Effects of Learning Chunks of Words on Reading Comprehension[*]

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This paper aims to analyze and evaluate the effects of learning chunks of words on reading comprehension. Forty-three students in the experimental group learned the concept of a chunk of words and practiced chunking throughout the spring semester of 2010. They were taught how to perceive meaningful chunks of words while they were reading an English passage. The students were given four different tests along with a questionnaire. For the pre- and post-tests, they were given 40 reading comprehension questions from a TOEIC test, 5 reading comprehension questions on two articles from a TOEIC test, mid-term exam/final exam, and 5 chunking questions. The results of these tests showed that the forty-three students in the experimental group performed better in the final exam and in the 5 questions on chunking than the thirty-six students in the control group. Learning chunks of words were effective for both high-level and low-level students. The result of the questionnaire revealed that most of the students thought learning chunks of words helped them learn English. The significant finding of this study is that the students benefit from learning and practicing chunking, thus improving their actual chunking as well as their reading comprehension ability.

[chunking/chunks of words/lexical chunks/parse/pause/ 뭉칫말화/뭉칫말/어휘적뭉칫말/분석하기/숨쉬기]

I. INTRODUCTION

The purpose of this study is to analyze and evaluate the effects of learning chunks of words on reading comprehension. This study was conceived with the aim to teach students how to perceive meaningful chunks of words appropriately in order to better understand English texts. It is widely known that advanced learners are familiar with a wide range of

lexical chunks including prefabricated chunks, fixed, and semi-fixed expressions (Howarth, 1998; Nesselhauf, 2003; Thornbury, 2002). Wray (2000) suggests that successful language learning comes from mastering idiomatic expressions which include collocations, idioms, and formulaic sequences. Knowing and understanding collocations, idioms and formulaic sequences with fixed and semi-fixed expressions indicates that learners have knowledge of chunks of words and where to pause when reading the target language. However, some college students still find reading English texts difficult partly due to the fact that they are not able to properly recognize meaningful chunks of words. This fact hinders correct understanding of the English texts they read and learning English effectively. The following examples are some inappropriate examples of chunking done by some of the students in the experimental group at the beginning of the study.

Example (1)
"I / thought / it might be something special and interesting / if I / invited them to your grand gala and ball."

Example (2)
"I / thought / it / might be / something / special / and / interesting / if / I invited / them / to / your/ grand gala / and / ball."

Example (3)
"I thought it might be something special and interesting if I invited them to your grand gala and ball." (no chunking at all)

Examples (1), (2), and (3) have the same sentence chunked differently by three different students respectively. If only one slash is to be used, it should be placed between "interesting" and "if." If two slashes are allowed, one has to be put between "thought" and "it" and the other has to be put between "interesting" and "if." In other words, this sentence can be divided into three chunks such as "I thought," "it might be something special and interesting," and "if I invited them to your grand gala and ball." If three slashes can be used, there will be four chunks such as "I thought," "it might be something special and interesting," "if I invited them," and "to your grand gala and ball." In Example (1), four slashes are used but two of them are used inappropriately or rather inefficiently. The pronoun "I" does not have to be separated from the main verbs "thought" and "invited" as in the first and last markings. The chunk "if I" looks awkward, too. Example (2) has too many unnecessary slashes dividing the sentence of nineteen words into sixteen chunks. Considering the fact that native speakers tend to parse larger and more holistic chunks (Nahk-Bohk Kim, 2008; Krishnamurthy, 2003), it can be assumed that the level of English

proficiency of the learner who parsed Example (2) must be low. On the other hand, Example (3) has no chunking marks at all.

The students' perception of the chunks of words shown in the three examples above is inadequate. This inappropriate perception of chunking may lead them to misunderstand the meaning of the sentence or to only partially understand it. This indicates that some students may have serious problems in their receptive English skills let alone their productive skills. This study was conceived with the aim to teach the students how to perceive meaningful chunks of words appropriately in order to better understand English sentences and paragraphs. Teaching lexical chunks rather than individual words and teaching lexis rather than grammar has been an important issue and trend in English education not only overseas but also in Korea. Teaching collocations and idioms as chunks of words especially using corpora and concordances has been discussed and suggested by many researchers in and out of Korea (Flowerdew, 2003; Frazier, 2003; Kennedy, 2003; Seong-shik Kim 2007; Hyun Jin Lee & Eun-Joo Lee, 2010; Sun-Young Oh 2007; O'Keeffe & Farr, 2003; Simpson & Mendis, 2003; Taeha Yu & Isaiah WonHo Yoo, 2010).

II. LITERATURE REVIEW

Following the momentous studies by Cowie (1988), Pawley and Syder (1983), Schmitt (2004), Sinclair (1991), and Wray (2002), many other researchers have produced papers on phraseology discussing topics ranging from advantages of learning formulaic sequences to lists of formulaic sequences for academic writing (Conklin & Schmitt, 2008; Simpson-Vlach & Ellis, 2010; Wray, 2010). Krishnamurthy (2003) discusses the shift from grammar to lexis with a focus on chunks of words rather than individual words. He suggests that teachers must help their students recognize, learn, and remember language as chunks. Nesselhauf (2003) studies what difficulties learners go through with collocations. He analyzes learners' uses of verb-noun collocations in free written production, suggests some types of mistakes learners produce, and investigates influences and restrictions of learners' L1 on producing collocations.

