A Comparative Study of Reading Strategies in L1 and L2: Case Study of Five Korean Graduate Students


Reading strategies are found to be effective in improving students' reading comprehension not only in L1 but also in L2. Much research indicates that good readers use multiple reading strategies, and these strategies increase their reading comprehension. Other research also indicates that L1 reading strategies transfer to L2 reading. The purpose of this study is to verify which reading strategies the participants use in their L1 reading process and L2 (English) reading process. By comparing L1 and L2 reading strategies, we can better understand learners' L2 reading process. The study was conducted on five Korean graduate students at UTA (University of Texas at Arlington). Two data collection methods were used: think-aloud and questionnaires. The results of this study showed that the participants used many of the same reading strategies that they used in their L1 reading, when reading the L2 text. Furthermore, many of the strategies they used in the L2 reading are the ones that successful native English readers use.

**Key words**: reading strategies, reading process, L1 and L2 texts, reading stage (before reading, while reading, after reading)

1. Introduction

Many researchers have investigated the importance of the cognitive strategies students use while reading (Cohen, 1983; Hansen, 1980; Linden & Wittrock, 1981). These strategies are found to be effective in improving students' reading comprehension (Baker & Brown, 1984; Palinscar & Brown, 1985). However, most of these studies have been conducted with first language learners.

Since the 1970s, many L2 learning theories advocating teaching stu-
dents to use a variety of reading strategies have been introduced to help them read better. Much research indicates that good readers use multiple reading strategies, and these strategies increase their reading comprehension (Baker & Brown, 1984; Palinscar & Brown, 1984, 1985; VanElsacker, 2002). Good readers use reading strategies (Pressley & Afflerbach, 1995; Preseley et al., 1995; Wyatt et al., 1993) such as finding information relevant to reading goals, making predictions about what the author would say, paraphrasing, explaining and interpreting the text, and constructing summaries and conclusions. Some studies reveal that poor students have difficulty in using strategies that contribute to reading comprehension (Brown & Palincsar, 1982; Ryan, 1981). Another study (Patricial, 1989) reveals that local reading strategies (focusing on grammatical structures, sound letter, word-meaning, and text details) and global reading strategies (using background knowledge, text gist and textual organization) are used effectively by L2 readers according to their reading levels. Some studies also indicate that L1 reading ability/strategies transfer to L2 reading (Anderson, 2000; Hardin, 2001; Sarig, 1987; Yamashita, 1999).

As we can see from the various studies, reading strategies are important factors in helping L2 learners to become better readers. It is essential for teachers to know what strategies their students use, and do not use in their reading process in order to help building reading strategies by explicit and implicit reading instruction. Comparison of reading strategies in L1 and L2 gives better perspective on L2 reading process for teachers to administer their explicit reading instruction. However, few studies were conducted focused on the comparison of reading strategies in L1 and L2. Therefore, the purpose of this study is to verify which reading strategies the learners use in their L1 reading process and L2 (English) reading process. By comparing L1 and L2 reading strategies, we can better understand Korean students' L2 reading process. Therefore, this study will give useful information about the reading process of learners so that teachers can prepare better instruction on reading strategies.

2. Literature Review

Much research has been conducted in L1 reading based on the analysis of cognitive processes involved in reading comprehension. Many of
the insights gained from L1 research have been helpful, and even essential, to forming a concept of the L2 reading process. Based on various research (Rumelhart, 1985; Stanovich, 1980), reading theorists have proposed many different views of the L1 reading act through L1 reading models: bottom-up, top-down and interactive models. Bottom-up or data-driven models depend primarily on the information presented by the text. Readers using this approach usually analyze text in small pieces and build meaning from these units. Therefore, the information is processed from letter features to letters to words to meaning, which is typically known as a lower-level reading process.

In contrast to bottom-up models, top-down models are diametrically opposed (Stanovich, 1980) to these lower-level processes. In top-down models or reader-based models, readers make guesses about the content of a passage. The readers actively engage in hypothesis testing as they proceed through a text by integrating the textual information with the prior knowledge, linking words with their co-referents, integrating prepositional units across sentences, and generating and updating a schema or representation of the text as a whole (Segalowitz, Poulsea & Komdoa, 1991). This theory suggests that comprehension is facilitated when a reader's background knowledge is activated (Eskey, 1986).

