When students encountered an unfamiliar word, they were directed to the glossary or a dictionary, or were given a quick oral definition. That did not result in long-term word learning (Nagy, 2005).

Nowadays, it is agreed that vocabulary learning occurs through extensive reading with the learner guessing the meaning of unknown words, that is, implicit learning. According to Huckin and Coady (1999), implicit learning can be more efficient over direct instruction for the following reasons. First, it is contextualized, giving the learner a richer sense of a word's use and meaning than can be provided in traditional paired-associated exercises. Second, it is pedagogically efficient in that it enables two activities - vocabulary acquisition and reading - to occur at the same time.

However, some L2 vocabulary studies (Fraser, 1999; Hulstijn, 1993; Nation &

Coady, 1988; Paribakht & Wesche, 1997, 1999) pointed to the shortcomings of implicit learning for several reasons. First, many unknown words are simply ignored by learners. This is mainly due to the fact that most learners pay more attention and try to infer the meaning of the words that they regard as important to understanding the passage. If learners do not consider a particular word to be essential to understanding the content of the given text, the word is highly likely to go unnoticed. Second, meanings inferred from context are often wrong guesses, which are related both to lower L2 proficiency or attention to unfamiliar words and also to the inadequate contextual cues embedded in the text. Third, even if a learner succeeds in inferring the correct meaning of the unknown word in a given context, the correct guess does not necessarily lead to acquisition of the new word. This is because once the immediate communicative need has been met, the learner does not undertake further mental processing of the word (Hulstijn, 1992). Fourth, acquiring vocabulary mainly through guessing is likely to be very slow particularly in the EFL context, and there is no way to predict which words will be learned, when, nor to what degree. This is associated with the basic problem facing most foreign language learners that they do not have many opportunities for exposure to the target language, especially the types of spoken language experiences that native speakers enjoy.

Such disadvantages of implicit vocabulary learning can be complemented with various tasks which were focused on vocabulary items. It is argued that L2 vocabulary acquisition has substantially been enhanced by using vocabulary related tasks.

Vocabulary focused instruction is particularly emphasized due to its time-efficiency, its suitability for beginners or low proficiency students, its possibilities of improving word comprehension, and its adaptability. Explicit vocabulary instruction which is focusing on vocabulary items is emphasized as follows:

First, there is a significant emphasis on the clear instruction of single words at an early stage of second language learning. Coady and Huckin (1997) emphasize that the 2,000 high-frequency words should be learned as quickly as possible to the point of automaticity, because learners can more easily increase their vocabulary size through reading after that. Second, if learners are not young so

that they have already developed a conceptual and semantic system which is linked to their first language, they can easily understand explicit word meanings. Finally, it is possible to apply vocabulary using various techniques for increasing understanding of word meaning and for memorization (Sokmen, 1997).

The design of a certain type of vocabulary exercise might serve to make a particular L2 word more salient by drawing attention to the word, potentially resulting in the student noticing the word and getting greater gains (Folse, 2006). To sum up, with the increased concern for explicit vocabulary instruction, the need for explicit vocabulary tasks which can enhance lexical development continues to increase.

2. The Value of Decontextualized Vocabulary Instruction

Decontextualisation means that “the word is removed from its message context to be focused on as a language item” (Nation, 2001). According to Oxford and Crookall (1990), decontextualizing techniques are those that remove the word as completely as possible from any communicative context that might help the learner remember and that might provide some notion as to how the word is actually used as a part of the language.

According to Nation (2001), decontextualization occurs when learners give attention to a language item as a part of the language rather than as a part of a message. This can occur in a variety of ways. 1) While listening or reading, the learner notices that a word is new or thinks, 'I have seen that word before,' or thinks, 'That word is used differently from the ways I have seen it used before.' 2) The teacher highlights a word while writing it on the blackboard. 3) The learners negotiate the meaning of a word with each other or with the teacher. 4) The teacher explains a word for the learners by giving a definition, a synonym, or a first language translation.

Hunt and Beglar (2005) point out the value of the study of decontextualized lexis. Second language vocabulary learning research proves its value in the EFL reading classroom, and early studies of decontextualized vocabulary instruction (e.g., Anderson & Jordan, 1928; Thorndike, 1908) have been replicated by researchers in recent years. The results have consistently shown explicit

instruction to be effective (e.g., Laufer & Shmueli, 1997; Webb, 1962). In addition, programs that incorporate explicit vocabulary instruction have been found to be more effective for vocabulary development than those that rely exclusively on implicit instruction (Folse, 2004).

Some studies (Brett, Rothlein & Hurley, 1996; Elley, 1989) show that vocabulary learning is increased if vocabulary items are briefly explained in decontextualized instruction. Ellis (1995) indicated that simple definitions were the most effective. A simple definition is short and includes only a few defining characteristics of the word. This agrees with a study by Chaudron (1982) which found that more elaborate definitions tended to be confusing rather than helpful. Several studies of learning from lists or word card (Nation, 1982) have shown that for many learners learning is faster if the meaning of the word is conveyed by a first language translation. First language translations are probably the simplest kind of definition in that they are short and draw directly on familiar experience.

