Modern English Education, Vol. 12, No.4, Winter 2011

Korean High School Students' Vocabulary Knowledge, Inferencing Abilities, and Reading Comprehension Abilities

Hye Eun Cho
Korea University

Cho, Hye Eun. (2011). Korean high school students' vocabulary knowledge, inferencing abilities, and reading comprehension abilities. *Modern English Education*, *12*(4), 90-106.

The study investigates the relationship among students' general vocabulary knowledge, their local and global inferencing abilities, and their reading comprehension abilities. It used quantitative methods of analysis to investigate what factors have a significant effect on the reading comprehension abilities of 32 Korean first grade high school students. To assess students' vocabulary knowledge, local and global inferencing abilities, and reading comprehension abilities, PPVT (Peabody Picture Vocabulary Test), a pseudo-word meaning inferencing tool, and KPSAT (Korea Preliminary Scholastic Aptitude Test) inferencing test items, and KPSAT reading comprehension test scores were used. The findings showed that vocabulary knowledge, local and global inferencing abilities, and reading comprehension abilities had a statistically significant correlation. In spite of the significant relationship, vocabulary knowledge did not have the strongest relationship with students' reading comprehension abilities. Simple regression analyses showed that vocabulary knowledge, local and global inferencing abilities explained reading comprehension abilities when other variables were not controlled. However, the predictive power of vocabulary knowledge was lost when local and global inferencing abilities were controlled. Different predictors of Korean high school students' reading comprehension abilities based on their English proficiency were shown in this study. Some pedagogical implications are suggested.

[general vocabulary knowledge/ inferencing abilities//predictor of reading comprehension abilities/어휘능력/ 유추능력/영어독해능력 예측인자]

I. INTRODUCTION

Acquiring vocabulary knowledge is one of the basic elements to comprehend a given text. It is obvious that readers may have a hard time when reading a text with too many unknown words. That is one of the reasons many Korean students put their efforts into

learning as many words as possible in order to improve their English reading comprehension abilities. They believe that their reading comprehension abilities will improve by increasing vocabulary knowledge. This is true for learners of a new language. Researchers have estimated the amount of vocabulary knowledge needed for readers (Nassaji, 2004; Nation, 2001; Qian, 2002; Tran, 2006; Wallace, 2007). This means that readers have to possess vocabulary knowledge if they want to understand a text without difficulty. Vocabulary knowledge is essential for a reading task. Without vocabulary knowledge, readers have a hard time processing a given reading activity. When learners read a text, vocabulary is among the knowledge bases being employed.

Vocabulary knowledge is necessary not only to understand a given text but also to guess the meaning of unknown words in context. When readers encounter unknown words in the text, they have to fill the gap with their linguistic and nonlinguistic knowledge. When inferring the meaning of unfamiliar words, there are many resources to which they may resort. For example, when guessing the meaning of unfamiliar words, using the vocabulary that they already know in the text helps readers to compensate for the meaning gap (Llinares, Leiva, Cartaya & St. Louis, 2008; Mezynski, 1983). Therefore, vocabulary knowledge can affect guessing abilities when readers do a reading task.

Thus, research of vocabulary knowledge in reading comprehension has become of major interest within the field of foreign language learning. Some researchers have focused on how to teach vocabulary (Baumann, 2009; Brassel & Furtado, 2008; Mezynski, 1983; Gi-pyo Park, 2004; Proctor, Dalton & Grisham, 2007; Schmitt, 2008; Webb, 2009) while others have investigated the relationship between vocabulary and reading comprehension (Brassell & Furtado, 2008; Cromley & Azevedo, 2007; Golkar & Yamini, 2007; Lars, 2008; Llinares et al., 2008; Qian, 1999, 2002). Others have also examined the relationship between inferencing abilities and reading comprehension abilities (Cain, Oakhill & Lemmon, 2004; Nassaji, 2003, 2004; Qian, 1999, 2002). The current study differs from others by combining these components. In other words, in this paper the relationship between Korean high school students' vocabulary knowledge, local and global inferencing abilities, and reading comprehension abilities were all considered together. By measuring students' general vocabulary knowledge, the influence of vocabulary knowledge on their local and global inferencing abilities and reading comprehension abilities could be explored. At the same time, this study investigated factors that might explain Korean high school students' reading comprehension abilities based on their English proficiency.

