

## The Correlation between Test-taking Strategy Use and Reading Comprehension Test

**Eunkyong Haam**

(International Graduate School of English)

**Haam, Eunkyong. (2006). The correlation between test-taking strategy use and reading comprehension test. *English Teaching*, 61(3), 3-28.**

This study examines whether test-taking strategy use is different by students' reading proficiency level. The relationship between students' test-taking strategy use and English reading comprehension level is examined through data collected from an administered reading comprehension proficiency test and a retrospective questionnaire. Initially, 539 students of 14 classes from three public middle schools in Seoul and the Gyeonggi province area of Korea participated, but only 305 students who finished both the reading comprehension test and the test-taking strategy questionnaire were considered as subjects. The results of this study indicate that high English reading proficiency students are more accustomed to using test-taking strategies and use more test-taking strategies than low-level students do. The categories of strategies that students use are more specifically revealed through the factor analysis, indicating there are five categories of test-taking strategies that test-takers use: 'clarifying uncertain information,' 'monitoring understanding,' 'considering passage structure,' 'using L1 information,' and 'managing test-taking time.'

### I. INTRODUCTION

According to *The national curriculum for English I*, the main purpose of teaching English is "to help students to be confident and interested in English and enable them to communicate in English" (Ministry of Education, 1998, p. 29). Therefore, the testing of English should also focus on assessing the communicative ability while keeping a balance between the four language skills: reading, writing, listening, and speaking. However, even though the mainstream of English language teaching emphasizes the importance of communicative ability, reading skill is considered the most convenient skill to assess (Vincent, 1997; Weir, 1997). In other words, since reading is the most often tested skill, it is considered the most important factor out of the four skills, especially for English testing

in Korea. One of the most significant pieces of evidence showing how much reading skills are considered important is the College Scholastic Ability Test (CSAT), which includes 33 reading questions out of fifty items of the English exam, making up 70 percent of the test. Since getting a good score on tests shows having an ability in that subject, many students focus on improving their scores rather than improving their actual reading comprehension ability through extensive reading (Song, 1998). One of the ways that students prepare for improving test scores in a short time is learning test-taking strategies, which is criticized since the score acquired by using strategies does not represent the test-taker's actual English ability but, at the same time, believed helpful for improving test scores (Dolly & Williams, 1986, as cited in Stough, 1992).

Many researchers have discovered that good learners are strategic, metacognitively active in selecting strategies, and monitor their progress in order to successfully accomplish given tasks (Macaro, 2001; O'Malley & Chamot, 1990; Oxford, 1990; Rubin 1975). In Hwang (2001), an ESL student, who had all the qualities of a good language learner as mentioned above, showed enormous progress in her reading skill. Even though she was a good learner, she did not know much about specific strategies in the early stages of learning English, but she discovered effective reading strategies by herself through reading continuously. Similarly, according to Chong (1985), students' reading skills change from non-strategic stages to more strategic stages in both the amount and the kinds as they experience more reading. By using interviews and logs, Chong found that students simply depend on their L2 linguistic knowledge solely in the elementary stages. However, the more reading experience students had, the more they tried to apply non-linguistic knowledge, i.e., strategies. The term, strategies, has started from language learning strategies, defined as conscious/semi-conscious, and goal-driven thoughts and behaviors, which are involved in language learning cognitively, metacognitively, socially, and affectively to facilitate a language learning task (Chamot, 2005; Cohen, 2002; O'Malley & Chamot, 1990; Oxford, 1990).

Although using test-taking strategies is criticized as mentioned above, if test-taking strategies are one of the features that high proficiency students use, are helpful to improve students' reading test scores, and affect their confidence in a positive way, EFL teachers are asked to examine whether to teach test-taking strategies explicitly in their class to make students more confident and motivated. In this current research, to see whether test-taking strategies are prominently used more by high proficiency students than lower proficiency students, and what kind of test-taking strategies are used by test-takers, the relationship between students' test-taking strategy use and English reading comprehension level is examined through data collected from an administered reading comprehension proficiency test and a retrospective questionnaire. The specific research questions examining the data are as follows:

- (1) Do high reading proficiency level students use more test-taking strategies?
- (2) What kind of test-taking strategies do test-takers use?

## II. THEORETICAL BACKGROUND

### 1. Language Learning Strategies

Since Rubin (1975) introduced the term ‘a good language learner,’ many researchers have tried to seek who the good language learners are and what characteristics they have, because knowing these characteristics would be beneficial to second or foreign language learners (O’Malley & Chamot, 1990; Oxford, 1990; Prokop, 1989). One of the achievements from the trials of seeking good language learner’s characteristics was the notion ‘communicative competence.’ Canale and Swain (1980) pointed out that the knowledge of grammatical rules and vocabulary are only a part of communicative competence and there are more components we need to use a language for communicative purposes. They define the three components as grammatical, sociolinguistic, and strategic competence. In other words, a good language learner needs to have appropriate strategic and socio-cultural knowledge as well as linguistic knowledge.

Oxford (1990) defines language learning strategies as “specific actions taken by the learner to make learning easier, faster, more enjoyable, more self-directed, more effective, and more transferable to new situation” (p. 8). There were many trials to categorize this: Oxford (1990), for example, divides language learning strategies into direct and indirect strategies. Memory, cognitive, and compensation strategies were included in the direct category while metacognitive, affective, and social strategies were in indirect strategies. Rubin (1981) also divided the strategies to two primary categories: strategies that directly affect learning; and processes that contribute indirectly to learning. Clarification/verification, guessing/inductive inferencing, deductive reasoning, practice, memorization, and monitoring are included as six subcategories. There are many more ways of dividing language learning strategies and the categorization each researcher uses is different from one another, but the most generally accepted categorization appears to be cognitive, metacognitive, and social/affective strategies (O’Malley & Chamot, 1990; Wenden & Rubin, 1987).

As mentioned above, many researchers have identified that the good language learners are mentally active, strategic and apply language learning strategies when they learn a second or foreign languages (Macaro, 2001; O’Malley & Chamot, 1990; Oxford, 1990; Rubin 1975; Takeuchi, 2003). Cohen (1998) suggests that language learners, who actively and creatively participate in the learning process by applying their own individualized

learning methods, show prominent results, not those who merely have a high degree of language aptitude and motivation. More recently, research has shown that not only successful language learners but also less successful learners use language learning strategies, but the kind of language learning strategies they use are different (Chamot & El-Dinary, 1999; Vandegrift, 1997). For example, Mochizuki (1999) has found that high proficiency students use cognitive and metacognitive strategies more than low proficiency students, while both high and low proficiency students use compensation strategies the most and affective strategies the least.