Interactive models are currently accepted as the most comprehensive description of the reading process. This type of model combines elements of both bottom-up and top-down models. It assumes that a pattern is synthesized based on information provided simultaneously from several knowledge sources (Stanovich, 1980). Reading is considered as a complex task of simultaneously combining text and reader-based strategies. Processes at any level can compensate for deficiencies at any other level (Anderson, 1999). Therefore, good readers of L1 and L2 are seen to be those who can efficiently integrate the bottom-up processes with top-down processes (Liontas, 1999; Patricial, 1989; Sarig, 1987).

Other research shows that both L1 and L2 readers use a variety of reading strategies to read better. These strategies range from the traditionally recognized reading skills of skimming, scanning, contextual guessing, skipping unknown words, tolerating ambiguity, reading for meaning, critical reading and making inferences to more recently recognized strategies such as building and activating appropriate background knowledge or schema, and recognizing text structure. Moreover, good readers use multiple reading strategies in a purposeful manner such as
setting reading goals, varying reading style according to the relevance of
the text to reading goals, jumping forward and backward in the text to
find information relevant to reading goals, making predictions about
what the author would say, paraphrasing, explaining and interpreting
the text, and constructing summaries and conclusion (Pressley &
Afflerbach, 1995; Pressley et al., 1995; Wallace, 2001; Wyatt et al., 1993).
Good readers often self-correct, improve, or modify their hypothesis in
order to achieve comprehension. They tend to use more global or
top-down strategies. Poor readers often rely on local or bottom-up strat­
egies to comprehend their texts. They are often unaware of the struc­
ture of a story and of clues that signal that structure (Block, 1992; Caroll,
1989).

Other research (Anderson, 1984, 2000; Clarke, 1980; Sarig, 1987) consid­
ers that the level of reading skill transfers from the first to the second
language. Good and poor L1 readers maintained their respective perform­
ance ranks in L2 reading tasks. That is, good L1 readers performed better
on L2 reading tasks than did poor L1 readers. L2 learners who are good
L1 readers tend to use many of the same strategies that successful native
target language readers do, when reading L2 texts (Drucker, 2003).
Hardin's study (2001) showed that strategic behaviors in L1 affects L2
reading behaviors and that the level of L2 proficiency affects L2 strate­
gic reading less than the level of strategy use in L1. According to
Yamashita (1999), local strategies and global strategies were used differ­
etly between L1 and L2 reading, however, compromising, monitoring,
repetition and test taking strategies did not show a significant difference
between L1 and L2 reading. Zwaan and Brown (1996) reported that readers
with high L1 reading ability have a tendency to use "paraphrasing" more accurately in L2 reading than those with low L1 reading ability.
Furthermore, some research found that bilingual students use fewer
strategies and different types of reading strategies while reading in their
L2 than English-monolingual students (Knight & Waxman, 1986).

Increasing numbers of researchers, curriculum designers and teachers
consider reading skills or strategies as a way to develop L2 reading pro­
ficiency. One widely recommended method of improving learners' ability
to comprehend L2 text is explicit instruction in reading comprehension
strategies. According to the research (Dickson, Simmons & Kameenui,
1995; Hosenfeld, 1977; Kern, 1989; Pardon, 1992), reading strategy training
had a strong positive effect on L2 readers' comprehension. In particular,
subjects who had the greatest difficulty reading L2 texts appeared to benefit the most from reading strategy instruction.

Therefore this study aims to answer the following research questions. Based on the research and theory of L1 and L2 reading, we expect to confirm the following hypotheses about the research questions:

Q1: What strategies do the participants use in L1 and L2 reading? Do they use same reading strategies or different reading strategies in L2 reading?

H1: Based on the previous studies (Anderson, 1999; Lionta, 1999; Sarig, 1987; Yamashita, 1999) we expect the participants will use both bottom-up and top-down strategies, but they will use both strategies in a different ratio. In other words, they will use more bottom-up strategies than top-down strategies in reading the L2 text.