II. LITERATURE REVIEW

Vocabulary knowledge is a crucial factor in reading. Without knowing the meaning of words, it is not possible to comprehend given material. Lack of vocabulary knowledge leads to a failure of text comprehension (Baumann, 2009; Cain et al., 2004; Menynski, 1983; Nassaji, 2003, 2004; Qian, 1999). Some researchers have proposed that the range of vocabulary necessary to perform a reading task to be 2,000 to 3,000 words (Nassaji, 2004; Nation, 2006; Qian, 2002; Tran, 2006; Wallace, 2007). Lexical coverage is also offered as an alternate measurement to vocabulary size; according to some research, 95% of lexical coverage of a text is necessary for its comprehension (Laufer, 2010; Nation, 2001; Read, 2000). To be more specific, readers should only encounter one unknown word out of every twenty words for reading. Even though researchers offer different figures for the necessary vocabulary size or lexical coverage, they agree that vocabulary knowledge is a prerequisite to understanding a text.

The strong relationship between vocabulary knowledge and reading comprehension abilities has been shown in many studies (Brassell & Furtado, 2008; Cromley & Azevedo, 2007; Golkar & Yamini, 2007; Lars, 2008; Llinares et al., 2008; Qian, 1999, 2002). To investigate this relationship, Golkar and Yamini (2007) experimented on 76 Iranian undergraduate students. They found that students' passive and active vocabulary knowledge had a strong relationship with their reading comprehension (r=.75, r=.80 respectively). This means students with more vocabulary knowledge can read and comprehend texts better than those who do not. Lars (2008) investigated EFL secondary students in Denmark. Their vocabulary size was examined in relation to their listening, reading and writing ability. The author found that vocabulary knowledge had the strongest relationship with reading ability (r=.83). These studies contribute to the evidence that readers' vocabulary knowledge is significantly related to their reading comprehension abilities.

Other researchers have shown the importance of vocabulary knowledge in reading by improving readers' comprehension through vocabulary intervention (Baumann, 2009; Brassel & Furtado, 2008; Llinares et al., 2008; Mezynski, 1983; Gi-pyo Park, 2004; Procto et al., 2007; Schmitt, 2008; Webb, 2009). For example, Gi-pyo Park's (2004) research showed that the pre-teaching of vocabulary knowledge improved reading comprehension of Korean EFL learners. Proctor et al. (2007) also found that students' reading comprehension abilities improved with a four-week embedded vocabulary support program. It is obvious that students with more vocabulary knowledge can have a better understanding of what they are reading.

However, readers do not necessarily know all the words in the text. It is inevitable for EFL learners to encounter unknown words when they read a given text. Even though there

are some new words, they can read and understand a given text by inferencing the meaning of the words. In order to infer the meaning of unknown words, readers utilize their existing knowledge, generating their own meaning to fill the information gap based on both their linguistic knowledge and external-linguistic knowledge. It means that for the lexical inferening, readers use various knowledge such as orthographic resemblance, world knowledge, or contextual or pragmatic cues (Fraiser, 1999; Hamada, 2009; Nassaji, 2004; Shen & Wu, 2009).

Among several sources of knowledge investigated, one area that has been found to be strongly related to learners' lexical inferencing abilities is vocabulary knowledge. Some researchers have showed that readers infer the meaning of unknown words better when they have more vocabulary knowledge (Cain et al., 2004; Nassaji, 2003, 2004; Qian, 1999, 2002). In one study, Nassaji (2003) found that readers used word knowledge most frequently (46%) followed by morphological knowledge (26.9%), grammatical knowledge (8.7%) and L1 knowledge (6.6%). Readers who lack vocabulary knowledge have difficulty inferencing unknown words during a reading task,

Instead of general vocabulary knowledge, Qian (1999) and Nassaji (2004) used depth of vocabulary knowledge as a measurement in order to explore the relationship between vocabulary knowledge and inferencing abilities. Depth of vocabulary knowledge is the quality of lexical knowledge including not only the meaning of words but also knowledge of how to use a word including pronunciation, morphological, syntactic, and collocation properties (Jinkyong Lee, 2004; Nasaji, 2003; Qian, 1999). Due to the deeper knowledge of the words, they found depth of vocabulary knowledge contributed a great deal to inferential success over and above the contribution made by the learner's degree of strategy use. Considering that the more words a learner knows, the more likely it is that he or she has greater depth knowledge for the words (Qian, 2002), their results reinforce the notion that readers' general vocabulary knowledge plays an important role in deriving the meaning of unknown words.