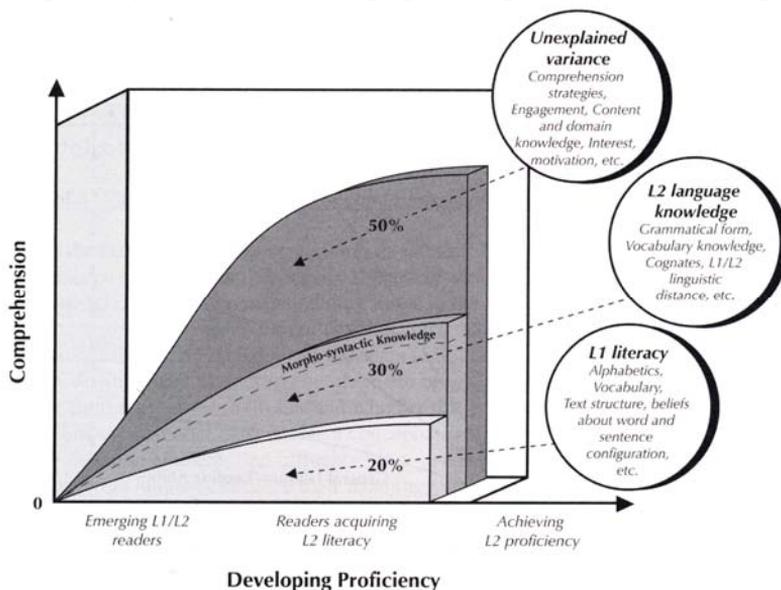
Khalil (2005), however, suggests that the language learning strategies that successful and less successful learners use are the same but differ in degree. In Khalil's research, a total of 378 EFL high school and university students were asked to answer 50 items of Strategy Inventory for Language Learning (SILL) designed by Oxford (1990) and translated by Khalil, which contained six categories: memory strategies, cognitive strategies, compensatory strategies, metacognitive strategies, affective strategies, and social strategies. Khalil considered the university level students had high proficiency and were more successful in learning English than the high school students. The results showed that both high and low proficiency students used language learning strategies; furthermore, even though the high proficiency learners used more memory, cognitive, compensatory, metacognitive, and social strategies, there was no difference in the amount of affective strategies used.

## 2. Reading Comprehension Strategies

Reading to understand a text and reading to solve a given question in a test setting is similar, since the main purpose of both readings is to find the required information from the given text as fast and accurately as possible. Anderson (1991) and Phakiti (2003) conclude that students who actively use cognitive and metacognitive strategies in test-taking settings are more likely to use these strategies in non-test situations, such as overall learning situations or for reading comprehension.

Reading comprehension, as with the other three language skills, is a complex cognitive process for which various factors related with texts and readers needs to be considered. Bernhardt (2005, p. 140) presents 'a compensatory model of second language reading' chart which divides the factors that affect second language reading into three categories: L1 literacy, such as L1 vocabulary and text structure; L2 language knowledge, such as L2 grammatical form and vocabulary knowledge; and unexplained variance such as comprehension strategies and content/domain knowledge. She notes fifty percent of second language reading depends on the third factor where reading comprehension strategies are included.

**FIGURE 1**  
**A Compensatory Model of Second Language Reading (from Bernhardt, 2005, p. 140)**



Song (1999) performed an experiment to compare the magnitude of the impact of reading strategies to that of the second language knowledge, such as grammar and vocabulary, on L2 reading ability. From the result of a stepwise regression analysis, Song shows that students' use and awareness of reading strategies are the most important predictor, not vocabulary or grammar knowledge as Bernhardt (2005) suggests.

According to O'Malley and Chamot (1990), there are four principal strategies that have to be taught: inferencing, deduction, elaboration, and transfer. The inference strategy is used when readers use context to guess the meaning of unknown words, while the deduction strategy is used when readers use grammar rules to elicit the meaning of new words. The elaboration strategy is used when students make decisions about possible meaning using prior background knowledge, and the transfer strategy is used when students apply their L1 knowledge to provoke the understanding of L2. However, the efficacy of using these reading strategies are different from person to person since their background knowledge, style, purpose of reading, L1 etc. are different (Kirby, 1988). Even though there are some researchers who are suspicious of the effectiveness of reading strategy teaching, there also are some researchers who support it due to the differences between L1 and L2 linguistic knowledge that readers have. Sharp (2004), for example, found that the difficulty most Hong Kong students face in understanding the given reading texts, is related to the different rhetoric and text patterns between their L1 to L2. Sharp divided the participants into four ability groups and randomly distributed one of four

reading texts: description, cause-effect, listing or problem-solving text. After reading the given text, students were asked to do the cloze and recall test. The results showed that no matter what proficiency level the students were at, they felt they had the most difficulty on reading and understanding the *description* text, whose rhetorical pattern was very different from Chinese, and felt the least amount of difficulty on the *cause-effect* text, whose rhetorical pattern exists in Chinese. From the results, Sharp insists that English teachers need to teach the different structures and reading strategies to reduce difficulty. Similarly, Parry (1996) notes that students from different L1 use different reading strategies and experience different difficulties based on their L1 and culture.

To examine the efficacy of teaching reading strategies, some researchers have compared what strategies high proficiency students use with what strategies low proficiency students use. Keiko (1999), for example, shows the different kinds of strategy used between high and low proficiency students. In this study, 100 Japanese sophomore students, who already learned and practiced skimming and scanning skills in their freshmen years, participated in an extensive English reading class. Keiko divided the students into two groups to determine how students' reading strategies were changed by their English proficiency level. According to the research, the high proficiency students used top-down processing, such as guessing by contexts, searching for clues, and using background knowledge, while the low proficiency students used bottom-up processing such as translating into their L1 and using dictionaries. As the classes continued, the low proficiency students' use of contextual guessing became more frequent while their tendency to translate reading passages into their L1 and dependence on dictionaries became less frequent. Yamashita (2003) also performed an experiment that concluded that test-taking processes between skilled and less skilled EFL readers are different. It is reported that both skilled and less skilled readers used context level clues such as adjacent context or text structure more frequently than other levels of information, but skilled readers used text-level information more frequently than less-skilled readers. However, unlike Keiko (1999) and Yamashita (2003), Kim (1993) insists that the reading strategies of both high and low proficiency students' use are similar in kind; the only difference is the amount used. That is, even though both group use similar kinds of reading strategies, high proficiency group use reading strategies more frequently.