Turning the attention to the domestic field of English language teaching, Taeduck Hyun (2007) uses various techniques to teach collocations to middle school students and examines the effects of learning collocations on their English proficiency. The techniques include teaching collocations with uses of focal words, methods of selecting words that constitute collocations, dictation of collocations, ways to compose collocations, and completing collocations. The result of his study shows that the students in the experimental group performed far better in five written tests, thus confirming the positive effects of learning collocations on improving their English proficiency.

Nahk-Bohk Kim (2007) also conducts a similar study on high school students to find out the effects and roles of collocation-based vocabulary instruction on their English reading abilities. He uses two different methods for teaching English vocabulary: one is the traditional wordlist-based instruction for the control group and the other is the collocation-based instruction for the experimental group. The techniques Nahk-Bohk Kim (2007) uses include matching collocations, completing collocations, collocation games, correcting errors in collocations, and using dictionaries. The result of his study proves that the students in the experimental group demonstrated better retention of vocabulary than those in the other group. The students who were taught with the syllabus of the collocation-based instruction outperformed those with the traditional wordlist-based instruction on the two nationwide academic trial tests out of the total four tests.

Seung-Jung Kim (2007) investigates the relationship between L2 parsing skills and L2 reading fluency. By giving two differently parsed texts: the abnormally parsed text to the control group and the correctly parsed text to the experimental group, he tries to find out whether such a difference in the text brings about any differences in accuracy and speed in understanding the text. The result of his study suggests that the experimental group who was given the correctly parsed text outperformed the control group both in accuracy and speed. The participants at the upper intermediate level in the experimental group achieved more improvements by using the correctly parsed text.

However, Hera Chu (2010) argues that her findings do not support Seung-Jung Kim's (2007) suggestion for the upper intermediate level as the right level for adopting L2 parsing skills. She investigated how Korean college students' chunking ability in both oral and silent reading affects their reading comprehension. The result of her study illustrates that chunking both orally and silently positively affects students' reading comprehension ability. Chunking in silent reading, however, seems to be more effective in improving their reading comprehension. Hera Chu argues that all levels of students including low levels should be encouraged to read both orally and silently to improve their reading ability.

Nakh-Bohk Kim (2008), in his more recent paper, discusses categorization of lexical chunks, types of collocations and idioms, and comparison between collocations and idioms. He also explains methods and strategies for teaching and learning chunks, emphasizing the importance of the role of teachers. It is noteworthy to learn from the result of his study that even though teachers understand the importance of teaching vocabulary, especially chunks and collocations, the time they allocate is meager and the methods and materials they heavily depend on are still traditional and outdated.

Taeduck Hyun (2007) and Nahk-Bohk Kim (2007) suggested various teaching techniques of chunks for middle school students and high school students respectively. Seung-Jung Kim (2007) and Hera Chu (2010) conducted studies towards college students. Nakh-Bohk Kim (2008) emphasized the importance of the role of teachers and suggested

various methods for teaching chunks. However, none of these researchers conducted a study on one specific method and how this method affects students' English ability. The study that this paper is going to discuss suggests one way of teaching and learning chunks of words. The method used in this study is 'noticing pauses' made by native speakers as well as using their intuitive and implicit knowledge of pausing when reading English sentences.

III. RESEARCH METHODS

1.   Research Hypotheses

This paper focuses on helping students perceive English sentences in properly parsed chunks. In order to help them do so, they were first given a lecture on the concept of chunks of words. Following the one-hour lecture, they practiced perceiving and noticing pauses while listening to the English text recorded by native speakers. The pauses we make to breathe and to deliver meaningful messages often indicate chunks which have various structures. Some explanations on the structures of chunks were delivered briefly during the one-hour lecture. This study assumes that by becoming acquainted with ways of parsing meaningful chunks of words, the students can acquire better knowledge of English and improve their reading skills. This teaching method is assumed to be effective for both high and low levels of students. Thus the hypotheses of the study are as follows:

1.   Teaching the concept of chunks of words and practicing chunking help the students improve in reading comprehension tests.
2.   This teaching method is effective for both high and low levels of students.
3.   The participants actually improve in their chunking skills.

2.   Participants

Seventy-nine students participated in this study majored in tourism in a women's college in Seoul. The students took the course "English Reading and Writing (1)" in the first semester of the year 2010. As Table 1 shows, the experimental group consisted of forty-three students and the control group consisted of thirty-six students. Two different classes—one for the experimental and the other for the control—were chosen randomly by the researcher-instructor. At the beginning of the semester, they were given the test of 40 reading comprehension questions from Part 7 of Practice Test Two of Longman New TOEIC (Loughheed, 2006) to measure differences between the two groups in their reading

comprehension proficiencies. The average score of the TOEIC test of the experimental group was 20.07 out of the total 40 while that of the control group was 20.04. There was no meaningful difference between the two groups in their reading comprehension abilities at the beginning of the study. The students in the experimental group were divided into two levels based on its mean score of 20.07. Twenty-two students who got 21 or above 21 correct questions were put into the high-level group and twenty-one students who got 20 correct questions or below were put into the low-level group. The average score of the TOEIC test of the high group was 25.45 while that of the low group was 14.43.