Q2: What strategies do the participants not use in L2 reading?

H2: From the results of the previous studies (Dickson, Simmons & Kameenui, 1995; Hosenfeld, 1977; Kern, 1989; Pardon, 1992) we expect that participants may not use some strategies that are mainly related to formal schema of the text when reading the L2 text. This is because most Korean students are not explicitly taught the reading strategies at school in their home country. English reading instruction is mostly done by translation and focusing on the grammar and vocabulary.

Q3: When do the participants use more reading strategies? Do they use more reading strategies in L1 or L2 reading?

H3: Based on the study of Knight and Waxman (1986), we expect that they will use various kinds of reading strategies more freely in their L1 reading than L2 reading.

3. Method

This study is a descriptive investigation of five Korean graduate students at UTA. In this study, two data collection methods were used: think-aloud and questionnaires. Think-aloud techniques were used to answer open-ended questions: What do you do before you actually read the text, while you read the text, and after you read the text (while you do the comprehension exercise). Many researchers used the think-aloud method to investigate the cognitive processes such as a reading compre-
hension (Block, 1992; Ericsson & Simon, 1993; Hardin, 2001; Sarig, 1987; Pressey & Afflerbach, 1995). Through this think-aloud method, the participants introspect their reading processes and articulate their strategies and reading processes. It requires participants to allocate attention to both processing and reporting of the processes. All the participants in this study were made aware of the think-aloud method by explicit instruction. Thus, they knew how to report their reading process.

However, the participants may not notice their cognitive processes or some strategies they have used so they may not report them or may not explicitly articulate them. Therefore, another data collection method, questionnaires, was used to collect more data about their reading strategies. Strategy questionnaires require participants to respond to questions using a Likert-type scale (See Appendix A). The questionnaire is based on the comprehensive descriptions of strategy use developed by Pressley and colleagues (Pressley & Afflerbach, 1995; Pressley et al., 1995; Wyatt et al., 1993) and the list of 24 strategies of cognitive, metacognitive and compensating reading strategies developed by Anderson (1991, 1999). Questions were organized into three sections: before reading, while reading and after reading (while doing the comprehension exercise).

3.1. Participants

Since the difference in gender and the proficiency level of L2 may affect the results of this study, they are controlled. There are five participants in this study. They are all female graduate students in the linguistics department in UTA. Though they have different English proficiency levels, all of them belong to the advance level group. The TOEFL (CBT) score of participants ranges from 226 to 245 and their reading scores are all above 25 out of 30 (See Table 1). All of them are over 25 years old and have been studying English for more than 10 years.

All of the participants studied English at a middle and high school and a university in Korea where grammar and reading are mainly focused on. Participant B also mentioned that she studied English by herself by memorizing vocabulary and listening to AFKN (an English

1) There are no significant gender differences in the mean use of global vs. local strategies (Young & Oxford 1997). There is a gender-related difference in reading comprehension, but no gender-related difference in strategic behavior (Brantmeier 2000).
Table 1. Participants’ Information

<table>
<thead>
<tr>
<th>Participants</th>
<th>Age</th>
<th>Period of studying English</th>
<th>Period of staying in America</th>
<th>Explicitly taught L1 reading strategies</th>
<th>Explicitly taught L2 reading strategies</th>
<th>TOEFL Score (reading score)/ year</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>32</td>
<td>20 years</td>
<td>2 years</td>
<td>No</td>
<td>Not Much</td>
<td>245(26/30)/2002</td>
</tr>
<tr>
<td>B</td>
<td>27</td>
<td>15 years</td>
<td>2 months</td>
<td>Yes</td>
<td>Not Much</td>
<td>247(28/30)/2002</td>
</tr>
<tr>
<td>C</td>
<td>32</td>
<td>20 years</td>
<td>5 months</td>
<td>No</td>
<td>Not Much</td>
<td>230(27/30)/2002</td>
</tr>
<tr>
<td>D</td>
<td>25</td>
<td>13 years</td>
<td>5 years</td>
<td>No</td>
<td>Not Much</td>
<td>230(27/30)/2002</td>
</tr>
<tr>
<td>E</td>
<td>40</td>
<td>16 years</td>
<td>2.6 years</td>
<td>No</td>
<td>No</td>
<td>226(25/30)/2001</td>
</tr>
</tbody>
</table>

broadcasting channel in Korea) news. Participant C had an experience of attending a language institute in Korea for a short time to build her speaking ability. All of the participants mentioned that their major reason for studying English was to prepare for standardized tests such as TOEFL, GRE or the national entrance exam for a university.