Although reading strategies is used more and differently by high proficiency students and helpful to reduce low proficiency students' difficulty in understanding the given texts, reading strategies alone are not enough. Hayashi (1999) notes that learning reading strategies without reading extensively is not enough to make an improvement in English reading comprehension. He insists that extensive reading in both L1 and L2 play a significant role in improving reading comprehension skills since it leads and motivates readers to discover various reading comprehension strategies for themselves. In his study, 100 Japanese university students participated in a reading class where reading strategies

were mentioned, and three quarters of them handed in reading reports after extensive reading. Hayashi also asked the students to complete a reading strategy-related questionnaire both before and after the course. Through comparison of the pre- and post-survey result, Hayashi found that the students showed a remarkable decrease in using L1 translation and dictionary and a remarkable increase in guessing by context. Furthermore, the researcher found that the students who participated in extensive reading showed outstanding improvement in their reading scores while the students who didn't participate in extensive reading showed negative improvement. Leppanen, Aunola, and Nurmi (2005) have also found that students who have reading competence by the end of their first year of elementary school are more likely involved in extensive reading activities and develop more reading skills.

### 3. Test-taking Strategies

While test-takers' linguistic knowledge plays an important role in test results, there are other cognitive factors that test-takers use to produce better results, i.e., test-taking strategies. Just as learners develop awareness about their own preferred learning styles and determine what language learning strategy repertoire to use (Cohen & Weaver, 1998), test-takers expand their own effective test-taking strategy repertoires. Although 'effective' test-taking strategies can vary by test-takers and test-taking situations, there are some overall general strategies which need to be taught (Kletzien, 1991): that is teaching how to apply proper strategies as well as what strategies to use (Phakiti, 2003). Though there are many ways of categorizing test-taking strategies, Yamashita's (2003) categorization of clause, sentence, text, and extra-textual level, as well as Lee's (2004) categorization of reasoning, managing, and guessing seem more appropriate.

Lee and Lee (2004) performed an experiment on the correlation between test-taking strategies and EFL reading comprehension test performance. According to the results of the EFL reading comprehension test and the test-taking strategy questionnaire, test-takers use test-taking strategies when their linguistic abilities are not enough to solve the given questions. Lee and Lee (2004) divided the test-taking strategies into three subcategories: reasoning, which is using background knowledge and contextual cues to deduce information; managing skipping items to solve the given questions under time constraint; and guessing depending on less or illogical abilities, such as feeling. Their study concluded that logical reasoning strategies based on reasonable clues made it possible for the test-takers to attain better results than using sheer guessing strategies or time management strategies.

Anderson, Bachman, Perkins and Cohen (1991) suggest another standard for dividing what kind of test-taking strategies test-takers use: test-takers use different strategies based

on their individual factors, such as purpose, interests, and background knowledge; and reading related factors, such as test-takers' proficiency levels, test type, and test difficulty. Phakiti (2003) similarly insists that differing language test performances are not only due to the different reading-related factors such as cognitive and metacognitive test-taking strategies test-takers use but also are due to the test-takers' individual factors.

Test-takers' proficiency level is considered another significant factor needing to be examined. Many researchers find that the test-takers who have different levels of linguistic ability use different test-taking strategies (Phakiti, 2003; Yamashita, 2003; Yau, 2005). Most of the researchers support the idea that high proficiency students use more strategies than low proficiency students. However, even though Purpura (1998) accepted the fact that different proficiency level students use different test-taking strategies which impact on second language test performance significantly, he suggests quite a different idea, that the higher level students use less strategies and are affected less by test-taking strategies. In Purpura's study, while the low proficiency students were affected more by metacognitive strategies than cognitive strategies, high proficiency students who had already achieved a certain degree of automatization were less affected by both of the strategies. Purpura also highlights the importance of lexico-grammatical ability which has equal amount of impact on reading ability for both high and low proficiency groups.

Nevo (1989) compared the processing of L1 and L2 reading comprehension test by using both introspective and retrospective reports from Hebrew secondary school students who learned French as a foreign language. Nevo divided the strategies into two groups: contributory strategy, such as using background knowledge and clues in the text; and non-contributory strategies, such as guessing and matching alternative with text. The results showed that students used contributory strategies more both for L1 and L2 reading questions but, the strategies students used for solving L2 reading questions misled them to choose incorrect answers more than the L1 reading questions.

Anderson et al. (1991) highlight another significant factor, question type and format. They reveal that EFL or ESL readers use different test-taking strategies according to the question types. 28 students who attended a university intensive ESL program were asked to solve 45 reading comprehension questions after learning think-aloud protocol. The result showed that test-takers employed strategies differently according to the question types. For example, more 'matching the stem with the text' strategy was used to solve inference type question than other types. Nevo (1989) also supports the notion that different question formats like multiple choice questions require different strategies.

As shown in this literature review, many researches present the efficacy and importance of learning what test-taking strategies are and how different strategies are used according to students' proficiency level, individual factors, reading-related factors, and question type and format. In this research, to decide what kind of question types and test-taking strategies

are necessary to be included in the reading comprehension test and the test-taking strategy questionnaire, pilot study was conducted. Out of the total 27 items that Jin and Park (2004) suggested, 12 question types that most of the participants of the pilot study showed improvement were selected to see whether some test-taking strategies are prominently used more by students' reading proficiency level.

### III. METHODS

As shown in the literature review, many researches present the efficacy and importance of learning what test-taking strategies are and how different strategies are used according to students' proficiency level, reading-related factors, and question type and format. In this current research, to decide what kind of question types and test-taking strategies are necessary to be included in the reading comprehension test and the test-taking strategy questionnaire, pilot experiment was conducted. Five books for improving high school students' English reading comprehension skill were examined to see what question types and test-taking strategies are presented. According to Jin and Park (2004, 2005), there were approximately 20 to 27 different types of items in the previously administered CSATs, but only 13 types of reading comprehension questions which were introduced commonly in the five textbooks as what students could apply were chosen: finding the topic, choosing an adequate title, deciding whether the answer is true or false, etc. To see whether the test-taking strategies for these 12 question types were teachable and different according to test-takers' reading comprehension ability, pilot experiment was conducted. Afterward to examine whether knowledge of test-taking strategies leads to a high English reading score as previously performed researches has shown, a larger numbered survey was administered.