3. Psychological Factors Affecting Vocabulary Learning

Many factors appear to play a role in vocabulary development, though the exact nature of the role is not always clearly understood (Hedge, 2000). Nation (2001) defines that there are three important general processes that may lead to a word being remembered. These comprise noticing (through formal instruction, negotiation, the need to comprehend or produce, awareness of inefficiencies), retrieval, and creative (generative) use. Nation argues that these processes can be viewed as three steps with the later steps including the earlier steps.

Noticing regarded as the first process to encourage learning is giving attention to an item. This means that learners need to notice the word, and be aware of it as a useful language item. This noticing may be affected by several factors, including the salience of the word in the textual input or in the discussion of the text, previous contact that the learners have had with the word, and learners' realization that the word fills a gap in their knowledge of the language. Noticing also occurs when learners look up a word in a dictionary, deliberately study a word, guess from context, or have a word explained to them (Nation, 2001).

Retrieval regarded as the second process refers to the process of "accessing stored information" (Roediger & Guynn, 1996). For a learner to recall a piece of information, the learner must first retrieve it from where it is stored in memory (Barcroft, 2007). The more often words are retrieved, the stronger the association or learning of the word becomes. If the chances of learners' remembering the words is high so that there is not enough time to forget, learners will be more likely to acquire the word.

Generation that, Nation states, leads to a word being remembered occurs when previously met words are subsequently met or used in ways that differ from the previous meeting with the word. It can also be receptive or productive (Nation, 2001). In its receptive form it involves meeting a word which is used in new ways in listening or reading. In its productive form, it involves producing new ways of using the wanted vocabulary in new context (Wittrock, 1991).

Research on the generation effect, or the finding that individuals remember items better when they are required to generate the items on their own (Slamecka & Graf, 1978), also points to the positive effects of retrieval on memory. Slamecka and Graf compared the effects of 'read' versus 'generate' conditions on memory for words. In the read condition, the participants were presented with word-word pairs (e.g., rapid-fast), and asked to read each of the words aloud. In the generation condition, the participants were presented with generation rules and word-cue pairs. The five generation rules examined were associate (lamp- light), category (ruby-diamond), opposite (long-short), synonym (sea-ocean), and rhyme (save-cave). In other words, the generation condition encouraged the subjects to retrieve the target words on their own, whereas no-generation condition did not (Barcroft, 2007). Among the three processes to encourage learners' vocabulary learning, the present study examined the effects of retrieval for vocabulary learning.

4. Lexical Retrieval in Vocabulary Instruction

1) Value of Lexical Retrieval

Landauer and Bjork (1978) suggest that retrieval may be more effective than

simultaneously seeing the word and its meaning because retrieval involves greater effort, or because retrieval is more similar to the performance required during normal use. Retrieval works on the idea that learners have to think deeply to find the meaning of the word in their memory. The process of thinking deeply and remembering strengthens a learner's knowledge of a word. The more often words are retrieved, the stronger the association or learning of the word becomes.

Retrieval involves recall of previously met items. Each retrieval strengthens the connection between the cue and the retrieved knowledge. Receptively, the cue may be the written or spoken form of the word and the retrieved information may be its meaning or use. Productively, the cue is the meaning or use and the retrieved information is the word form. Retrieval involves recalling knowledge in the same form in which it was originally stored (Nation, 2001).

Baddeley (1990) has discussed the positive role of retrieval in vocabulary instruction, suggesting that each retrieval of a word strengthens the path linking form and meaning and makes subsequent retrieval easier. Nation (2001) also has discussed retrieval as a process that might lead to better memory for new words. However, only a limited amount of research has been conducted on word retrieval and memory for new words within the long-term process of L2 vocabulary learning (Barcroft, 2007).

2) Related Studies to Retrieval

Some studies that pertain to the potential effects of retrieval on new word learning include studies on both the spacing of vocabulary tests over time and the effects of retrieval on other types of form-oriented stimulus. It is found that spaced patterns of word retrieval positively affect long-term L2 vocabulary instruction (Bahrick, 1979; Bahrick, Bahrick, Bahrick & Bahrick, 1993).

Royer (1973) investigated the effects of retrieval on new-word learning. In the study, three groups of participants attempted to learn 20 English-Turkish word pairs using index cards. Participants in Group T were given cards with the Turkish-English word pairs on one side and Turkish words only on the other side. They were instructed on the effectiveness of self-testing for learning L2 vocabulary and asked to study the side of the card with the English-Turkish pair

on the first trial and the side with the Turkish word only on subsequent trials. For the subsequent trials, they also were instructed to turn cards over only when they were not certain of the corresponding English word. Participants in Group S were given index cards with English-Turkish pairs on one side only and instructed to study the words. Each participant in the second group was allotted the same amount of time as another participant from the first group. Participants in Group SM were given the cards with English-Turkish pairs only but were allowed to study until they felt that they had mastered all of the words. After completion of the study, all of the participants were tested by asking them to recall English equivalents for Turkish words. The results indicated that the recall scores of Group T were significantly higher than those of Group S. This finding suggests that allowing learners to have opportunities to retrieve target words on their own can have positive effects on L2 vocabulary learning (cited in Barcroft, 2007).