Participant A and C mentioned that they had been taught a few reading strategies from the text focused on what the strategies are but the text did not provide an explanation of how and when to use them. Participants B mentioned that she had been taught the problem-solving strategies when she was a senior in high school to prepare for the national entrance exam for a university and when she was preparing for TOEFL two years ago. She also mentioned that speed-reading techniques in L1 that were taught when she was a child helped her reading in L2. Participant D took a reading and writing course for TESOL a year ago but she mentioned that she does not remember any strategies now that she had learned. She just uses what strategies she previously used in L2 reading. Participant E has never been taught reading strategies.

All of the participants mentioned that speaking is the most difficult area when they are learning English. All of the participants except participant C and E mentioned that writing is another area where they have difficulty when they learn English. Participant C also mentioned that listening is also difficult in learning English. However, none of them mentioned that reading is a difficult area when learning English.
3.2. Materials and Procedures

In this study two reading materials were used: one Korean text and one English text (See Appendix B). Since the level of the text and text topic affect the reading process, they are controlled. Both texts are at the basal reading level. The basal reading level is the independent reading level, which means readers can read the material without help from the teacher and show high interest in it. Readers usually achieve 90% comprehension when reading basal level materials. This is the appropriate level of material when introducing new reading skills or strategies (Betts 1957). In other words, these reading materials are neither too difficult nor too easy for the participants, so they should be able to describe their reading processes better. Text topics of these two reading materials are non-specialist texts in social sciences which are likely to be less biased in terms of difficulty and therefore they are more suitable for tests of reading (Alderson, 2000).

First, the participants were asked to read a short L2 text and answer the comprehension questions. Then, they were asked to use think-aloud techniques to report their reading processes based on the following open-ended questions: what do you do before you read the text, while you read the text and after you read the text (while you do the comprehension exercise)? Finally, the participants were asked to fill out the questionnaires about reading strategies using a Likert-type scale. The same procedures were repeated with the L1 text. After gathering the data, the data were analyzed qualitatively.

4. Results and Discussion

The data were analyzed descriptively mainly based on the open-ended questions. L1 and L2 reading processes of the participants were explicitly described. Their reading processes were divided into three sections: before reading, while reading and after reading and they were described thoroughly. Then, their strategies were divided into three categories based on the data gathered by their open-ended questions: global, local and supporting strategies. The data from the questionnaires were also

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2) See the table of comprehension score in Appendix B
used to calculate the percentage of the frequency of using these strategies.

4.1. Before Reading

Participant A paid attention to the title and author in both the L1 and L2 reading. By reading the title, she made a hypothesis of what the text was about. She also briefly skimmed the text both in the L1 and L2 reading. However, she mentioned that she used these strategies more in the L1 reading than the L2 reading. She paid attention to the organization of the text both in L1 and L2. She rarely skimmed the comprehension questions in the L2 reading, but she did in the L1 reading. She did not consider the difficulty of the text in the L2 reading but she did in the L1 reading.

Participant B read the title first and tried to guess the content of the text in both the L1 and L2 reading. She quickly skimmed the first sentence of each paragraph in the L2 text, but she quickly skimmed the whole content of the L1 text. While she skimmed the L1 text, she circled the key words and transition words. She read the comprehension questions of the L2 text to find the main ideas or focal points of the text. While she was reading the questions of L2 text, she underlined the key words. She also read the comprehension questions for the L1 text but the purpose was somewhat different from that of the L2 reading. She tried to figure out the purpose of the questions, or what the author wanted in the questions in the L1 reading. Then, she tried to guess the correct answers for the questions by using her background knowledge. From this process, she tried to guess the content of the L1 text. She highlighted the negation morpheme, which makes the sentence negative. However, she paid less attention to the style of the text in the L2 reading than in the L1 reading. She did not consider how difficult or easy the text was in the L1 and L2 reading.