On the one hand, inferencing abilities are affected by readers' vocabulary knowledge, and on the other hand, they are one of the criteria to judge students' reading performance. Lexical inferencing is a strategy frequently used by effective readers when they encounter unfamiliar words (Cain et al., 2004; Hudson, 2007; Nassaji, 2003, 2004; Schmitt, 2008; Shen & Wu, 2009). For example, Cain et al. (2004) showed that readers with less comprehension skill had difficulty in generating lexical inferences. In other words, skilled readers could guess the meaning of unfamiliar words better than unskilled readers. Unskilled readers lack the abilities to use the clues in the text; readers who have difficulty in making inferences tend to have problems comprehending texts. Students who take advantage of clues in the text can have better comprehension abilities than those who do not (Baker, 2008; Bialystock, 1981; Schmitt, 2008).

Some researchers (Hamada, 2009; Kaivanpah & Alavi, 2008) have found that learners who had a higher proficiency used more contextual clues than others when they guessed the meaning of unknown words. Even when the clues are not given immediately, high proficiency readers were better at inferencing unknown words than less proficient learners. Students with low language proficiency guessed the meaning of unknown words better when the clues were given immediately than when they were given after some other sentences. There is a hierarchy in inferencing abilities. As students' English proficiency improves, their global inferencing abilities (the clues are separately given in a passage) improve from the local inferencing abilities (the clues are in the same sentence).

Lack of vocabulary knowledge causes difficulty for students when they read and it can prevent students from inferencing the meaning of unknown words in a given text. Vocabulary knowledge helps students to understand a given text and it helps readers to infer the meaning of unknown words when they encounter them, which then improves their reading comprehension abilities. In spite of the importance of vocabulary knowledge and inferencing abilities in reading comprehension, the relationship of vocabulary knowledge and their local and global inferencing abilities and reading comprehension abilities have not been extensively explored targeting Korean students. Little research has been done on factors that explain Korean high school students' reading comprehension abilities based on their English proficiency levels. Thus, the purpose of this present study is to investigate the relationship between Korean high school students' general vocabulary knowledge in relation to their inferencing abilities and reading comprehension abilities. This study also aims to explore different predictors of Korean high school students' reading comprehension abilities according to their English proficiency. Therefore, the research questions of this article are as follows:

1. Do general vocabulary knowledge, local, and global inferencing abilities have a relationship with Korean first grade high school students' reading comprehension abilities?
2. Among vocabulary knowledge, local or global inferencing abilities, which variable has a stronger prediction for Korean first grade high school students' reading comprehension abilities when other variables are controlled?
3. Do Korean first grade high school students show a differential reading comprehension predictor according to their English proficiency?

III. METHOD

1. Participants

Thirty-two Korean first grade high school students participated in this study. The participants were recruited from a randomly chosen female class from a public high school in Seoul, Korea. The participants had seven years of formal English education in school. At the time of their participation in this study, the participants had five English classes per week, one of which was with a native English-speaking teacher. None of the students had stayed in English-speaking countries more than three months. The class consisted of 35 students, but three students who did not finish all the tasks were excluded. According to their Korea Preliminary Scholastic Aptitude Test (KPSAT) which was taken by students attending regular high schools, eleven participants were within the top 20th percentile of the whole population of the test takers, twenty participants were between 80th and 21th, and one student was under the 20th percentile in the cohort of test takers. Thus, it is safe to conclude that the participants could be considered of different English proficiency levels.

2. Measures

1) General vocabulary knowledge

To measure students' general vocabulary knowledge, the Peabody Picture Vocabulary Test (PPVT: Dunn & Dunn, 1981) was used as an index of students' vocabulary knowledge in English. For this task, students were to look at four pictures and identify the best illustration corresponding to what the examiner orally stated. A raw score was obtained for each student's vocabulary knowledge, which was measured by a subsequent individual interview in a quiet place.