#### 1. Pilot Experiment

##### 1) Participants

Ten students were selected from a private academy located in the east of Seoul area. All the participants were in their first year of high school and had never learned test-taking strategies for English reading comprehension tests. The level of the participants varied from upper-intermediate to lower-intermediate. During their summer vacation, students took an English reading comprehension test preparation course for six weeks. As the course was not obligatory, and as some of the students missed some classes due to summer holidays, only five among the ten students took both the pre- and post-tests.

## 2) Materials

A specially designed book, written and published by Education Broadcasting System (EBS) from whose books 70 to 80 percent of CSAT test questions were adopted, was used as the main material for the pilot experiment. The strategies introduced in the book mainly focused on teaching structures of English writing.

34 multiple choice questions, two tests with 17 items each, were selected from three model tests of the CSAT for measuring students' test-taking skills. Seven high school second graders who were not the subjects of this pilot study had taken these tests previously and said the levels of the pre- and post-test were similar. The test consisted of 17 items and one point was given for each correct answer, and the maximal score of the test was 17. The pre-test was administered at the beginning of the course and the post-test was administered at the end of the course.

## 3) Procedures

Nine students took the pre-test right before the course started and this was their third time taking a CSAT-type reading comprehension test. Six out of nine students couldn't finish the test. After taking the pre-test, students learned 13 test-taking strategies for six weeks. Among the 13 strategies were guessing what the given pronoun refers to, finding the purpose of the writing, filling in the blank with adequate conjunctions or adequate paragraphs, completing a summary, finding the gist or topic, choosing a title etc. Each category has its own strategies, but there are four main overall strategies, which might be familiar to experienced English readers. Many researches showed these main factors differ between skilled and less skilled readers (Shen, 2003; Stough, 1992; Yamashita, 2003). The four overall strategies are as follows:

- (1) Read the question rubric carefully and try to guess what the passage would be about based on some vocabulary from the options.
- (2) If the given multiple choice options were Korean, read the options first and try to guess what the passage would be about based on some vocabulary from the options.
- (3) In English writing, the main idea is usually shown at the beginning of the passage and/or restated at the end of the passage. Read the first and the last sentence carefully when you find the topic, gist, or title.
- (4) If there is a blank in a given passage, read the sentences before and after the blank.

Students had taken the course three times a week for six weeks. Each class was 70 minutes long. After the teacher taught the test-taking strategies, students had five minutes to solve three reading comprehension questions by themselves using the strategies. When students finished solving the questions, the teacher gave explanations about the questions. The post-test was administered at the end of the course.

## 2. Main Experiment

### 1) Participants

Although the participants for the pilot experiment were high school first graders, middle school students were chosen for this main experiment. Middle school students were chosen to balance the number of students who have experienced and have not experienced test-taking strategy lessons, as they were believed to be less exposed to test-taking strategies. Moreover, as Lee and Schallert (1997) mention, English levels, curriculum, and instruction at these two levels are quite similar in Korea.

The subjects of this study, initially, consisted of 539 students of 14 classes from three public middle schools in Seoul and the Gyeonggi province area of Korea. There were ten coeducational classes and four girls-only classes and each class had between 26 to 44 students. Each student took a reading comprehension test, which consisted of 12 reading comprehension questions and a questionnaire that consisted of thirty test-taking strategy related items. However, out of the 539 respondents, only 437 students finished both the reading comprehension test and the test-taking strategy questionnaire.

Students' levels were divided according to the mean score of the reading comprehension test results. Since the mean score of 437 students' reading comprehension test results was 5.72, the students whose score was six and five were excluded to amplify the differences between Levels. That is, the students whose score was higher than seven were classified as high level and the students whose score was lower than five were classified as low level. Descriptive statistics of the reading comprehension test results is reported below.

**TABLE 1**  
**Descriptive Statistics for Scores on the Reading Test by Level**

Level	N	Mean	SD
Low	164	2.83	1.07
High	160	8.86	1.56
Total	324	5.81	3.30

Out of the 324 students, 23 students did not complete the questionnaire. As a result, 102

students who did not finish both the reading comprehension test and the test-taking strategy questionnaire, 113 students whose reading comprehension test score was six and five, and 23 students who did not complete the questionnaire were excluded out of initial 539 students. That is 305 students were the final subjects.

## 2) Materials

The materials used in this study were a reading comprehension test and a questionnaire. There were nine reading passages and 12 questions; with the reading passages adapted from previously administered CSATs and modified for the level of participants, i.e., the level of middle school third graders. Each passage contained one or two questions related to 12 item types. All of the questions had directions in Korean and six out of 12 questions contained Korean multiple-choice options. The questionnaire contained 22 test-taking related items and eight general strategy and personal background related items (see Appendix B). All the questionnaires were presented in Korean.

### (1) Reading Comprehension Test

The reading comprehension test passages used for this study were adapted from previous CSATs and modified for the middle school third graders. The passages, however, were still more difficult and complicated than the textbook for the middle school third graders, even though the reading passages were graded based on target test-takers' level. The level of the reading comprehension test was intentionally settled at an *i*+1 level to enhance test-takers' test-taking strategy use. The students were given 25 minutes to complete the exam. Each passage contained one or two questions, related to the 12 item types which were taught in the pilot experiment. Each of the 12 items fall into one of four categories: two of them are in the domain of literal understanding, six in inferences, three in main idea, and one in application. All of the questions had Korean directions and six out of 12 questions contained Korean multiple choice options. There are two reasons why Korean was used for directions and multiple-choice options: First, based on Godev, Martinez-Gibson, and Toris' (2002) findings, using L1 directions and giving opportunities to respond in L1 is better to assess students' actual reading comprehension. Second, since guessing through L1 directions and multiple-choice options was part of the strategies that the present research wanted to examine, giving L1 directions and options were indispensable. Each item scored one point; therefore the maximal score for this reading comprehension test was 12.