Joe (1995, 1998) investigated vocabulary knowledge gains as a result of performing a read and retell task. The researcher derived the case study data of one subject who was assigned to the comparison group. Findings suggested that the process of retrieving items in writing context favors generation, and generation promotes acquisition and provides evidence that learning has occurred. Joe (1995) likewise found that tasks encouraging such deeper processing such as retrieval of stories that had been read and generative use of the new words in retelling, led to better retention.

Barcroft (2007) explored benefits of providing opportunities for target-word retrieval during second language vocabulary instruction. English speakers studied new Spanish words while viewing 24 word-picture pairs. They first viewed all 24 pairs. They then viewed 12 pairs with a 6-second lag between each picture and its word so that they could attempt to retrieve the word in their mind. The other 12 pairs were presented without the lag. Posttests were administered immediately, 2 days later, and one week later. Results indicated higher scores in the retrieval-oriented condition. This positive effect was maintained across significant decreases in scores over time.

Based upon the review of literature, the present study was conducted in order to investigate the effect of retrieving words in decontextualized vocabulary

instruction.

The present study differed from those of Barcroft or Roger in that they explored the effect of retrieving words during spoken vocabulary tasks with pictures used as retrieval cues, while this study explored it during written vocabulary tasks. In addition to that, this study was intended to find out the most efficient process for middle school students among those referred to three important general processes that may lead to a word being remembered by Nation.

III. METHOD

1. Subjects

Research involved 101 Korean middle school students. The subjects were all male students in their third year of a middle school. The subjects had studied English as a foreign language for a period of about seven years in formal academic settings. To check the equivalency of the three experimental groups in terms of the vocabulary knowledge. A pretest was administered. As a pretest for vocabulary knowledge, a 30 item vocabulary test including the experimental words and other words to distract subjects' attention was administered. Based on the results, three classes who did not show any significant difference were chosen for the present study.

2. Experimental Words

Two criteria were applied in choosing the experimental words for explicit vocabulary instruction. Low frequency words were chosen as experimental words for the present study. *Collins Cobuild English Dictionary* (2000) was used to confirm all experimental words were 'low frequency' words for middle school students. This dictionary is based on a corpus called the Bank of English, which is a collection of over 200 million words of written and spoken English held on computer for the study of language use. In the dictionary, information on

frequency is added with five black and white diamonds¹, so when we look up a word, we can immediately see how frequently the word is used. The more black diamonds the word has, the more frequently it is used. Around 1,200 words have five or four black diamonds, which means they can be considered frequent words for middle school students. So, for the present study the words which have less than three black diamonds were chosen as experimental words.

The experimental words were nouns and verbs, the most frequently encountered parts of speech for middle school students². In this study, the part of speech was taken into account since it is argued by some researchers that the part of speech of a word affects its level of difficulty. Limiting the syntactical category contributes to reduce the role of other variables and increase the chance that true effect of the vocabulary tasks can be observed.

3. Procedure

The present research was conducted with 101 third-grade middle school students during regular English class sessions.

Two weeks before the instruction, a 10 minute vocabulary pretest was administered. Among 101 participants there were only seven students who got the scores due to their prior knowledge of the experimental words. Before the experimental vocabulary instruction started, the three intact classes were randomly assigned to the Copying-Words (CW) group, the Retrieval-Oriented (RO) group, and the Generation-Oriented (GO) group. Copying new words repeatedly is one of the most favored vocabulary strategies used by middle school and high school-level students. It may depend on the effect of repetition. Generating a sentence that the GO group was supposed to perform is a vocabulary strategy

¹ Collins Cobuild English Dictionary which has been published since 2003 has been employing only three diamonds for a frequency band.

² In-Suk Kwon (2002) analyzed English words that are currently used in first and second middle school English textbooks from the 6th and the 7th English Curriculums. The corpus-based lexical analysis revealed that regarding the parts of speech of the words and their frequencies, noun is the most frequently used part of speech, followed by verb, adjective and adverb. The first middle school English textbooks from the 7th Curriculum include 1,246 (52.33%) nouns and 412 (17.26%) verbs. The second middle school English textbooks include 1,674 (5.10%) nouns and 592 (18.46%) verbs. Hence, the present study chose only nouns and verbs as experimental words considering its pedagogical implications.

that was proved to be effective by some researchers because it induced deeper processing and involvement from learners. These tasks were chosen to compare the results with that of retrieval-oriented vocabulary learning strategy. In order to perform the vocabulary tasks, subjects in each task group were given instructions in Korean to ensure comprehension.

Instruction was conducted during the regular English classes. The three treatment groups were presented with twenty experimental words. At the beginning of the instruction, the experimental words were taught for a very short period of time by the researcher. Only the pronunciation and the meaning of the words were introduced to make students discover the new words. After that, each task group spent twenty-five minutes performing its own vocabulary task. This activity aimed to make students memorize the newly learned words.