Table 1

Characteristics of the Participants

	Levels	Number of students	Mean score of TOEIC
Experimental group	Total	43	20.07
	High-level	22	25.45
	Low-level	21	14.43
Control group	Total	36	20.04

3. Procedure

This study focuses on teaching students ways to perceive and recognize meaningful chunks of words while they are reading an English text. The main text they used was a course packet in which various articles on the tourism industry and related fields were included. The first lecture was given in the second week of the semester on the concept of chunks of words and their structures. It was explained that the chunks that the students may recognize easily come in various forms. Even though the list of different structures of chunks shown in Table 2 does not include all kinds, it has some major forms including forms such as a noun-noun phrase, an adjective-noun phrase, an adverb-adjective phrase, a verb-noun phrase, a verb-(noun)-adverb phrase, a verb-preposition phrase, and a prepositional phrase.

Table 2

Examples of Different Structures of Chunks

	Types	Examples
(1)	N+N	the bottom line; competition yoga; stone cities
(2)	Adj+N	a grand gala; exotic destinations; virtual tours; new tourists
(3)	Adj+Prep+N	different from each other; serious about her work

(4)	Adv+Adj	very special; extremely rich; beautifully done;
(5)	V+N+(N)	start a business; give me a break; wear make-up
(6)	V+(N)+Adj	find it difficult; seem frightening; keep his customers dry
(7)	V+(N)+Adv	add up; break up; calm down; try it on; ease off; get by
(8)	V+Adv+Prep+N	go out of business; come up against criticism
(9)	V+Prep+N	look for holidays; iron out difficulties; point out the mistake
(10)	To-infinitive+(N)+(Adj / Adv)	to make things worse; to put it simply; to sum up
(11)	Gerund+(N)+(Adj / Adv)	having done shopping; being worried; finishing work early
(12)	Prep+N	with its great mountains; on the Atlantic coast; on the go
(13)	S+V+(N)	that is; you name it; the early bird catches the worm
(14)	Conj+S+V	if you insist; before you leave; if I could; because I know
(15)	Conj+(Present / Past)Participle	while driving; when asked; while singing; when possible

The students in the experimental group were encouraged to use their intuitive and implicit knowledge of pausing when reading English sentences both orally and silently to breathe and to deliver meaningful messages. Most of the time, they were given chances to practice chunking based on the first lecture. They practiced perceiving and noticing pauses as indicators of chunks while listening to the English text recorded by native speakers. The researcher-instructor also tried to read in chunks taking longer pauses so that the students could easily recognize where to pause.

The students practiced marking chunks by drawing either "v" or "/" in the text they studied. They listened to some English passages from the book "English for International Tourism (Dubicka & O'Keeffe, 2004)." They were given two copies of the same passage. They were first asked to chunk the passage on the first copy based on their intuitive knowledge before listening to the recorded tape. And then they were asked to mark chunking on the second copy as they listened to a native speaker reading the passage. After completing the task, they were asked to compare the two marked passages. Example (4) shows the marked passage done by one of the students before listening to the native speaker's recording:

Example (4)
"As we know, / people in western, / industrialized countries generate / most of the demand in the tourism industry. / These people / are now living / longer / and / I believe this / will affect the types of tourism people / will want in the future./ People will also probably take/ fewer / long / holidays, / that is, / a week or more, / say,/ but instead /

short weekend breaks / will become / more popular / because of / changes / in the way people work.

In this example, there seem to be too many marks used unnecessarily. Some marks are put appropriately but also some are put inappropriately. Such cases include the marks between "generate" and "most," between "living" and "longer," between "this" and "will," between "take" and "fewer," between "fewer" and "long," between "long" and "holidays," between "become" and "more," and between "of" and "changes." However, after listening to the passage read and recorded by the native speaker, she put markings as follows in Example (5):

Example (5)
"As we know, / people in western, industrialized countries / generate / most of the demand / in the tourism industry. / These people are now living longer / and I believe this will affect the types of tourism people will want in the future./ People will also probably take/ fewer long holidays, / that is, a week or more, say,/ but instead short weekend breaks will become more popular / because of changes in the way people work.

In the second copy, the student used 11 marks while she used 24 marks in the first copy. Her marks decreased as she used them more correctly where necessary. This second copy shows many similarities compared to the marking done by the native speaker teacher as in Example (6):

Example (6)
"As we know, / people in western, / industrialized countries generate most of the demand / in the tourism industry. / These people are now living longer / and I believe this will affect the types of tourism people will want in the future./ People will also probably take fewer long holidays, / that is, / a week or more, / say,/ but instead short weekend breaks will become more popular because of changes in the way people work.

The students in the experimental group were encouraged to explain the meaning of a sentence or a paragraph using chunks of words. They were asked to read, think, and understand in chunks. When the teacher wanted to check whether the students understood meanings of words, sentences, and paragraphs, she asked for meanings in chunks not meanings of individual words. When the students had to give a group presentation on the meaning of the text they were assigned, they had to write the English sentences with chunking marks on their PowerPoint material, and explain the meaning in chunks to the

whole class.