2) Local inferencing abilities

To assess students' local inferencing abilities, a word meaning inferencing tool was adopted from Altman (2002) from the website. Students were given fifteen items with which to infer the meaning of unknown words. Each item had one pseudo-word in a sentence, and students were required to guess the meaning of these pseudo-words. Among the fifteen items, there were nine noun-form and six verb-form pseudo-words. Students were given about twenty minutes in a normal class period to do the task. All of the students finished their task within the allotted time. Students got one point for the correct inference for each item regardless of whether they did the guessing in English or in Korean. Since

this study focused on word meaning inference, presenting their inferencing in either their first language or foreign language did not matter in their reading comprehension. Some of the inferencing items were as follows:

① Have you nashed the movie "Crouching Tiger, Hidden Dragon" yet?
② I read an interesting schiksa last month. It was about the history of Tokyo from 1600 to 1868.
③ Cats like to chase boubelech.

3) Global inferencing abilities

To obtain students' global inferencing abilities, KPSAT test items were used. The KPSAT included six inferencing items in five short passages and one long passage. Students had to read each passage to infer a word or phrase in the passage. Students' raw scores were obtained for these items to measure their inferencing abilities. Some of the sample items were attached in the appendix.

4) Reading comprehension abilities

To measure students' reading comprehension ability, a KPSAT score was used. A total of 575,998 students took the test nationwide. The students were graded by their percentile among all test takers. The test consisted of 50 multiple choice items, including 17 listening items and 33 reading items which included indirect writing items (coherence and cohesion), and grammar items. The indirect writing items and grammar items were excluded from the present study because of its focus on students' reading comprehension ability only. The total number of reading comprehension items was 26. There were 22 short passages with one test item and two long passages with two or three test items. The 26 reading items contained a total of 2,563 words. Raw scores were obtained in order to measure each student's reading comprehension abilities.

5) Students' English proficiency

For students' English proficiency, KPSAT percentile points were used. According to their KPSAT percentile points, students were divided into three groups. The advanced group's percentile ranking fell between 81th and 100th, which means that they belonged to the upper 20% of all test takers. The intermediate group's percentile ranking was between 31th and 80th. There was only one student under the 20th percentile, so four students between the 21th and 30th percentile were categorized into the lower group. Five students

were in the lower group, with KPSAT test percentile points ranging from the bottom to 30th.

IV. RESULTS

1. Descriptive Statistics of the Variables

As presented in Table 1, the participants' mean score of vocabulary size is 57.47. The highest score is 134 and the lowest score is 15. For local inferencing abilities, students guessed 6.25 word meanings out of 15 items in a sentence (local inferencing ability). The average success rate for verbs and nouns was 64.06% and 26.74%, respectively. On the passage level (global inferencing abilities), students guessed 2.38 items of unknown words or phrases among six items. They answered approximately 38% of the global inferencing items correctly. For the reading comprehension abilities, students got 9.41 correct answers on average among twenty-six reading items.

Table 1
Descriptive Statistics of Students' Vocabulary Size, Local and Global Inferencing Abilities, and Reading Comprehension Abilities (N=32)

	Minimum	Maximum	Mean	SD
Vocabulary size	15	134	57.47	30.935
Local inferencing abilities	1	14	6.25	3.610
Global inferencing abilities	0	6	2.38	1.338
Reading comprehension abilities	2	25	9.41	4.891

2. Correlation among the Variables

A Pearson correlation was conducted to investigate the relationship among vocabulary knowledge, local and global inferencing abilities, and reading comprehension abilities. As presented in Table 2, statistically significant correlations were found among the four variables: vocabulary knowledge, local and global inferencing abilities, and reading comprehension abilities. All the variables had a significant correlation at .01 level except for the relationship between vocabulary knowledge and global inferencing abilities, whose correlation had a significance at the level of .05. Even though vocabulary knowledge did not have the strongest relationship with reading comprehension abilities, it did have the strongest relationship with local inferencing abilities, followed by reading comprehension abilities and global inferencing abilities. In other words, as students' vocabulary knowledge got larger, their local inferencing abilities got better. Local inferencing abilities

had a stronger relationship with reading comprehension abilities than vocabulary knowledge or global inferencing abilities did. This means that students who were good at guessing the meaning of unknown words at the sentence level had a good score on reading comprehension.