The Copying-Words (CW) group was required to write the English words and their Korean definitions five times to memorize the experimental words. The Retrieval-Oriented (RO) group were instructed to write the Korean definitions next to the given experimental words at first, and then, were asked to fill in the blanks which were included in the sentences with the experimental words. They had the opportunities to retrieve the meaning of the experimental words at first, which may lead to receptive retrieval, and then, to retrieve the form of the experimental words, which may lead to productive retrieval. The Generation-Oriented (GO) group were required to create new short sentences with the given experimental words with reference to the presented model sentences incorporating the experimental words. They were allowed to use a bilingual dictionary.

Just after performing the assigned vocabulary task, the students took the immediate posttest for word production and word recognition, and they took the delayed posttest four weeks after this experiment to investigate the long-term retention of the treatment effects.

4. Posttests

The posttest comprised 20 vocabulary test items in two parts: one is for word recognition, and the other is for word production. The posttest format was

adapted from a vocabulary levels test described in Nation (2001).

To assess students' word recognition, a multiple-choice test format was employed. The researcher required students to choose the right word to go with each meaning and to write the letter of that word next to its meaning. The score was calculated by summing the correct answers. The example is shown below.

- Choose the right word to go with each meaning. Write the number of that word next to its meaning.

become like water _____

- ① hire ② melt ③ threaten ④ roar

To assess students' word production, the researcher required students to complete the words with the given beginning letters. Each item was a full sentence including a blank. The example is shown below.

- Complete the underlined words.

There are a doz eggs in the basket.

As Hulstijn (2003) states that because a delayed posttest can be invalid for evaluating the effects of instruction without recycling during the delay, the same posttest was used for the immediate and delayed posttest. The same scoring system was used for both of the posttests.

5. Data Analysis

With respect to the posttest, identical scoring methods were used for both the multiple-choice and fill-in-the-blank tests: one point for every correct answer. All analyses were conducted using the SPSS 12.0 software package, with the alpha level set at 0.05. The scores were submitted to Spearman's correlation analysis and a one-way multivariate analysis of variable (MANOVA). The MANOVA was conducted to test the main effects of one independent variable (group) for the multiple-choice and fill-in-the-blank tests. In case there were statistically significant differences among task groups, the Scheffe' test as a post-hoc follow-up procedure was performed.

IV. RESULTS AND DISCUSSION

1. Results

In order to investigate the effect of retrieving words in decontextualized vocabulary instruction, the data collected from different task conditions were analyzed. A multivariate analysis of variance (MANOVA) was conducted using the scores on the two dependent measures with recognition and production tests. The independent variable was the type of vocabulary tasks - CW, RO and GO.

Table 1
Descriptive Statistics for the Immediate Posttest

Group	Dependent variables	N	Mean	SD
CW	Word recognition	34	8.56	1.56
	Word production	34	7.38	1.88
	Total	34	15.94	2.37
RO	Word recognition	33	8.52	1.89
	Word production	33	7.82	1.79
	Total	33	16.33	2.71
GO	Word recognition	34	7.91	1.46
	Word production	34	7.21	1.98
	Total	34	15.12	2.56

Note: CW: Copying-Words, RO: Retrieval-oriented, GO: Generation-oriented

First, the descriptive statistics for the immediate posttest was shown in Table 1. As shown below, the RO group obtained the highest score (mean=16.33), whereas the GO group obtained the lowest score (mean= 15.12). However, the CW group showed the highest score for word recognition test (mean= 8.56). The RO group got the highest score for word production test (mean = 7.82).

According to the results from the one-way MANOVA to examine whether the difference in the scores is significant, no significant differences were found between the three task groups on any of the test scores ($F(4, 194) = 2.12, P>0.05$).

Second, a delayed posttest was administered four weeks after the experiment in order to examine the retention effect of the vocabulary tasks. As presented in Table 2, the result suggested that the RO group scored the highest (mean=13.36), whereas the CW group scored the lowest (mean=11.15). The RO group got the highest scores for the immediate and delayed posttests in total scores. The GO group showed the lowest score in the immediate posttest, whereas it showed higher scores than the CW group in the delayed posttest. For the word recognition and word production test scores, the RO group showed the highest scores.

Table 2
Descriptive Statistics for the Delayed Posttest

Group	Dependent variables	N	Mean	SD
CW	Word recognition	34	6.45	1.72
	Word production	34	4.88	1.30
	Total	34	11.15	2.54
RO	Word recognition	33	7.15	1.82
	Word production	33	6.21	1.56
	Total	33	13.36	2.49
GO	Word recognition	34	6.50	1.52
	Word production	34	5.06	1.72
	Total	34	11.56	2.30

As shown in Table 3, the MANOVA revealed an overall significant difference among the three tasks, indicating there was a significant main effect of task. In order to find the difference among the three groups, the Scheffe' test as a post-hoc follow-up procedure was applied to the delayed posttest scores by task. According to the result shown in Table 4, a comparative analysis noted that the RO group performed significantly better than the two other groups.