Participant C read the title and thought about the content of the L2 text. Then, she checked the size of the reading passage. She also looked at the comprehension questions to see what types of problems there were and how many questions there were. She also thought about the difficulty of the text both in the L1 and L2 reading. However, she didn't pay attention to the organization or formal schema of the L2 text. She also checked the size of the passage in the L1 text. She checked how many questions were in the comprehension exercise, and unlike in the
L2 reading, she skimmed the questions and underlined the key words. Unlike the L2 reading, she did not skim the L1 text but she paid attention to the organization or formal schema of the text. She paid more attention to the content of the text in the L2 reading than in the L1 reading.

Participant D read the first sentence and the last sentence of the L2 text. She mentioned that she could not guess what the text was about. Then, she read the title and tried to guess the content. She read the first paragraph of the L1 text. Then, she skimmed the comprehension questions to figure out the purpose of the questions, using her background knowledge. She paid more attention to the organization of the L2 text than the L1 text. She did not think about the difficulty of the text in the L1 and L2 reading.

Participant E read the title first and looked at the length of the L2 text. Then, she briefly thought about the content of the text and genre or style of the text. She rarely skimmed the text or paid attention to the organization of the text. In her L1 reading, she briefly skimmed the whole text. Then, she also looked at the length of the text. By looking at the vocabulary, she guessed the content of the L1 text. She did not pay attention to the formal schema in her L1 reading either.

Table 2. The Use of Strategies in Before Reading

<table>
<thead>
<tr>
<th>Strategies</th>
<th>Participants</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
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<tr>
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<td></td>
<td>L1</td>
<td>L2</td>
<td>L1</td>
<td>L2</td>
<td>L1</td>
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<tr>
<td>Title &amp; Author</td>
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<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
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<tr>
<td>Skimming</td>
<td></td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
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<tr>
<td>Background Knowledge</td>
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<td>+</td>
<td></td>
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<tr>
<td>Organization/Style/Genre</td>
<td></td>
<td>+</td>
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<td></td>
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<tr>
<td>Comprehension Questions</td>
<td></td>
<td>+</td>
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<td>+</td>
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<tr>
<td>Underlining Key Words</td>
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<tr>
<td>Vocabulary/Morphemes</td>
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<td>+</td>
<td>+</td>
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<td>Difficulty of the text</td>
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<td>Size of the passage</td>
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</table>

Most of the participants used the title and skimming to guess the content of the L1 and L2 texts (See table 2). They also used the vocabulary in the text and the comprehension questions to guess the content of the
texts. However, some participants paid more attention to the formal schema to activate their background knowledge in the L1 reading than the L2 reading. Though most participants used global strategies more than local strategies, they used both types of strategies in the L1 and L2 pre-reading stage.

4.2. While Reading

When she read the L2 text, participant A tried to chunk the examples according to topics and the paragraphs into three parts: introduction, body and conclusion. She paid close attention to sentences especially after transition words such as 'in other words,' 'therefore,' and 'usually.' When she read the L1 text, she picked key words in each paragraph and connected these key words with the bigger units by using her background knowledge. Then, she made an overall connection with the title. She usually used examples to figure out the main ideas of the L2 text, and she used key words and paragraph relationships by looking at the tone of paragraphs to form an overall understanding of the L1 text. She also inferred the information from the text both in the L1 and L2 reading. However, she used her background knowledge more often in the L1 reading than L2 reading. She rarely revised her background knowledge about the topics based on the text's content in the L2 reading, but she did in the L1 reading.