Table 2
Correlations Between Vocabulary Size, Local Inferencing Abilities, Global Inferencing Abilities, and Reading Comprehension Abilities (N=32)

	Vocabulary size	Local inferencing	Global inferencing
Local inferencing abilities	.639**		
Global inferencing abilities	.406*	.548**	
Reading comprehension abilities	.603**	.759**	.750**

* p< .05 , ** p< .01

3. Simple and Multiple Regressions Predicting Reading Comprehension Abilities

A series of simple regression analyses were carried out to investigate which variable explained students' reading comprehension abilities when none of the variables were controlled for. The result showed that all the variables had a predictive power for reading comprehension abilities at the level of .01 when other variables were not controlled for. Table 3 indicates that local inferencing abilities explained reading comprehension abilities (58%), followed by global inferencing abilities (56%) and then vocabulary size (36%) when other factors were not controlled for. Local inferencing abilities and global inferencing abilities explained 20% more of reading comprehension abilities than vocabulary size. As their local inferencing abilities improved, their reading comprehension abilities got better. However, vocabulary knowledge did not explain students' reading comprehension abilities as local and global inferencing abilities did. In this study, Korean high school students' local and global inferencing abilities both accounted for reading comprehension abilities more than students' general vocabulary knowledge did.

Table 3
Simple Regression Analysis of Vocabulary Size, Local Inferencing Abilities, Global Inferencing Abilities for Reading Comprehension Abilities (N=32)

Variable	β	R^2	Adjusted R^2
Vocabulary size	.095**	.36	.34
Local inferencing abilities	.029**	.58	.56
Global inferencing abilities	.741**	.56	.55

* p< .05, ** p< .01

A multiple regression analysis was conducted in order to explore which variable contributed to students' reading comprehension abilities when controlling for their effect one another. Table 4 presents that the multiple regression analysis showed that local inferencing abilities and global inferencing abilities affected reading comprehension abilities significantly at the level of .01. Vocabulary knowledge did not contribute to reading comprehension abilities when local inferencing and global inferencing abilities were controlled for and therefore it lost its predictive power. When vocabulary knowledge and both local and global inferencing abilities were controlled for, local and global inferencing abilities still accounted for students' reading comprehension abilities. In short, in this current study local and global inferencing abilities explained reading comprehension abilities better than vocabulary knowledge did.

Table 4
Multiple Regression Analysis of Vocabulary Size, Local and Global Inferencing Abilities for Reading Comprehension Abilities (N=32)

Variable	β	R^2	Adjusted R^2
Vocabulary size	.024		
Local inferencing abilities	.551**	.750	.723
Global inferencing abilities	1.698**		

* p< . 05, ** p<. 01

4. Best Fit Model for Reading Comprehension Abilities Based on English Proficiency

To examine how students' English proficiency affected their vocabulary knowledge, students were divided into three groups. To investigate the difference among the three groups, a one-way analysis of variance (ANOVA) was conducted. Table 5 presents a significant difference was observed in their vocabulary knowledge, local and global inferencing abilities, and reading comprehension abilities (*F*=5.42*, p*=.01*; F*=17.79*, p*=.01*; F*= 10.91*, p*=.01*; F*=27.26*, p*=.01*)* respectively. To examine where the difference came from, a post-hoc Tukey procedure was conducted. Table 6 presents that the procedure indicated that there was a significant difference between advanced and intermediate and lower groups in vocabulary size, local and global inferencing abilities, and reading comprehension abilities. However, there was no significant group difference between the intermediate and lower groups in terms of vocabulary knowledge, local inferencing abilities, global inferencing abilities and reading comprehension abilities. The groups did not demonstrate a statistically significant difference as shown in table 6. Thus, the intermediate and lower groups were combined into one group to find out what variables explained their reading comprehension abilities based on their English proficiency.

Table 5
Anova Analysis of Three Proficiency Groups of Vocabulary Size, Local Inferencing Abilities, Global Inferencing Abilities, and Reading Comprehension Abilities

Variable	Advanced (N=11)	Intermediate (N= 16)	Lower (N=5)	F	Sig.
Vocabulary size	78.36 (10.69)	49.88(5.79)	35.80(7.2)	5.42	.010
Local inferencing	9.82(0.851)	4.75(0.642)	3.20(0.374)	17.79	.000
Global inferencing	3.55 (1.13)	1.88 (1.09)	1.40 (.548)	10.91	.000
Reading comprehension	14.55 (1.48)	7.50 (2.34)	4.20 (4.08)	27.26	.000

A series of multiple regression analyses were conducted to find a predictor of reading comprehension abilities for each group. Table 7 displays that vocabulary knowledge and global inferencing abilities explained 63% of the advanced students' reading comprehension abilities. Global inferencing abilities were significant at the level of .05 whereas vocabulary knowledge was not. This means that advanced students' reading comprehension abilities got better as their global inferencing abilities increased. For the intermediate and lower level students, vocabulary size and local inferencing abilities were significant at the level of .05, contributing to 54% of the reading comprehension abilities. As intermediate and lower level students' vocabulary knowledge increased, their reading comprehension abilities increased. Unlike that of advanced students, intermediate and lower level students' vocabulary knowledge was still a very important factor to explain their reading comprehension abilities.