Considering the word recognition scores and the word production scores separately to examine the difference more specifically, there was no statistically significant difference among the three groups for the word recognition scores ($F=2.18$, $p=0.119$). However, a significant difference was found among the three groups for the word production scores ($F=7.38$, $p=0.001$), which may lead to a significant difference for the total scores.

Table 3
The Result for One-way MANOVA

Effect		Value	F	df1	df2	Sig	Multivariate η^2
Group	Pillai's Trace	0.156	2	4	196	0.003	0.078
	Wilks's Lambda	0.844	2	4	194	0.002	0.081
	Hotelling's Trace	0.185	98	4	192	0.002	0.085
	Roy's Largest Root	0.184	98	2	98	0.000	0.156

Table 4
Results of Scheffe' Test for the Delayed Posttest

Source	MD	SE	Sig.
CW vs. RO	-2.22	0.60	0.00*
CW vs. GO	-0.41	0.59	0.79
RO vs. GO	1.80	0.60	0.01*

*p<0.05

The result shown in Table 5 indicated that there was a statistically significant difference for word production among the performances of the RO group and the other two groups. This indicates that opportunities to retrieve words help learners to retain learned words longer, and retrieving words makes tasks effective especially for producing words.

Table 5
Results of Scheffe' Test for Word Production of the Delayed Posttest

Source	MD	SE	Sig.
CW vs. RO	-1.33	0.38	0.00*
CW vs. GO	-0.18	0.37	0.89
RO vs. GO	1.15	0.38	0.01*

*p<0.05

2. Findings and Discussion

Research results are discussed in depth in this session. The research questions in the present study were proposed to determine whether or not the opportunities

to retrieve words would contribute significantly to gain and retention of new vocabulary. In order to address the first research question (Did the students perform vocabulary tasks in decontextualized vocabulary instruction differently in the immediate and delayed posttests?), the present study compared the results of the immediate posttest and delayed posttest from the three vocabulary groups.

As shown in Figure 1 and 2, the RO group who learned words with opportunities to retrieve words performed better than any other group in both of the posttests ($m=16.33$, 13.36 respectively). It is suggested that the RO group learned and retained the words better than any other groups. Stated differently, giving opportunities to retrieve words for learners is more effective than repeatedly copying experimental words or creating new sentences incorporating experimental words.

It is noticeable that the CW group obtained higher scores than the GO group for the immediate posttest, but the CW group got the lowest scores for the delayed posttest. It can be explained by the Involvement Load Hypothesis which was proposed by Laufer and Hulstijn (2001). The researchers claimed that the amount of involvement in the task that learners are engaged in will affect the retention of unfamiliar vocabulary. It suggests that if students learn vocabulary by repeatedly copying words without deeper mental effort, they will catch the meaning of the word and the form in a short time, but they will not retain the word for a long time.

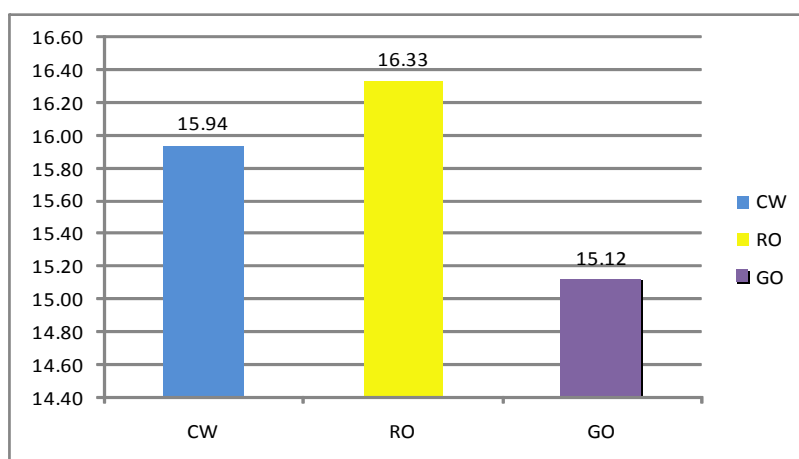


Figure 1. Result of the immediate posttest.

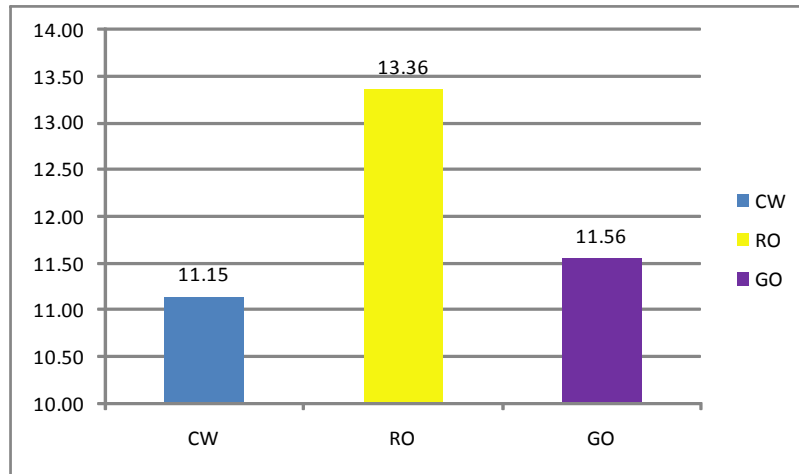


Figure 2. Result of the delayed posttest.