4. Tests and Questionnaire

Table 3 shows all the tests and the questionnaire that the students in the experimental group took during the study. In the first week of the semester, the experimental group students were given the pre-test of 40 reading comprehension questions from a TOEIC test to divide them into two different levels. To measure the improvement in their reading comprehension ability, the post-test of 40 reading comprehension questions from a TOEIC test were given on the 15th week of the semester. The 40 questions excerpted from Part 7 of Practice Test Two of Longman New TOEIC (Loughheed, 2006) for the pre-test were also used for the post-test.

Table 3

Tests and Questionnaire Given to the Experimental Group

Tests & questionnaire	When	Number of questions (score)
Pre-test of 40 reading comprehension questions from a TOEIC test	1st week	40 (40)
Pre-test of 5 reading comprehension questions from a TOEIC test	4th week	5 (5)
Mid-term exam	8th week	40 (20)
Pre-test of 5 chunking questions	8th week	5 (2.5)
Post-test of 40 reading comprehension questions from a TOEIC test	15th week	40 (40)
Post-test of 5 reading comprehension questions from a TOEIC test	15th week	5 (5)
Questionnaire	15th week	10 (Likert scale)
Final exam	16th week	40 (20)
Post-test of 5 chunking questions	16th week	5 (2.5)

After teaching them some basic knowledge of chunks of words and practicing marking pauses for chunks, the students of the experimental group were given 5 reading comprehension questions on two articles from a TOEIC test. They were first asked to mark slashes in the articles and then solve the 5 reading comprehension questions. The same test sheet was used on the 15th week for the post-test of 5 reading comprehension questions. The reason for giving the students the 5 reading comprehension questions in addition to the 40 reading comprehension questions was to give them a chance to notice chunking in the articles and get better understanding of them before they solved the questions. It was also designed to find out how this method of noticing chunks affected their performances of

solving reading comprehension questions.

In the 8th week, the mid-term exam was given to them. After the mid-term exam, the 5 chunking questions (see Appendix A) were also given to evaluate the students' chunking ability. On the 16th week, they had to take the final exam for the course "English Reading & Writing (1)." 5 questions (see Appendix B) different from the previous ones were included in the post-test of 5 chunking questions. A questionnaire survey (see Appendix C) was also conducted on the experimental group to find out how they felt about the effects of learning chunks of words on their reading comprehension ability. The control group took the same final exam and the 5 chunking questions.

IV. RESULTS AND DISCUSSION

Table 4 shows that there are statistically meaningful differences between the experimental group and the control group, both in the final exam of the course and the 5 chunking questions. Those who learned chunking performed better than those who did not, both in the final exam and in the 5 chunking questions. It is reasonable for the students in the experimental group to perform better in the 5 chunking questions because they learned chunking. The effects of learning chunking become evident in the final exam, which includes reading comprehension questions for the passages the participants read during the semester. The students in the experimental group performed better both in the test directly related with chunking and the test indirectly related with chunking but asking questions that evaluated general reading comprehension ability. This supports the first research hypothesis that teaching and practicing chunking helps the students improve in their reading comprehension ability.

Table 4

Results of the Final Test and the Post-test of 5 Chunking Questions of the Experimental Group and the Control Group

	Group	N	Mean	SD	*p-value*
Final exam*	Experimental	43	14.47	4.837	.017
	Control	36	11.69	5.247	
Post-test of 5 chunking questions**	Experimental	43	3.53	1.548	.007
	Control	36	2.53	1.665	

* p<0.05, **p<0.01

Table 5 shows that the forty-three students in the experimental group significantly improved in the post-test of 40 reading comprehension questions from a TOEIC test. In the 5 reading comprehension questions, their mean score increased in the post-test even though the improvement was not statistically meaningful. While the same 40 TOEIC reading comprehension test and 5 TOEIC reading comprehension test were used for both the pre- and post-tests, different questions were used for the mid-term and final exams and the 5 chunking questions. The mean scores of the mid-term exam and the final exam were almost the same. The average score decreased by 0.12 in the 5 chunking questions. The mean differences of both the mid-term and final exams, and the pre- and post-tests of 5 chunking questions were not statistically significant. Even though the results of the three other tests do not show significant improvements, the result of the 40 reading comprehension questions which measure overall reading comprehension ability supports the first research hypothesis.

Table 5

Results of the Pre- and Post-tests of the Experimental Group

	Pre-		Post-		*p-value*
	Mean	SD	Mean	SD	
40 reading comprehension questions from a TOEIC test**	20.07	6.581	25.77	8.532	.000
5 reading comprehension questions from a TOEIC test	2.78	1.557	3.22	1.406	.133
Mid-term exam/Final exam	14.49	4.350	14.47	4.837	.951
5 chunking questions	3.65	.973	3.53	1.548	.614

* p<0.05, **p<0.01

While the high-level group improved significantly only in the post-test of 40 reading comprehension test as shown in Table 6, the low-level group improved significantly both in the post-test of 40 reading comprehension test and the post-test of 5 reading comprehension questions as illustrated in Table 7. The results of the 40 reading comprehension tests indicate that this method of teaching chunks of words is helpful for both high-level students and low-level students. This supports the second hypothesis that the method of teaching chunking is effective for both levels. The significant improvement of the low-level students in the post-test of 5 reading comprehension questions may suggest that when lower-level students are given articles first to read in chunks they may perform better in solving reading comprehension questions. The method of perceiving and noticing chunks seems to be quite effective for lower level learners.