Table 6
Post Hoc Tests of Three Groups of Vocabulary Size, Local Inferenencing Abilities, Global Inferencing Abilities, and Reading Comprehension Abilities

		Mean difference	Std. E	Sig.
Vocabulary size	Advanced Vs Intermediate	28.489	10.69	.032
	Intermediate Vs lower	14.08	13.98	.579
	Advanced Vs lower	42.56	14.72	.019
Local inferencing abilities	Advanced Vs Intermediate	5.07	0.98	.000
	Intermediate Vs lower	1.55	1.28	.457
	Advanced Vs lower	6.618	1.35	.000
Global inferencing abilities	Advanced Vs Intermediate	1.67	.41	.001
	Intermediate Vs lower	.48	.54	.653
	Advanced Vs lower	2.15	.56	.002
Reading comprehension abilities	Advanced Vs Intermediate	7.04	1.167	.000
	Intermediate Vs lower	3.30	1.53	.950
	Advanced Vs lower	10.35	1.61	.000

Table 7

The Best Fit Models for Reading Comprehension Abilities

Variable	β	R^2	Adjusted R^2
	Advanced group (N=11)		
Vocabulary size	.017		
Global inferencing abilities	2.75*	.63	.53
	Intermediate and lower group (N=21)		
Vocabulary size	.50*		
Local inferencing abilities	.496*	.54	.49

* p < .05 , ** p < .01

V. DISCUSSION

This study was conducted in order to investigate Korean high school students' vocabulary knowledge, local and global inferencing abilities, and reading comprehension abilities. The predictor of students' reading comprehension abilities based on their English proficiency was also examined. Based on the data, vocabulary knowledge, local and global inferencing abilities helped students to understand a given text. Students who had extensive vocabulary knowledge understood a given text better than those who did not. This is in accordance with findings from other researchers who have found that general vocabulary knowledge had a significant relationship with reading comprehension abilities (Brassell & Furtado, 2008; Golkar & Yamini, 2007; Llinares et al., 2008; Qian, 1999, 2002). In spite of the correlation of vocabulary knowledge and reading comprehension abilities, vocabulary knowledge did not have the strongest relationship with students' reading comprehension and did not explain students' reading comprehension abilities.

Even though vocabulary knowledge was not a predictor for students' reading comprehension abilities, it contributed to the intermediate and lower level students' reading comprehension abilities. Intermediate and lower level students had better reading comprehension abilities if they had more vocabulary knowledge whereas advanced students' reading comprehension abilities were not influenced by their vocabulary knowledge. As students' English proficiency improved, they depended less on vocabulary knowledge when they read.

Rather than vocabulary knowledge, it was the higher-level cognitive skill of making inferences that had a positive effect on reading comprehension abilities. Better or skilled readers did not settle for the literal meaning of words when they read. They exhibited higher levels of metacognative knowledge of reading by making inferences to fill in the

gaps in texts and in their understanding of what they have read. (Hudson, 2007; Nasaji, 2003; Schmitt, 2008). This is in vein with studies that emphasize the usefulness of the explicit teaching of metacognitive abilities because readers do not automatically develop increased metacognitive skills with reading experience (Baker, 2008; Bialystock, 1981).

In the current study, a transition was also noted when students developed their reading comprehension abilities in terms of vocabulary knowledge and inferencing abilities. At first, vocabulary knowledge was used for guessing unknown words at the sentence level. As their English proficiency improved, students could infer the unknown words at the passage level. This result corresponds with the conclusion from prior research that students' inferencing abilities shift from local to global ones. Students' reading comprehension abilities improved as they got better at inferring unknown words on a passage level. In other words, this study supports the previous research that more proficient learners are better at using clues when deciding the meaning of unknown words on the passage level (Cain et al., 2004; Hamada, 2009; Kaivanpah & Alavi, 2008; Nasaji, 2003).