Participant B read the L2 text very quickly and looked for the key words, which appeared in the comprehension questions. While she quickly read the text sentence by sentence, she marked the answers to the comprehension questions. When she came across an unknown word, she underlined the word and tried to infer the meaning from the context. She tried to pay close attention to the words, which were related to content information such as names of states, crops and years. She also tried to infer the reason why the key words were stated in the text. When she read the L1 text, she underlined the content which was related to the key words. She circled the positive content and marked 'X' beside the negative content based on the key words. She visualized the main idea or key word of each paragraph by putting a box around them. She tried to understand the text based on her background knowledge. For example, the social problem is connected with sociology and thus, she tried to connect the social problems, which were stated in the
text, with her knowledge about sociology. By this process, she could figure out which words or which ideas are focused on in the text. She verified the main points in the text by looking at the formal schema and genre of the text. She paid some attention to the various tones of the paragraph in the L2 reading but she never paid any attention to the tones in the L1 reading. She did not make notes while reading the L2 text, but she did make some notes while reading the L1 text. She summarized and paraphrased the material in the L2 reading but she rarely did that in the L1 reading.

Participant C read the L2 text twice. During her first reading, she read the text without using any specific comprehension strategies. She mentioned that she could not concentrate on the text during her first reading. At her second reading, she read the text carefully. She mentioned that during her second reading, she could concentrate on the text more and began to notice important or key words. She could grasp the flow of information. She underlined the key words or unknown words during her second reading. She paid close attention to the specific words such as 'for example' and other conjunctions. Then, she circled the examples related to the topics. She often broke the long sentences into smaller units to analyze the sentences and get the meaning more accurately. Unlike her L2 reading, she read her L1 text once. While reading the text, she organized the content of the text mentally. She underlined the key words and chunked the words, which seemed to be related to each other. She used her background knowledge to comprehend both the L1 and L2 text but rarely revised her background knowledge about the topics, based on the content of the text.

While she was reading the L2 text, participant D went back to the comprehension part to read the questions in order to get some ideas about the content of the text. She paraphrased or summarized each paragraph and wrote them in the margin. She underlined the key words or words that she had seen in the comprehension part. She marked the paragraphs, which she might need to reread to find the answers for the questions. She focused on sentence structures to comprehend the L2 text. When she read the L1 text, she circled the transition words and key words in each paragraph and underlined the important phrases. She used her background knowledge in both L1 and L2 reading.

While she was reading the L2 text, participant E paid close attention to the relationship between paragraphs. She skimmed parts stating ex-
amples. She reread passages, when she could not comprehend the text. She read passages sentence by sentence, paying attention to the sentence structures. She used her background knowledge to comprehend the L2 text. While she read the L1 text, she looked for the main idea by connecting the content to her background knowledge. She also reread passages when she could not figure out author's intention. She tried to connect all the ideas together to figure out author's main idea.

Table 3. The Use of Strategies in While Reading

<table>
<thead>
<tr>
<th>Strategies</th>
<th>Participants</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
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<tbody>
<tr>
<td></td>
<td>L1</td>
<td>L2</td>
<td>L1</td>
<td>L2</td>
<td>L1</td>
<td>L2</td>
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<tr>
<td>Chunking</td>
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<td>Transitional words/Key words/Main Ideas</td>
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<tr>
<td>Supporting Ideas/Examples</td>
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<tr>
<td>Tones/Paragraph Relationship</td>
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<tr>
<td>Summarize/Paraphrasing</td>
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<td>Inferring</td>
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<td>Background Knowledge</td>
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<td>Sentence/Breaking/Analyzing</td>
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<td>Underlining</td>
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<td>Marking/Note taking</td>
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<tr>
<td>Rereading</td>
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</tbody>
</table>

The participants used more cognitive strategies (inferring, looking for key words and main ideas, using background knowledge, and analyzing) in this stage (See Table 3). Most of them used key vocabulary, transitional words, inference, formal schema and finding main ideas to comprehend their L1 and L2 text, though the amount of using these strategies varied according to the types of reading (L1 and L2 reading). Most of the participants used more global and sophisticated reading strategies in their L1 reading. However, participants relied on the sentence structures to comprehend the L2 text but not to comprehend the L1 text. Participants used varied kinds of strategies including global, local and supporting strategies in both L1 and L2 reading.
4.3. After Reading (While doing the comprehension exercise)

Participant A reread a part of the text, when she could not remember the content enough to answer the questions in the L2 reading. She tried to apply the main ideas to actual life situations and overall structure or organization of the text to answer the questions in the L1 reading. She also looked for the words, which were needed to define the concept of the ideas, and synonyms to answer the questions in the L1 reading.