### (2) Test-taking Strategy Questionnaire

The thirty-item test-taking strategy questionnaire used in this study was selected from Anderson et al.'s (1991) categorization of processing strategies; Both Phakiti's (2003)

cognitive and metacognitive questionnaire and Song's (1998) reading-strategy questionnaire were adjusted to suit the participants and translated into Korean. Eight items (14, 23, 24, 27, 36, 38, 39, 42) from Anderson et al.'s (1991) and 11 items (1, 3, 7, 8, 9, 13, 14, 15, 18, 20, 21) from Phakiti's (2003) questionnaire were chosen and combined into 15 general test-taking items. Seven items about specific test-taking strategies were borrowed from what were taught in the pilot experiment and nine items about personal opinions concerning strategy use and English study habits were chosen from Song (1998) and modified. The 15 general test-taking strategy items, the seven specific test-taking items, and the eight personal background items were mixed to prevent students from checking connected items without careful thought. Since the score from 15 general test-taking strategy items and the seven specific test-taking items were treated as students' test-taking strategy score, 22 items out of thirty were recoded for SPSS. All the questionnaire items were presented in Korean. The questionnaire used a seven-point Likert-type scale from 'strongly agree' (7) to 'strongly disagree' (1). The highest score of each item was seven; therefore the maximal score for the questionnaire was 210. However, as mentioned above, since only 22 items were recoded, the recoded sum of students' test-taking strategy score was 154. Later, the reliability of this test-taking strategy questionnaire was measured using Cronbach's alpha, calculated at 0.83.

### 3) Procedures

A total of 539 third-year middle school students of 14 classes from three public schools in the Seoul and Gyeonggi areas took a test that consisted of 12 reading comprehension questions. The test took 25 minutes to administer. Since the 12 reading comprehension questions were related with the subsequent questionnaire, which consisted of thirty test-taking strategies related items, students could retrospectively decide what kind and what amount of test-taking strategies they used when they had taken the reading comprehension test. Before students answered the questionnaire, class teachers explained some difficult terms and expressions used in the questionnaire for about five minutes. Ten minutes were given to complete the questionnaire. Even though the specific dates of administering this questionnaire were different by school and class, the questionnaire was administered during the first week of April, 2006.

### 4) Data Analysis

The purpose of the analysis was to check whether there were differences in using test-taking strategies according to test-takers' reading proficiency levels, and if there are any, what those strategies were and how they related with other factors, such as general

strategy use and common study habits. To achieve this purpose, an analysis of variance (ANOVA), a factor analysis, a multivariate analysis of variance (MANOVA), and a correlation analysis were carried out using SPSS version 11.5.

A one-way ANOVA was employed to examine whether there was any difference in general strategy use between high and low proficiency level students. The dependent variable was the test-taking strategy questionnaire scores and independent variable was their reading proficiency Level. The alpha level was set at .05 for one-way ANOVA. Next, a factor analysis was performed to discern the underlying test-taking strategy types, and a MANOVA was employed for the closer examination on the effect of using certain types of strategies if there was any difference in general strategy use between high and low proficiency level students.

## IV. RESULTS

### 1. Pilot Experiment

According to Table 2, the means of achievement scores in the pre- and post-test were 8.40 and 11.40, respectively.

**TABLE 2**  
**Descriptive Statistics of Pre- and Post-test Scores**

	N	Mean	SD
Pre-test	5	8.400	5.412
Post-test	5	11.400	3.209

The reading comprehension test score of four students out of five increased, and students also reported that they thought knowing the test-taking strategies were helpful to choose correct answers as many previous researches (Lee, 2004; Nevo, 1989; Phakiti, 2003; Stough, 1992; Yamashita, 2003) have shown.

### 2. Main Experiment

#### 1) Reading Comprehension Test Results

Out of total 539 students, only 437 students finished both reading comprehension test and test-taking strategy questionnaire and their reading comprehension test mean score was 5.72. However, only 324 students' reading comprehension test results were considered

valid data since the students whose score was six and five were excluded to amplify the differences between Levels. The mean score of 324 students' reading comprehension test results was 5.81. The mean score of 164 low level students' reading comprehension results was 2.83, and the mean score of 160 high level students' reading comprehension results was 8.86.

## 2) Test-taking Strategy Questionnaire Results

The score from 15 general test-taking strategy items and the seven specific test-taking items were treated as students' test-taking strategy score. Since it used seven-point Likert scales, the highest score of each item was seven; therefore the maximal score for the 22 test-taking strategy items was 154.

Out of the 324 students who were considered valid data for the reading comprehension test result analysis, 23 students did not complete the questionnaire. That is, only 305 students were considered valid data for test-taking strategy questionnaire result analysis.

The mean score of the test-taking strategy questionnaire by 154 low level students was 91.94, and the mean score by 201 high level students was 100.04 (see Table 4). To determine whether there was any overall difference between the test-taking strategy uses of the two levels, a one-way ANOVA was performed using the test-taking strategy scores. The one-way ANOVA showed significant group difference for the dependent variable. The level of significance for the test was set at .05. Descriptive statistics and the results of ANOVA are reported below in tables 3 and 4.

**TABLE 3**  
**Descriptive Statistics for Scores on the Test-taking Strategy Questionnaire by Level**

LEVEL	N	Mean	SD
Low	154	91.94	15.49
High	151	101.33	14.52
Total	305	96.59	15.71

**TABLE 4**  
**Source Table: ANOVA for Scores on Test-taking Strategy Questionnaire by Level**

Source	SS	df	MS	F	Sig.
LEVEL	6721.85	1	6721.85	29.80	.000
Error	68337.92	303	225.54		
Total	2920606.00	305			

There was statistically significant difference between the high and low level groups. A one-way ANOVA yielded an effect for the participants' English reading comprehension

Level,  $F(1, 303) = 29.80, p = .000$ , such that the test-taking use was significantly higher for high level students ( $M = 101.33, SD = 14.52$ ) than for low level students ( $M = 91.94, SD = 15.49$ ). Thus, the high level students used significantly more test-taking strategies than the low level students.

### 3) The Kinds of Strategies Used

To investigate the underlying structure of the test-taking strategies questionnaire used in this study, a factor analysis was conducted. Five factors (51.95%) were extracted in the initial eigenvalues and account for close to 50% of the total variance. The first factor included four items: item 10, 23, 25, 27; the second factor included six items: item 9, 11, 13, 14, 19, 22; the third factor included six items: 8, 17, 18, 21, 28, 29 and the fourth factor included five items: 2, 3, 4, 5, 7; the fifth factor covered one item: item 15.

According to the order of high loading, four items were included into factor 1 which was assigned the label of ‘clarifying uncertain information.’ As shown in Table 5, it was revealed that guessing through background knowledge and context was the main strategy that test-takers used to compensate for their lack of linguistic knowledge effectively, helping them to understand the given passage and reach the correct answer as a number of researchers have found prior to this study (Anderson et al., 1991; Phakiti, 2003).

Table 6 shows the second factor which is ‘monitoring understanding’ and six items were categorized into this label. According to the second factor, monitoring understanding related positively with the reading comprehension test results.

Table 7 represents the third factor which is ‘considering passage structure’ and six items were categorized into this label. According to the third factor, it was shown that strategic test-takers were positively related with using passage structure to take tests.