In order to address the second research question (Are the opportunities to retrieve words in decontextualized vocabulary instruction effective for recognizing words or producing words?), the scores of word recognition and production were compared. As shown in Figure 3 and 4, retrieving words were effective for both word recognition and production.

The CW group performed as well as the RO group for recognizing words, but the effects were not retained for four weeks. The gap between the scores of the RO group and the other two groups was bigger for word production, which suggests that retrieving words is more helpful for improving word production ability.

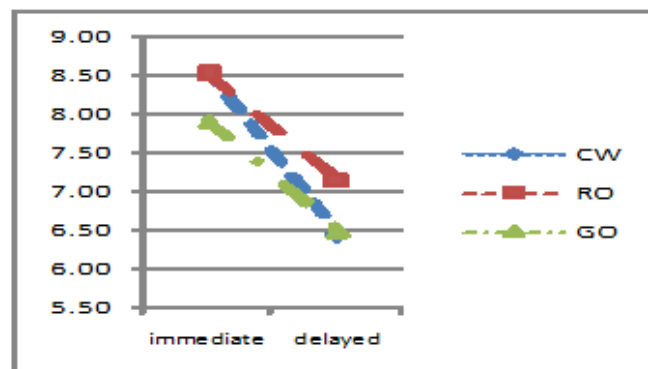


Figure 3. Results of word recognition test items.

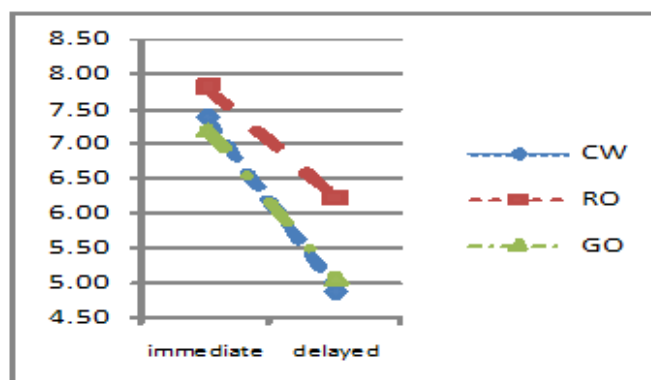


Figure 4. Results of word production test items.

Considering all the above results, it can be suggested that retrieval is a more important factor for effective vocabulary learning than repetition and deeper mental involvement for middle school students (see Figure 5). In both immediate and delayed posttests, the RO group showed the best results.

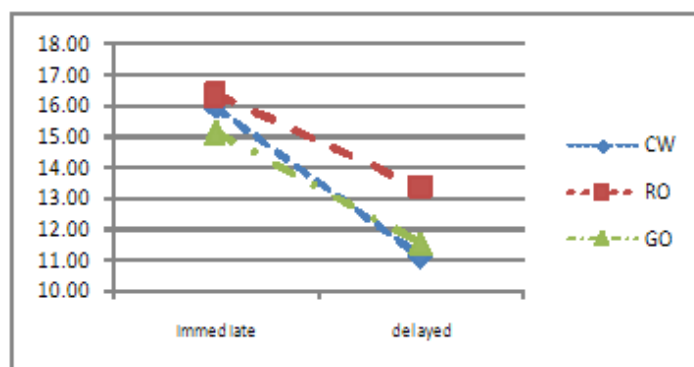


Figure 5. Comparison of the results of vocabulary posttests.

The result is consistent with Laufer's study (2003) and Barcroft's study (2007). Laufer argued that when a word is practiced in a productive word-focused task, its meaning has a better chance to be remembered than when the word is encountered in a text. In Barcroft's study, the effect of providing opportunities for target word retrieval in decontextualized setting was explored. After participants studied vocabulary with 24 word-picture pairs, the retrieval-oriented group who could attempt to retrieve the word in their mind during a 6-second lag between each picture and its word showed higher scores.

On the contrary, the result was different from that of Jin-Hee Huh and Byung-Bin Im's study (2008). In the study, the effects of four different vocabulary enhancement tasks were explored. According to the results, the task that required deeper processing and more involvement load led to more gains. However, in the present study, the GO group that performed the task that needed the most deeper processing and more involvement load did not get the best scores. It can be suggested that too difficult vocabulary tasks can inhibit vocabulary learning for middle school level students. It is possible that the difference can be due to the time spent on the tasks. In Jin-Hee Huh and Byung-Bin Im's study, the group who performed deeper processing requiring tasks spent longer time on their task because time on task was not controlled. Little is known, however, of how such differences in task type affect vocabulary learning. More researches are needed.

The better performance of the RO group can be explained by Barcroft's (2007) account that the involvement of semantic activation for the experimental word might be important for obtaining the positive effect. According to McNamara and Healy (1995), retrieval of previously learned words typically involves accessing the word based on some type of meaningful cue or series of cues. In this experiment, sentence context, even though it is not enough compared to paragraphs, seemed to be meaningful cue. Opportunities for retrieving words based on meaningful cues might also facilitate later retrieval of those words when cued in a similar manner at a later time (Barcroft, 2007).