Table 6

Results of the Pre- and Post-tests of the High-level Group

	Pre-		Post-		*p-value*
	Mean	SD	Mean	SD	
40 reading comprehension questions from a TOEIC test**	25.45	3.814	31.73	3.411	.000
5 reading comprehension questions from a TOEIC test	3.62	1.284	3.52	1.030	.705
Mid-term exam/Final exam	16.45	2.595	16.55	2.907	.872
5 chunking questions	4.00	.816	3.82	1.368	.505

* $p<0.05$, ** $p<0.01$

Table 7

Results of the Pre- and Post-tests of the Low-level Group

	Pre-		Post-		*p-value*
	Mean	SD	Mean	SD	
40 reading comprehension questions from a TOEIC test**	14.43	3.218	19.52	7.789	.002
5 reading comprehension questions from a TOEIC test*	1.90	1.334	2.90	1.683	.031
Mid-term exam/Final exam	12.43	4.895	12.29	5.524	.780
5 chunking questions	3.29	1.007	3.24	1.700	.902

* $p<0.05$, ** $p<0.01$

In the pre-tests, the high-level group and the low-level group performed significantly differently in all the tests as shown in Table 8. However, Table 9 shows that in the post-tests, there were significant differences between the two groups only in the two tests: the test of 40 reading comprehension questions and the final exam. The students in the low group improved meaningfully in the post-test of 5 reading comprehension questions from the TOEIC test and the post-test of 5 chunking questions, resulting in no significant differences between the two groups at the end of the study. This suggests that the lower group students improved in their actual chunking as they developed their knowledge of where to pause and where not to pause. Their performance improved significantly in the tests directly related with chunking. Thus, for lower level students who struggle with some difficult reading comprehension questions, giving a chance to comprehend the passages with chunking marks before solving any reading comprehension questions might be helpful for them to answer the questions. One semester's treatment may not be long enough for low level students to improve significantly in general reading comprehension

questions in such tests as the TOEIC test and the final exam.

    On the other hand, it is also possible to interpret that since there were only 5 questions both in the 5 reading comprehension test and the 5 chunking questions test the students in the high-level group who got a perfect score of 5 in the pre-test did not have enough questions to demonstrate their improvements. In other words, the tests had a few questions to measure the high-level students' performances and improvements properly.

Table 8

Results of the Four Pre-tests of the High-level Group and the Low-level Group

	Group	N	Mean	SD	*p-value*
Pre-test of 40reading comprehension questions from a TOEIC test**	High	22	25.45	3.814	.000
	Low	21	14.43	3.218	
Pre-test of 5 reading comprehension questions from a TOEIC test**	High	22	3.62	1.284	.000
	Low	21	1.90	1.334	
Mid-term exam**	High	22	16.45	2.595	.002
	Low	21	12.43	4.895	
Pre-test of 5 chunking questions*	High	22	4.00	.816	.015
	Low	21	3.29	1.007	

* p<0.05, **p<0.01

Table 9

Results of the Four Post-tests of the High-level Group and the Low-level Group

	Group	N	Mean	SD	*p-value*
Post-test of 40 reading comprehension questions from a TOEIC test**	High	22	31.73	3.411	.000
	Low	21	19.52	7.789	
Post-test of 5 reading comprehension questions from a TOEIC test	High	22	3.52	1.030	.165
	Low	21	2.90	1.683	
Final exam**	High	22	16.55	2.907	.004
	Low	21	12.29	5.524	
Post-test of 5 chunking questions	High	22	3.82	1.368	.224
	Low	21	3.24	1.700	

* p<0.05, **p<0.01

Table 10 shows the results of the questionnaire survey. The reliability coefficient of the questionnaire measured by internal consistency methods is 0.690 (Cronbach's Alpha), indicating that its reliability is high. The students agreed with the Statement 4 "I think learning the concept of chunks of words helps me learn English" with the mean score of 3.93. The students thought that marking "v" or "/" helped them understand chunks of words as shown in the results of Statements 7 and 8. They thought marking chunks when they read by themselves and when they listened to native speakers read helped them recognize and understand chunks of words. They did not seem to use Korean and foreign internet portal sites to search for chunks of words. They disagreed with Statements 9 and 10.