In conclusion, the present study was an attempt to investigate the relationship between vocabulary knowledge, inferencing abilities, and reading comprehension of Korean first grade high school students by using quantitative research methods. When students read, general vocabulary knowledge is a prerequisite for Korean EFL learners. Even though advanced students' vocabulary knowledge did not explain their reading comprehension abilities, it has a significant relationship with reading comprehension. In the study, as students' English proficiency improved, the influence of vocabulary knowledge on comprehension abilities decreased and their dependence on global inferencing increased.

VI. IMPLICATIONS AND LIMITATIONS

The results of this study imply that teachers should use different approaches of vocabulary teaching to improve students' reading comprehension abilities, just as some researchers have proposed (Hudson, 2007; Nasaji, 2003; Schmitt, 2008). Mere vocabulary knowledge did not improve students' reading comprehension abilities. When teaching vocabulary, it is necessary to offer contextually-driven vocabulary teaching rather than just offering the meanings of words directly. It is important to learn how to use vocabulary knowledge rather than just enlarging one's vocabulary base. Therefore, to maximize students' vocabulary knowledge, teachers should teach how to use clues to guess the meaning of unknown words from context. For better reading comprehension abilities, teacher should teach students strategies such as making word meaning inferences to specifically resolve reading comprehension obstacles.

Limitations of this study that could be addressed by future studies are as follows. First,

this study was conducted with a class of 32 students; a group in which only five students were considered to be lower level students. Future studies should include lower language proficiency students to enhance the generalizability of the findings. A more controlled study including participant grouping would be necessary in order to provide tangible findings for students and teachers. Also, this study considered only vocabulary knowledge and local and global inferencing abilities. It is possible that other intervening factors, such as syntactic knowledge, could have affected the outcomes. Therefore, including other factors would provide a bigger picture of the variables of Korean high school students' reading comprehension abilities.

REFERENCES

Altman, J. (2002). Building vocabulary: Guessing meaning from context. Online *Publications of the Japan Association for Language Teaching*. Retrieved March 30, 2010, from the World Wide Web: http://www.jalt-publications.org/old_tlt/articles/2002/01/altman.

Baker, L. (2008). Metacognition in comprehension instruction: What we've learned since NRP. In C. C. Block & S. R. Parris (Eds.), *Comprehension instruction: Research based best practices* (pp. 65-79). New York: Gulliford Press.

Baumann, J. F. (2009). Intensity in vocabulary instruction and effects on reading comprehension. *Topics in Language Disorders, 29*(4), 312-328.

Biaystock, E. (1981). The role of conscious strategies in second language proficiency. *Modern Language Journal, 65*(1), 24-35.

Brassell, D., & Furtado, L. (2008). Enhancing English as a second language students' vocabulary knowledge. *The Reading Matrix: An International Online Journal, 8*(1), 111-116.

Cain, K., Oakhill, J., & Lemmon, K. (2004). Individual differences in the inference of word meanings from context: The influence of reading comprehension, vocabulary knowledge, and memory capacity. *Journal of Educational Psychology, 96*(4), 671-681.

Cromley, J. G., & Azevedo, R. (2007). Testing and refining the direct and inferential mediation model of reading comprehension. *Journal of Educational Psychology, 99*(2), 311-325.

Dunn, L., & Dunn, L. (1981). *Peabody picture vocabulary test (PPVT)*. Circle Pines, MN: American Guidance service.

Fraser, C. A. (1999). Lexical processing strategy use and vocabulary learning through reading. *Studies in Second Language Acquisition*, *21*, 225-241.

Golkar, M., & Yamini, M. (2007). Vocabulary, proficiency and reading comprehension. *The Reading Matrix: An International Online Journal, 7*(3), 88-112.

Hamada, M. (2009). Development of L2 word-meaning inference while reading. *System, 37*(3), 447-460.

Hudson, T. (2007). *Teaching second language reading*. Oxford: Oxford University Press.

Kaivanpanah, S., & Alavi, S. (2008). The role of linguistic knowledge in word-meaning inferencing. *System*, *36*(2), 172-195.

Lars, S. S. (2008). Vocabulary size and the skills of listening, reading and writing. *Language Learning Journal, 36*(2), 139-152.