V. CONCLUSION

The present study investigated the effects of retrieving words in decontextualized vocabulary instruction by comparing the results of three different task groups. To frame the issue of effects of lexical retrieval, the following research questions were raised: (a) Did the students perform vocabulary tasks in decontextualized vocabulary instruction differently in the immediate and delayed posttests?, (b) Are the opportunities to retrieve words in decontextualized vocabulary instruction effective for recognizing words or producing words?

The main findings of the present study are as follows: First, repetition may lead to immediate gains by letting students notice new words, but the effect was not retained for four weeks. Second, compared to other factors, generation does not seem to be effective for immediate vocabulary gains when time on task was controlled, but its effect was relatively well retained for four weeks, especially for word production. Third, the group who had opportunities to retrieve words were better than any other group. They performed well especially in delayed word production test.

The current study examined the effects of commonly used vocabulary tasks for teaching new words in decontextualized setting. The results suggest that in the EFL context, explicit vocabulary learning is needed, and giving opportunities to retrieve words' meanings or form can facilitate vocabulary development when new words are presented.

The present study has some limitations in that all the subjects represented only one level of age, they were all male students, and their English proficiency abilities vary. So, to provide stronger evidence of the positive effects of retrieval on vocabulary learning, additional studies including a wide range of characteristics are needed. Vocabulary tasks which can induce as many opportunities as possible to retrieve words should be designed.

REFERENCES

- Anderson, J. P., & Jordan, A. (1928). Learning and retention of Latin words and phrases. *Journal of Educational Psychology, 19*, 485-496.
- Baddeley, A. D. (1990). *Human memory*. London: Lawrence Erlbaum.
- Bahrick, H. P. (1979). Maintenance of knowledge: Questions about memory we forgot to ask. *Journal of Experimental Psychology: General, 108*(3), 296-308.
- Bahrick, H. P., Bahrick, L. E., Bahrick, A. S., & Bahrick, P. E. (1993). Maintenance of foreign language vocabulary and the spacing effect. *Psychological Science, 4*, 316-321.
- Barcroft, J. (2007). Effects of opportunities for word retrieval during second

- language vocabulary learning. *Language Learning*, 57(1), 35-56.
- Brett, A., Rothlein, L., & Hurley, M. (1996). Vocabulary acquisition from listening to stories and explanations of target words. *The Elementary School Journal*, 96, 415-422.
- Chaudron, C. (1982). Vocabulary elaboration in teachers' speech to L2 learners. *Studies in Second Language Acquisition*, 4, 170-180.
- Coady, J., & Huckin, T. (1997). Second language vocabulary acquisition: A synthesis of the acquisition research. In J. Coady & T. Huckin (Eds.), *Second language vocabulary acquisition: A rationale for pedagogy* (pp. 273-290). Cambridge: Cambridge University Press.
- Decarrico, J. S. (2001). Vocabulary learning and teaching. In M. Celce-Murcia (Ed.), *Teaching English as a second or foreign language* (3rd ed.) (pp. 285-299). Boston: Heinle & Heinle.
- Elley, W. B. (1989). Vocabulary acquisition from listening to stories. *Reading Research Quarterly*, 24, 174-187.
- Ellis, N. C. (1995). Vocabulary acquisition: Psychological perspectives and pedagogical implications. *The Language Teacher*, 19, 12-16.
- Folse, K. S. (2004). *Vocabulary myths*. Ann Arbor: University of Michigan Press.
- Folse, K. S. (2006). The effect of type of written exercise on L2 vocabulary retention. *TESOL Quarterly*, 40(2), 273-293.
- Fraser, C. (1999). Lexical processing strategy use and vocabulary learning through reading. *Studies in Second Language Acquisition*, 21, 225-241.
- Hedge, T. (2000). *Teaching and learning in the language classroom*. New York: Oxford University Press.
- Huckin, T., & Coady, J. (1999). Incidental vocabulary acquisition in a second language: A review. *Studies in Second Language Acquisition*, 21, 181-193.
- Huh, Jin-Hee. (2008). *The effects of repeated retrieval and topic familiarity on lexical development and text comprehension*. Unpublished doctoral dissertation. Kongju National University, Kongju.
- Huh, Jin-Hee., & Im, Byung-Bin. (2008). The effects of vocabulary task-induced involvement on vocabulary learning and reading comprehension. *The Journal of Modern British & American Language & Literature*, 26(3),

231-250.