Table 10

Results of the 10 Statements in the Questionnaire

	Questions	Mean
1	I think my English reading ability is very good.	2.74
2	I think learning chunks in the course "English Reading & Writing (1)" helps me to learn communicative English.	3.72
3	I knew the concept of chunks of words before I took the course "English Reading and Writing (1)" this semester.	3.35
4	I think learning the concept of chunks of words helps me learn English.	3.93
5	I think I have improved my ability to recognize chunks of words after studying the course.	3.54
6	I think more time should be given to learning and practicing how to understand and recognize chunks of words properly.	3.42
7	I think marking "v" or "/" at the place where I pause to breath while reading helps me understand chunks of words.	3.86
8	I think marking "v" or "/" at the place where a native speaker pauses to breath while reading or speaking helps me understand chunks of words.	3.93
9	I use ""Naver"" or other internet portal sites to search for chunks of words.	2.33
10	I use international portal sites such as ""Yahoo"" or ""Google"" or sometimes concordances to search for chunks of words.	2.37

Table 11 shows that Statement 4 is positively related with Statements 2, 5, 6, 7, and 8. This explains that they thought learning chunks of words in the course they took helped them improve their communicative English skills as well as their overall English ability. Thus they thought more time should be given to learning and practicing chunking. After completing the course, they thought that they improved their ability to recognize chunks of words. They also thought using such marks as "v" and "/" while reading helped them recognize and understand chunks. The results of the questionnaire survey suggest that the participants thought that learning the concept of meaningful chunks of words helped them learn English. Not only the results of the tests but also the results of the questionnaire show

that this method of perceiving and noticing chunks was helpful for the students who participated in this study.

Table 11

Pearson's Correlations Coefficients of the 10 Statements

	1	2	3	4	5	6	7	8	9	10
1	1	-.126	.635**	-.169	-.097	-.132	-.159	.114	-.421**	-.377*
2	-.126	1	-.041	.568**	.293	.478**	.535**	.568**	.406**	.261
3	.635**	-.041	1	.079	-.035	-.138	-.152	.001	-.334*	-.334*
4	-.169	.568**	.079	1	.346*	.453**	.504**	.435**	.338*	.291
5	-.097	.293	-.035	.346*	1	.550**	.375*	.346*	.288	.170
6	-.132	.478**	-.138	.453**	.550**	1	.527**	.453**	.445**	.291
7	-.159	.535**	-.152	.504**	.375*	.527**	1	.704**	.387*	.268
8	.114	.568**	.001	.435**	.346*	.453**	.704**	1	.286	.267
9	-.421**	.406**	-.334*	.338*	.288	.445**	.387*	.286	1	.787**
10	-.377*	.261	-.334*	.291	.170	.291	.268	.267	.787**	1

* $p<0.05$, ** $p<0.01$

For the third research hypothesis, this study analyzes the students' actual chunking on the 5 reading comprehension questions to find out whether and how they improved their chunking skills. They marked slashes in the articles both in the pre- and the post-test of 5 reading comprehension questions. Here are some examples of how some of the participants improved their chunking skills. Participant (A) who scored zero in the pre-test got 4 correct answers in the post-test. Example (8) shows how she chunked in the pre-test and how differently she chunked in the post-test. In the pre-test, she marked 7 chunks while she marked 4 chunks in the post-test. In the post-test, she got fewer markings but in more appropriate and necessary places. For comparison, a native speaker-teacher's chunking is given in Example (7).

Example (7): Native Speaker Teacher
"I thought it might be something special and interesting / if I invited them to your grand gala and ball."

Example (8): Participant (A)
"I / thought / it might be something special / and interesting / if I invited / them / to your

grand gala and ball." (the pre-test) → "I thought / it might be something special / and interesting / if I invited them to your grand gala and ball." (the post-test)

Participant (B) had even more chunks in the pre-test. She had 12 chunks in the pre-test and only 5 in the post-test. The number of her correct answers increased from 1 to 4. Such functional pronouns as "it" and "them" do not have to be separated as a chunk.

Example (9): Participant (B)
"I / thought / it / might be / something special / and interesting / if / I invited / them / to your grand gala / and / ball." (the pre-test) → "I thought / it might be something special / and interesting / if I invited them / to your grand gala and ball." (the post-test)

Participant (C) also improved in answering the 5 questions. She got only 1 correct answer in the pre-test and got 4 correct answers in the post-test. The number of chunks also decreased from 9 to 4.

Example (10): Participant (C)
"I / thought / it / might be something special / and interesting / if / I invited / them / to your grand gala and ball." (the pre-test) → "I thought it might be something special / and interesting / if I invited them / to your grand gala and ball." (the post-test)

According to Krishnamurthy (2003), corpus research suggests that native speakers tend to perceive larger 'chunks' of language. Some lower-level English learners may also show such larger 'chunks' of language as Example (3) shows with no chunking marks at all. This is due to the fact that they do not know where to separate and pause, not because they know the language well. Participants (A), (B), and (C) used fewer chunking marks in the post-test, perceiving larger chunks. This suggests that their knowledge of chunking has improved and their understanding of English structures has increased too. Such of their improvement is also supported by the scores in the post-test of 5 reading comprehension questions.