**TABLE 5**  
**Clarifying Uncertain Information**

	Item	Loading	Mean	SD
25.	If there is a sentence that I don't understand during reading the passage, I try to use my background knowledge to compensate my understanding.	.66	4.57	1.39
10.	If the given passage is about what I already know, I try to use my background knowledge to solve the question.	.63	4.61	1.49
23.	If there is vocabulary that I don't know the exact meaning, I try to guess it from the context of the given passage.	.45	5.08	1.41
27.	If the question is about ‘Understanding graph and chart’, or if there is pictures in the given test item, I look through them first before reading the given passage.	.39	4.34	1.37

**TABLE 6**  
**Monitoring Understanding**

	Item	Loading	Mean	SD
14.	I stop periodically while reading and mentally go over or review whether I understood what was said.	.56	4.24	1.50
19.	I read the passage repeatedly until I understand the meaning.	.50	4.68	1.48
11.	I keep reading the given passage carefully rather than guess or think of what the passage might be.	-.43	3.82	1.36
22.	If the question is about 'Putting a sentence for logical ordering', I read the passage first and then the given sentence.	-.42	3.78	1.57
13.	I underline the important words or phrases while reading.	.37	3.84	1.82
9.	While reading the given passage, I think what I know about the topic.	.32	4.35	1.40

**TABLE 7**  
**Considering Passage Structure**

	Item	Loading	Mean	SD
29.	If the question is about 'Guessing what the underlined pronoun refers', I read the previous part of the underlined pronoun most carefully.	.65	4.31	1.45
8.	I usually read the first and the last sentence more carefully.	.48	4.56	1.64
28.	If the question is about 'Completing a summary sentence', I read the given summary sentence and options first, and then try to guess what the passage might be about.	.47	4.44	1.30
17.	If the question is about 'Finding the purpose of the writing', I usually try to find the phrases that can show the writer's intension such as 'I'd like' or 'please.'	.44	3.85	1.55
18.	If the question is about 'filling the blank,' I first brows the options to find whether the questions is about 'Filling the blank with adequate conjunctions' or 'Filling the blank with adequate paragraph.	.42	3.67	1.61
21.	If the question is about 'Filling the blank with adequate conjunctions', I read 'right before' and 'right after' of the blank first.	.34	4.59	1.50

Table 8 represents the fourth factor which is 'using L1 information' and Table 9 represents the fifth factor which is 'managing test-taking time'. According to the fifth factor, it was shown that saving time for next questions related negatively with reading comprehension test results.

**TABLE 8**  
**Using L1 Information**

	Item	Loading	Mean	SD
4.	By reading Korean directions, I think previously what information to find and try to focus on that information during reading.	.59	4.57	1.55
2.	I read Korean directions or Korean options before reading the passage.	.55	4.86	1.64
5.	By reading Korean options, I try to guess what the passage is about.	.49	4.95	1.48
3.	By reading Korean directions, I think previously what kind of test-taking strategies to use.	.48	3.64	1.54
7.	I browse the whole passage roughly to find general topic and gist.	.37	4.79	1.42

**TABLE 9**  
**Managing Test-taking Time**

	Item	Loading	Mean	SD
15.	If I think what the answer is, I stop reading the passage or the options.	-.39	4.46	1.82

As mentioned in the literature review, using background knowledge and guessing the contents of the reading passage were the main strategies students used to compensate for their lack of linguistic knowledge. Checking understanding by reading, highlighting what they thought important, and considering passage structure seemed to be used most often. Using L1 information that was provided through directions and options also seemed to be used. Consequently, non-English related factors such as background knowledge, passage structure, and L1 were used to compensate for lack of linguistic knowledge, and those factors appeared to be predictors of high score.

#### 4) Reading Comprehension Level and Five Factors

To examine any significant differences between high and low level in five dependent variables obtained from the questionnaire, MANOVA was used. The five variables are: clarifying uncertain information, monitoring understanding, considering passage structure, using L1 information, and managing test-taking time. The highest score of each item was seven; therefore the maximal score for each factor was 28, 42, 42, 35, and 7, respectively. However, to present the results more conveniently, divide each factor by the number of items. The results showed that the high and low proficiency students showed significant difference in certain variables at the significance level of .05 as presented in Table 10. Descriptive statistics of those five variables in each level are presented below.

**TABLE 10**  
**Descriptive Statistics of Five Variables**

Variable	Low level (N=154)		High level (N=151)		Total (N=305)	
	Mean	SD	Mean	SD	Mean	SD
Clarifying uncertain information	4.45	1.16	4.90	.92	4.68	1.07
Monitoring understanding	4.05	.67	4.26	.65	4.15	.66
Considering passage structure	3.91	1.05	4.63	.96	4.26	1.07
Using L1 information	4.36	1.01	4.85	1.07	4.60	1.07
Managing test-taking time	4.62	1.95	4.13	1.73	4.38	1.85

**TABLE 11**  
**Multivariate Tests of Five Variables**

Effect		Value	F	Sig.
Level	Pillai's Trace	.136	9.399	.000
	Wilks' Lambda	.864	9.399	.000
	Hotelling's Trace	.157	9.399	.000
	Roy's Largest Root	.157	9.399	.000

**TABLE 12**  
**Test of Between-Subjects Effects**

Source	Dependent Variable	SS	df	MS	F	Sig.
Level	Clarifying uncertain information	15.62	1	15.62	14.28	.000
	Monitoring understanding	3.49	1	3.49	8.09	.005
	Considering passage structure	39.29	1	39.29	38.54	.000
	Using L1 information	18.64	1	18.64	17.25	.000
	Managing test-taking time	17.89	1	17.89	5.28	.022

According to Table 12, high and low level are significantly different in all five variables. The data indicates that high-level students use significantly more strategies by clarifying uncertain information, monitoring their understanding as reading, considering passage structure, using the given Korean information, and managing test-taking time.

## V. DISCUSSION

Two research questions were suggested in the early stage of this research. The first research question is about whether there are differences in using test-taking strategies according to test-takers' reading proficiency levels. The results showed that high English reading proficiency students use more test-taking strategies than low-level students do, as other researches support (Anderson et al., 1991; Kletzien, 1991; Phakiti, 2003). However,

the results for the second research question regarding the kinds of test-taking strategies were different from what the previous studies have suggested (Lee, 2004; Yamashita, 2003). The factor analysis presented more specific and practical categories from the test-taking strategy questionnaire result, indicating there are five categories of test-taking strategies that test-takers use.