- Hulstijn, J. H. (1992). Retention of inferred and given word meanings: Experiments in incidental vocabulary learning. In P. J. Arnaud & H. Bejoint (Eds.), *Vocabulary and applied linguistics* (pp. 113-125). London: Macmillan Academic and Professional Limited.
- Hulstijn, J. H. (1993). When do foreign-language readers look up the meaning of unfamiliar words? The influence of task and learner variables. *Modern Language Journal*, 77, 139-147.
- Hulstijn, J. H. (2003). Connectionist models of language processing and the training of listening skills with the aid of multimedia software. *Computer Assisted Language Learning*, 16, 413-425.
- Hunt, A., & Beglar, D. (2005). A framework for developing EFL reading vocabulary. *Reading in a Foreign Language*, 17(1), 23-59.
- Joe, A. (1995). Task-based tasks and incidental vocabulary learning: A case study. *Second Language Research*, 11(2), 149-158.
- Joe, A. (1998). What effects do text-based tasks promoting generation have on incidental vocabulary acquisition? *Applied Linguistics*, 19, 357-377.
- Kwon, In-Suk. (2002). A corpus-based lexical analysis of middle school English textbooks. *English Teaching*, 57(4), 409-444.
- Landauer, T. K., & Bjork, R. A. (1978). Optimum rehearsal patterns and name learning. In M. M. Gruneberg, P. E. Morris & R. N. Sykes (Eds.), *Practical aspects of memory* (pp. 625-632). London: Academic Press.
- Laufer, B. (2003). Vocabulary acquisition in a second language: Do learners really acquire most vocabulary by reading? *Canadian Modern Language Review*, 59(4), 565-585.
- Laufer, B., & Hulstijn, J. (2001). Incidental vocabulary acquisition in a second language: The construct of task-induced involvement. *Applied Linguistics*, 22(1), 1-26.
- Laufer, B., & Shmueli, K. (1997). Memorizing new words: Does teaching have anything to do with it? *RELC Journal*, 28, 89-108.
- McNamara, D. S., & Healy, A. F. (1995). A procedural explanation of the generation effect: The use of an operand retrieval strategy for multiplication and addition problems. *Journal of Memory and Language*,

- 34, 399-416.
- Nagy, W. E. (2005). Why vocabulary instruction needs to be long-term and comprehensive. In E. H. Hiebert & M. L. Kamil (Eds.), *Teaching and learning vocabulary: Bringing research to practice* (pp. 27-44). Mahwah, NJ: Erlbaum.
- Nation, I. S. P. (1982). Beginning to learn foreign vocabulary: A review of the research, *RELC Journal*, 13, 14-36.
- Nation, I. S. P. (2001). *Learning vocabulary in another language*. Cambridge: Cambridge University Press.
- Nation, I. S. P., & Coady, J. (1988). Vocabulary and reading. In R. Carter & M. McCarthy (Eds.), *Vocabulary and language teaching* (pp. 97-110). London: Longman.
- Oxford, R., & Crookall, D. (1990). Vocabulary learning: A critical analysis of techniques. *TESL Canada Journal*, 7, 9-30.
- Paribakht, T. S., & Wesche, M. B. (1997). Vocabulary enhancement activities and reading for meaning in second language vocabulary acquisition. In J. Coady & T. Huckin (Eds.), *Second language vocabulary acquisition: A rationale for pedagogy* (pp. 174-200). Cambridge: Cambridge University Press.
- Paribakht, T. S., & Wesche, M. B. (1999). Reading and "incidental" L2 vocabulary acquisition. *Studies in Second Language Acquisition*, 21, 195-224.
- Read, J. (2000). *Assessing vocabulary*. Cambridge: Cambridge University Press.
- Richards, J. (2000). Series Editor's Preface. In N. Schmitt (Ed.), *Vocabulary in language teaching*. Cambridge: Cambridge University Press.
- Roediger, H. L., & Guynn, M. J. (1996). Retrieval processes. In E. L. Bjork & R. A. Bjork (Eds.), *Memory: Handbook of perception and cognition* (pp. 197-236). San Diego: Academic Press.
- Royer, J. M. (1973). Memory effects for test-like events during acquisition of foreign language vocabulary. *Psychological Reports*, 32, 195-198.
- Sinclair, J. (Ed.). (2000). *Collins cobuild English language dictionary*. London: HarperCollins.
- Slamecka, N. J., & Graf, P. (1978). The generation effect: Delineation of a

- phenomenon. *Journal of Experimental Psychology*, 4(6), 592-604.
- Sokmen, A. (1997). Current trends in teaching second language vocabulary. In N. Schmitt & M. McCarthy (Eds.), *Vocabulary: Description, acquisition and pedagogy* (pp. 237-257). Cambridge: Cambridge University Press.
- Thorndike, E. L. (1908). Memory for paired associates. *Psychological Review*, 15, 122-138.
- Webb, W. B. (1962). The effects of prolonged learning on learning. *Journal of Verbal Learning and Verbal Behavior*, 1, 173-182.
- Wittrock, M. C. (1991). Generative teaching of comprehension. *Elementary School Journal*, 92, 169-184.

Jin-Hee Huh
Dept. of English Education
Kongju National University
182 Sinkwan-dong, Kongju, Chungcheongnam-do 314-701, Korea
Tel: (041) 850-8190/ H.P.: 016-396-2369
Email: o-happylife@hanmail.net

Received 30 September 2009
Reviewed 5 November 2009
Revised version received 11 December 2009