V. CONCLUSION

This study aimed to analyze and evaluate the effects of learning chunks of words on reading comprehension. To help improve the students' chunking skills, the instructor explained the importance of chunks of words and taught ways to chunk meaningful words during the lectures. Every participant was given a chance to explain the meaning of the

paragraph they were assigned on the basis of chunks of words. The students practiced chunking as they read the text themselves and listened to the text read by native speakers. They were told to mark slashes where they would pause while reading orally or silently, and where native speakers pause to take a breath. The results of the study show that the participants in the experimental group performed significantly better in the final exam and the post-test of 5 chunking questions. They also made meaningful progress in answering the 40 reading comprehension questions taken from a TOEIC test. Their improvements in the tests are reinforced by their improvements in the performances of chunking.

The results of the tests show that this method of learning chunks of words is helpful for both the high-level group and the low-level group. Both groups scored better in the post-test of 40 reading comprehension questions. The lower level students also performed better in the post-test of 5 reading comprehension questions in which they chunked the sentences in the articles first before they answered the five questions. This may suggest that the method of perceiving and noticing chunks was immediately effective for lower level students. In all the four pre-tests, the differences between the high-level group and the low-level group were significant. However, the statistical difference only remains in the post-test of 40 reading comprehension questions and the final exam. Their performance in the test of 5 reading comprehension questions and the test of 5 chunking questions improved to the level of the performance of the high group. This may also indicate that instant chunking before solving the reading comprehension questions was helpful and their actual chunking skills improved.

The results of the questionnaire survey suggest that the participants thought that learning the concept of chunks of words helped them in learning English, especially communicative English. They were not familiar with the concept of chunks of words before taking the course. They thought using "v" or "/" to indicate chunking was quite helpful and wanted to spend more time on learning and practicing how to understand and recognize chunks of words properly. They did not seem to use such internet portal sites as "Naver", "Yahoo", or "Google" to search for chunks. This result suggests that the method of perceiving and noticing chunks is desirable for a syllabus of English reading. Telling students to use internet portal sites to find out chunks of words frequently used can also be included in the syllabus.

One of the most important results of this study is that some lower level students may misunderstand the text due to their lack of knowledge or improper knowledge of chunking. The students who showed improper chunking with very low scores in the pre-test improved significantly in the post-test in which they not only scored better, but also actually improved in chunking. They must have had some difficulties in recognizing meaningful chunks of words, thus dividing sentences inappropriately. Dividing sentences at inappropriate places indicates their incorrect perception of chunks of words. It might

also be true that even higher level students may have some difficulties in recognizing and understanding chunks when sentences are more complexly structured. In the pre-test of 5 reading comprehension questions, some of the participants tended to break sentences into smaller bits of words while others did not know where to pause and indicated no chunking marks at all. Some tended to separate pronouns such as 'I' and 'it' from their accompanied verbs. Some considered the object pronoun "them" as a chunk while others regarded 'if I' as a chunk. However, in the post-test of 5 reading comprehension questions for two articles, some chunked more efficiently and in more appropriate places. Therefore this study concludes that teaching both high- and low-level students to perceive and notice chunks is effective for their English reading comprehension.

REFERENCES

Chu, Hera. (2010). Effects of chunking on reading comprehension of EFL learners: Silent vs. oral reading. *English Language & Literature Teaching, 16*(3), 19-34.

Conklin, K., & Schmitt, N. (2008). Formulaic sequences: Are they processed more quickly than nonformulaic language by native and nonnative speakers? *Applied Linguistics, 29*(1), 72-89.

Cowie, A. P. (1988). Stable and creative aspects of vocabulary use. In R. Carter & M. McCarthy (Eds.), *Vocabulary and language teaching* (pp. 126-139). London: Longman.

Dubicka, I., & O'Keeffe, M. (2004). *English for international tourism*. Harlow: Longman.

Flowerdew, L. (2003). A combined corpus and systemic-functional analysis of the problem-solution pattern in a student and professional corpus of technical writing. *TESOL Quarterly, 37*(3), 489-511.

Frazier, S. (2003). A corpus analysis of *would*-clauses without adjacent *if*-clauses. *TESOL Quarterly, 37*(3), 443-466.

Howarth, P. (1998). Phraseology and second language proficiency. *Applied Linguistics, 19*(1), 24-44.

Hyun, Taeduck. (2007). The effect of learning collocations on improving English proficiency. *Modern English Education, 8*(1), 191-209.

Kennedy, G. (2003). Amplifier collocations in the British National Corpus: Implications for English language teaching. *TESOL Quarterly, 37*(3), 467-487.

Kim, Nahk-Bohk. (2007). Effects of collocation-based vocabulary instruction on improving English reading ability for high school learners. *English Language & Teaching, 13*(3), 157-176.

Kim, Nakh-Bohk. (2008). Teaching in chunks: Facilitating English proficiency. *Modern*

English Education, 9(1), 30-51.

Kim, Seong-shik. (2007). Corpus and English education. *English Teaching, 62*(2), 281-307.

Kim, Seung-Jung. (2007). The importance of L2 parsing skills for L2 reading fluency. *English Teaching, 62*(2), 31-46.

Krishnamurthy, R. (2003). Language as chunks, not words. *JALT 2002 Conference Proceedings, Shizuoka, Japan,* 288-294.

Lee, Hyun Jin, & Lee, Eun-Joo. (2010). The effects of corpus-based vocabulary tasks on high school students' English vocabulary learning and attitude. *English Language & Literature Teaching, 16*(4), 239-265.