Laufer, B. (2010). Lexical threshold revisited: Lexical text coverage, learners' vocabulary size and reading comprehension. *Reading in a Foreign Language, 22*(1)*, 15-30.*

Lee, Jinkyong. (2008). The assessment of primary English learners' qualitative vocabulary knowledge by word-association test. *Modern English Education, 9*(3), 189-214.

Llinares, G., Leiva, B., Cartaya, N., & St. Louis, R. (2008). Acquisition of L2 vocabulary for effective reading: Testing teachers' classroom practice. *The Reading Matrix: An International Online Journal, 8*(2), 55-69.

Menzynski, K. (1983). Issues concerning the acquisition of knowledge: Effects of vocabulary training on reading comprehension. *Review of Educational Research*, *53*(2), 253-279.

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

Nassaji, H. (2004). The relationship between depth of vocabulary knowledge and L2 learners' lexical inferencing strategy use and success. *The Canadian Modern Language Review/La Revue Canadienne Des Langues Vivantes, 61*(1), 107-134.

Nation, I.S.P. (2001). *Learning vocabulary in another language*. Cambridge: Cambridge University Press.

Nation, I.S.P. (2006). How large a vocabulary is needed for reading and listening? *The Canadian Language Review, 63*(1), 59-82.

Park, Gi-pyo. (2004). The effect of vocabulary preteaching and providing background knowledge on L2 reading comprehension. *English Teaching*, *59*(4), 193-216.

Proctor, C. P., Dalton, B., & Grisham, D. L. (2007). Scaffolding English language learners and struggling readers in a universal literacy environment with embedded strategy instruction and vocabulary support. *Journal of Literacy Research, 39*(1), 71-93.

Qian, D. (1999). Assessing the roles of depth and breadth of vocabulary knowledge in

reading comprehension. *The Canadian Modern Language Review*, *56*(2), 282-307.

Qian, D. (2002). Investigating the relationship between vocabulary knowledge and academic reading performance: An assessment perspective. *Language Learning*, *52*(3), 513-536.

Read, J. (2000). *Assessing vocabulary*. Cambridge: Cambridge University Press.

Schmitt, N. (2008). Instructed second language vocabulary learning. *Language Teaching Research*, *12*(3), 329-363.

Shen, M., & Wu, W. (2009). Technical University EFL learners' reading proficiency and their lexical inference performance. *Electronic Journal of Foreign Language Teaching*, *6*(2), 189-200.

Tran, A. (2006). An approach to basic-vocabulary development for English-language learners. *Reading Improvement*, *43*(3), 157-162.

Wallace, C. (2007). Vocabulary: The key to teaching English language learners to read. *Reading Improvement*, *44*(4), 189-193.

Webb, S. A. (2009). The effects of pre-learning vocabulary on reading comprehension and writing. *The Canadian Modern Language, 65*(3), 441-470.

APPENDIX

Sample of Global Inferencing Abilities Test Items

1. **다음 글의 빈칸에 들어갈 말로 가장 적절한 것을 고르시오.**

A recent study shows that kids who watch a lot of TV are more likely to be _____than those who do not. Can you guess why? It's because of commercials on TV! The junk food is often advertised in commercials by their favorite cartoon characters. It is so appealing that kids just want to go out and get it right away! Kids who watch a lot of TV and those attractive commercials are also likely to stay only at home and be getting less exercise.

① active ② violent ③ diligent ④ humorous ⑤ overweight

2. 다음 글의 빈칸에 들어갈 말로 가장 적절한 것을 고르시오.

Deciding whether your child is bright, and how and when to give them right kind of attention, requires careful observation. For this, it can be very helpful to_____, though it may sound like a bit of hard work. It helps you to take a step outside the routine of everyday living, so that you can get a clearer, more objective view of what is happening in your family. Then, looking back, you may be able to see how situations have developed, and how they can be changed. A daily record book will help you not only to judge whether you have a bright child but also to watch his or her emotional development.

① keep a diary ② praise them ③ write a letter ④ play together ⑤ read them stories

Hye Eun Cho
Korea University English Education Department
5-ka Anam-dong, Sungbuk-ku
Seoul, 136-701, Korea
Tel: (02) 3290-2350/ H.P.: 010-8741-2650
Email: soograce@empal.com

Received 8 October 2011
Revised 2 December 2011
Accepted 13 December 2011