The first category, 'clarifying uncertain information,' is used a lot by the high reading proficiency students. It appears that students who constantly check whether their understanding from the given passage is the same with their background knowledge more likely choose correct answers than those who merely rely on the given passage and do not activate, nor use, their background knowledge. For clarifying uncertain information, test-takers not only rely on their background information, but also use the given context.

High reading proficiency students also use the second category, 'monitoring understanding.' Students, who keep monitoring their understanding until getting the full picture of the given passage, find correct answers more successfully than those who do not. In other words, the students who do not carefully monitor their understanding are deceived and trapped by distracters. Moreover, since students' English linguistic knowledge alone is not enough to understand the given passage fully and find the correct answers, relying on the given text solely without associating their background knowledge can lead them to the wrong answer.

The third category, 'considering passage structure' showed a positive relation with getting high scores. Since students do not have clear knowledge about how English text is conventionally structured (Kirby, 1988; Sharp, 2004), it is helpful for them to learn different passage structures explicitly. For example, students barely know that the thesis statements in English writing are usually located at the beginning or at the end.

The fourth category, 'using L1 information,' is also used to compensate for students' lack of linguistic knowledge. Since Korean directions and multiple-choice options are possibly related with the given passage, the students who carefully read the Korean information and try to find some useful information are likely to find the correct answer.

The fifth category, 'managing test-taking time,' is also related with achieving high reading comprehension test score. However, unlike the other categories, when the students whose score was six and five were included, the result of this fifth category was not related with achieving high reading comprehension test score. It appears that time management strategies, themselves, cannot help students to find correct answers without a certain amount of linguistic knowledge. However, when the students whose score was six and five were excluded to amplify the differences between Levels, this category also became statistically significant.

## VI. CONCLUSION

This study was designed to examine whether test-taking strategy use is different by students' reading proficiency level. In this current research, the relationship between students' test-taking strategy use and English reading comprehension level is examined through data collected from an administered reading comprehension proficiency test and a retrospective questionnaire. The results of this study indicate that high English reading proficiency students are more accustomed to using test-taking strategies and use more test-taking strategies than low-level students do. In reality, using test-taking strategies is criticized because acquiring high English reading test score by knowing test-taking strategies does not mean that the student's English reading comprehension level is high as well. However, if test-taking strategies are one of the features that high proficiency students used, are helpful to improve students' reading test scores, and affect their confidence in a positive way, EFL teachers are asked to examine whether to teach test-taking strategies explicitly in their class to make students more confident and motivated. Since the strategies that students use are more specifically revealed through the factor analysis, teachers can focus on teaching the categories of strategies so that students can acquire the qualifications of strategic learners (Chong, 1985; Hwang, 2001; Macaro, 2001; O'Malley & Chamot, 1990; Oxford, 1990; Rubin 1975).

There are some limitations to this study, which need to be considered for the future research on the same topic. Because of difficulty in finding participants, the numbers of male and female students were significantly imbalanced. As Lee and Lee (2004) pointed out, gender can influence on strategy use and worth being analyzed. Moreover, doing intensive test-taking strategy programs and examining participants' improvement on test results may be worth trying. In this current pilot study, because of the small numbers of participant in the pilot experiment, the result was not statistically examined, but performing experiment about the effectiveness of teaching test-taking strategies and teachability of test-taking strategies may be worth trying with larger subjects since simple surveying students' test-taking strategy use may not be sufficient to examine the necessity and effectiveness of teaching test-taking strategies.

## REFERENCES

- Anderson, N. (1991). Individual differences in strategy use in second language reading and testing. *The Modern Language Journal*, 75(4), 460-472.
- Anderson, N., Bachman, L., Perkins, K., & Cohen, A. (1991). An exploratory study into the construct validity of a reading comprehension test: Triangulation of data sources.

- Language Testing*, 8(1), 41-66.
- Bernhardt, E. (2005). Progress and procrastination in second language reading. *Annual Review of Applied Linguistics*, 25, 113-150.
- Chamot, A. (2005). Language learning strategy instruction: Current issues and research. *Annual Review of Applied Linguistics*, 25, 112-130.
- Chong, Dongsu. (1985). The process of Korean college students' reading strategies. *English Teaching*, 29, 115-127.
- Cohen, A. (1998). *Strategies in learning and using a second language*. Harlow, Essex: Longman.
- Cohen, A. (2002). Learning style and language strategy preferences: The roles of the teacher and the learner in ELT. *English Education*, 57(4), 41-55.
- Cohen, A., & Weaver, S. (1998). Strategies-based instruction for second language learners. In W. Renandya & G. Jacobs (Eds.), *Learners and language learning* (pp. 1-25). Singapore: SEAMEO Regional Language Center.
- Godev, C., Martinez-Gibson, E., & Toris, C. (2002). Foreign language reading comprehension test: L1 versus L2 in open-ended questions. *Foreign Language Annals*, 35(2), 202-214.
- Hwang, Sangkyeom. (2001). Reading skill development of an ESL student: A four-year longitudinal study. *The Korea TESOL Journal*, 4(1), 2001.
- Jin, Kyungae; & Park, Chung. (2004). The prediction of English item difficulty in College Scholastic Ability Test. *English Teaching*, 59(1), 267-278.
- Jin, Kyungae; & Park, Chung. (2005). Factors related to the difficulty of College Scholastic Ability Test English items. *English Teaching*, 60(3), 17-25.
- Keiko, H. (1999). Reading strategies and extensive reading in EFL class. *RELC Journal*, 30(2), 116-127.
- Khalil, A. (2005). Assessment of language learning strategies used by Palestinian EFL learners. *Foreign Language Annals*, 38(1), 108-119.
- Kim, Sungae. (1993). Types of reading strategies used by Korean high school EFL student. *English Teaching*, 46, 239-267.
- Kirby, J. (1988). Style, strategy, and skill in reading. In R. Schmeck (Ed.), *Learning strategies and learning styles* (pp. 229-274). New York: Plenum Press.
- Kletzien, S. (1991). Strategy use by good and poor comprehenders reading expository text of differing levels. *Reading Research Quarterly*, 26, 67-86.
- Lee, Jeongwon. (2004). A study on English reading test-taking strategies. *English Teaching*, 59(4), 145-166.
- Lee, Jeongwon; & Schallert, D. (1997). The relative contribution of L2 language proficiency and L1 reading ability to L2 reading performance: A test of the threshold hypothesis in an EFL context. *TESOL Quarterly*, 31(4), 713-739.
- Lee, Seongwon; & Lee, Eunji. (2004). The effects of personality type and gender on