Loughheed, L. (2006). *Longman new TOEIC: Introductory course*. New York: Longman.

Nesselhauf, N. (2003). The use of collocations by advanced learners of English and some implications for teaching. *Applied Linguistics, 24*(2), 223-242.

Oh, Sun-Young. (2007). A corpus-based study of epistemic modality in Korean college students' writings in English. *English Teaching, 62*(2), 147-175.

O'Keeffe, A., & Farr, F. (2003). Using language corpora in initial teacher education: Pedagogic issues and practical applications. *TESOL Quarterly, 37*(3), 389-418.

Pawley, A., & Syder, F. H. (1983). Two puzzles for linguistic theory: Nativelike selection and nativelike fluency. In J. C. Richard & R. W. Schmidt (Eds.), *Language and communication* (pp. 191-226). New York: Longman.

Schmitt, N. (2004). *Formulaic sequences: Acquisition, processing and use.* Amsterdam: John Benjamins.

Simpson-Vlach, R., & Ellis, N. C. (2010). An academic formulas list: New methods in phraseology research. *Applied Linguistics, 31*(4), 487-512.

Simpson, R., & Mendis, D. (2003). A corpus-based study of idioms in academic speech. *TESOL Quarterly, 37*(3), 419-441.

Sinclair, J. (1991). *Corpus, concordance, collocation*. Oxford: Oxford University Press.

Thornbury, S. (2002). *How to teach vocabulary*. London: Longman.

Wray, A. (2000). Formulaic sequences in second language teaching: Principle and practice. *Applied Linguistics, 21*(4), 463-489.

Wray, A. (2002). *Formulaic languages and the lexicon*. Cambridge: Cambridge University Press.

Wray, A. (2010). Formulaic language: Pushing the boundaries. *Applied Linguistics, 31*(1), 163-166.

Yu, Taeha, & Yoo, Isaiah WonHo. (2010). Korean university students' use of prepositional verbs: A corpus-based study. *English Teaching, 65*(4), 403-424.

APPENDIX A
Pre-test of 5 Chunking Questions

Directions: Choose the most inappropriate marking of chunking and circle the number in each question.

(1) In Europe /① you see something done differently /② which can help you /③ with the same procedure back home, /④ looking at it from /⑤ a different angle.

(2) One of the oldest /① and best places to /② go /③ is the Luk Yu Tea House /④ on Stanley Street.

(3) Seo alluded to /① future /② plans /③ of furthering this path /④ for national publicity.

(4) Turkish food /① has some of its origins /② in the lifestyle of the people that /③ lived in this region /④ during the time of the Sultans.

(5) For me, /① it's always important /② to know /③ who I will guide /④ for beforehand.

APPENDIX B
Post-test of 5 Chunking Questions

Directions: Choose the most inappropriate marking of chunking and circle the number in each question.

(1) The prices are less /① expensive /② than the other two /③ and they can accommodate /④ all our seat requirements.

(2) I know /① it is not easy to /② find flights /③ with the convention /④ only two weeks away.

(3) On Tasty Tuesday, /① our head chef whips up /② a culinary masterpiece /③ of his /④ own invention.

(4) Choose from /① a selection of sizzling /② curries and tempting noodle dishes, /③ all /④ served with /⑤ a generous bowl of rice.

(5) Filled with /① authentic smells, cushions, wall ornaments and trinkets from Southeast Asia, /② walking into Buddha's Bungalow /③ is like /④ being whisked /⑤ away to Thailand.

APPENDIX C
Questionnaire

Directions: This questionnaire aims to find out what thoughts you have had on the method of learning chunks of words for the past one semester.

(1) I strongly disagree   (2) I disagree   (3) so so   (4) I agree   (5) I strongly agree

1.   I think my English reading ability is very good.
     (1)   (2)   (3)   (4)   (5)

2. I think learning chunks in the course "English Reading & Writing (1)" helps me to learn communicative English.

    (1)   (2)   (3)   (4)   (5)

3. I knew the concept of chunks of words before I took the course "English Reading & Writing (1)" this semester.

    (1)   (2)   (3)   (4)   (5)

4. I think learning the concept of chunks of words helps me learn English.

    (1)   (2)   (3)   (4)   (5)

5. I think I have improved my ability to recognize chunks of words after studying the course

    (1)   (2)   (3)   (4)   (5)

6. I think more time should be given to learning and practicing how to understand and recognize chunks of words properly.

    (1)   (2)   (3)   (4)   (5)

7. I think marking "v" or "/" at the place where I pause to breath while reading helps me understand chunks of words.

    (1)   (2)   (3)   (4)   (5)

8. I think marking "v" or "/" at the place where a native speaker pauses to breath while reading or speaking helps me understand chunks of words.

    (1)   (2)   (3)   (4)   (5)

9. I use "Naver" or other internet portal sites to search for chunks of words.

    (1)   (2)   (3)   (4)   (5)

10. I use international portal sites such as "Yahoo" or "Google" or sometimes concordances to search for chunks of words.

    (1)   (2)   (3)   (4)   (5)

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