- strategy use and English achievement level. *English Teaching*, 59(2), 269-292.
- Leppanen, U., Aunola, K., & Nurmi, J. (2005). Beginning readers' reading performance and reading habits. *Journal of Research in Reading*, 28(4), 383-399.
- Macaro, E. (2001). *Learning strategies in foreign and second language classrooms*. New York: Continuum.
- Ministry of Education. (1998). *The national curriculum for English (I)*. Seoul: Ministry of Education.
- Mochizuki, A. (1999). Language learning strategies used by Japanese university students. *RELC Journal*, 30(2), 101-113.
- Nevo, N. (1989). Test-taking strategies on a multiple-choice test of reading comprehension. *Language Testing*, 6(2), 199-215.
- O'Malley, J., & Chamot, A. (1990). *Learning strategies in second language acquisition*. New York: Cambridge University Press.
- Oxford, R. (1990). *Language learning strategies: What every teachers should know*. Boston, MA: Heinle & Heinle Publisher.
- Parry, K. (1996). Culture, literacy, and L2 reading. *TESOL Quarterly*, 30(4), 665-692.
- Phakiti, A. (2003). A closer look at the relationship of cognitive and metacognitive strategy use to EFL reading achievement test performance. *Language Testing*, 20(1), 26-56.
- Prokop, M. (1989). *Learning strategies for second-language users: An analytical appraisal with case studies*. Lewiston, NY: The Edwin Mellen Press.
- Purpura, J. (1998). Investigating the effects of strategy use and second language test performance with high- and low-ability test takers: A structural equation modeling approach. *Language Testing*, 15(3), 333-379.
- Rubin, J. (1975). What the "good language learner" can teach us. *TESOL Quarterly*, 9, 41-51.
- Rubin, J. (1981). Study of cognitive processes in second language learning. *Applied Linguistics*, 11, 117-131.
- Sharp, A. (2004). Strategies and predilections in reading expository text: The importance of text patterns. *RELC Journal*, 35(3), 329-349.
- Shen, H. (2003). The role of explicit instruction in ESL/ESL reading. *Foreign Language Annals*, 36(3), 424-433.
- Song, Heshim. (1998). The effect of the College Scholastic Ability Test on Korean college students' reading processes and their perceptions of reading in English. *English Teaching*, 53(4), 265-290.
- Song, Mijeong. (1999). Reading strategies and second language reading ability: The magnitude of the relationship. *English Teaching*, 54(3), 73-95.
- Stough, L. (1992). The effects of test-taking strategy instruction on the processing of test items. (ED454282)
- Takeuchi, O. (2003). What can we learn from good language learners: A qualitative study

in the Japanese foreign language context. *System*, 31, 385-392.

Vincent, D. (1997). The testing of reading in the mother tongue. In C. Clapham & D. Corson (Eds.), *Encyclopedia of language and education, Volume 7: Language testing and assessment* (pp. 1-10). Netherlands: Kluwer Academic Publishers.

Weir, C. (1997). The testing of reading in a second language. In C. Clapham & D. Corson (Eds.), *Encyclopedia of language and education, Volume 7: Language testing and assessment* (pp. 11-49), Netherlands: Kluwer Academic Publishers.

Wenden, A., & Rubin, J. (1987). *Learner strategies in language learning*. London, UK: Prentice Hall.

Yamashita, J. (2003). Processes of taking a gap-filling test: Comparison of skilled and less skilled EFL readers. *Language Testing*, 20(3), 267-293.

Yau, J. (2005). Two Mandarin readers in Taiwan: Characteristics of children with higher and lower reading proficiency levels. *Journal of Research in Reading*, 28(2), 108-124.

### APPENDIX

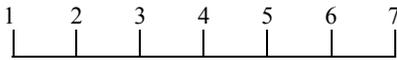
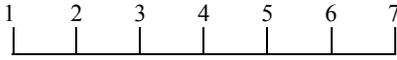
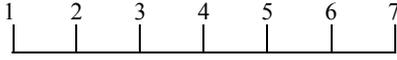
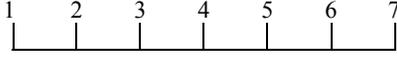
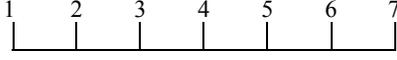
#### Test-taking Strategy Questionnaire

※ This is a questionnaire about test-taking strategies you use when you take English reading comprehension test. Read each question carefully and answer your opinion frankly. Think of what strategies you used when you took the model CSAT today.

※ Check (√) the number you think you are in.

- |   | Strongly disagree-----Strongly agree |
|---|--------------------------------------|
|   | 1    2    3    4    5    6    7      |
| 1. I've learn how to take test according to its question type (finding topic, filling the blank, mood of writing etc.).           | -----                                |
| 2. I read Korean directions or Korean options before reading the passage.   | -----                                |
| 3. By reading Korean directions, I think previously what kind of test-taking strategies to use.                                   | -----                                |
| 4. By reading Korean directions, I think previously what information to find and try to focus on that information during reading. | -----                                |
| 5. By reading Korean options, I try to guess what the passage is about.   | -----                                |
| 6. I usually like reading books or passages in Korean.  | -----                                |
| 7. I browse the whole passage roughly to find general topic and gist.   | -----                                |
| 8. I usually read the first and the last sentence more carefully.   | -----                                |



25. If there is a sentence that I don't understand during reading the passage, I try to use my background knowledge to compensate my understanding. 
26. I am good at guessing the storyline of a soap opera or novel with watching the first and/or last scene. 
27. If the question is about 'Understanding graph and chart', or if there is pictures in the given test item, I look through them first before read the given passage. 
28. If the question is about 'Completing a summary sentence', I read the given summary sentence and options first, and then try to guess what the passage might be about. 
29. If the question is about 'Guessing what the underlined pronoun refers', I read the previous part of the underlined pronoun most carefully. 
30. I want to learn test-taking strategies. 

Applicable levels: Secondary schools

Key words: Test-taking strategy, English reading comprehension test, College Scholastic Ability Test (CSAT)

Eunkyong Haam  
 Department of English Language Teaching  
 International Graduate School of English  
 449-11, Seongnae3-dong, Gangdong-gu,  
 Seoul, 134-847, Korea  
 Email: hsylvia@igse.ac.kr

Received in May, 2006

Reviewed in June, 2006

Revised version received in August, 2006