Participant B answered half of the comprehension questions while reading the L2 text. She reread the other questions, which required inference, very carefully and skimmed the text one more time. When she faced an unknown word or difficult question, she reread the question and tried to infer the answer. When she was answering the comprehension questions of L1 reading, she looked for the highlighted marks on the text. Then, she marked 'O' or 'X' next to each candidate of the correct answer based on the information presented by the text. She checked her own answer by asking herself why and why not her answer was correct. When the question required inference, she reread a part of the text, and looked for some reasons why her original inferred information was not correct.

Participant C used the same strategies in the L1 and L2 reading. She crossed out certain candidates of the answers based on her prior knowledge, then she relied on the text to answer the inference questions and to verify other factual questions. She used her background knowledge more, when she could not find the answer right away.

Unlike the other participants, participant D and E did not use many reading strategies in this stage. Participant D answered the questions based on her comprehension and reread parts of paragraphs to verify or infer the answers both in the L1 and L2 reading. Participant E reread parts of paragraphs or skimmed the text to look for the right answer in the L1 and L2 reading.

Most of the participants used verifying strategies such as rereading parts of passages, inferring from the given information, and checking the facts in the text both in the L1 and L2 reading (See Table 4). Some participants (B, C, D) used global strategies, which belong to the higher-level of thinking strategies and problem solving strategies both in the L1 and L2 reading.
Table 4. The Use of Strategies in After Reading

<table>
<thead>
<tr>
<th>Strategies</th>
<th>Participants</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior or Background Knowledge</td>
<td>L1</td>
<td>L2</td>
<td>L1</td>
<td>L2</td>
<td>L1</td>
<td>L2</td>
</tr>
<tr>
<td>Inferring</td>
<td></td>
<td></td>
<td>+</td>
<td>+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Look for words/Synonyms</td>
<td></td>
<td></td>
<td>+</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rereading</td>
<td></td>
<td></td>
<td></td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Applying to the real life situation</td>
<td></td>
<td></td>
<td>+</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marking</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Checking</td>
<td>+</td>
<td></td>
<td></td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Eliminating</td>
<td></td>
<td></td>
<td>+</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.4. Patterns of Reading Strategies

According to the data gathered from open-ended questions and questionnaires, the strategies used by the participants were divided into three categories: global, local and supporting strategies. Global strategies are those intentional, carefully planned techniques, which are used in the top-down approach. Local strategies are any techniques, which are used to analyze text in small pieces and build meaning from these units. Supporting strategies are basic support mechanisms which help readers to comprehend the text, such as using dictionary, taking notes, underlining, and highlighting or marking the important information (Mokhatari & Sheorey 2002).

From Table 5, we can see that all of the participants dominantly used global strategies in the pre-reading stage of L1 and L2 reading processes. However, it is insufficient to conclude that they used more global strategies in the L1 reading than the L2 reading from the above data. From Table 6, we can also see that all the participants used more global strategies while reading L1 and L2 texts. However, their use of local strategies increases more in this stage than in the pre-reading stage. There is a high tendency to use supporting strategies in this stage.
Table 5. The Frequency of Strategy Use in Before Reading

<table>
<thead>
<tr>
<th>Participants</th>
<th>L1 reading strategies</th>
<th>L2 reading strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Global Strategies</td>
<td>Local Strategies</td>
</tr>
<tr>
<td>A (245)26/30</td>
<td>85%</td>
<td>-</td>
</tr>
<tr>
<td>B (247)28/30</td>
<td>95%</td>
<td>25%</td>
</tr>
<tr>
<td>C (230)27/30</td>
<td>75%</td>
<td>-</td>
</tr>
<tr>
<td>D (230)27/30</td>
<td>80%</td>
<td>-</td>
</tr>
<tr>
<td>E (226)25/30</td>
<td>50%</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 6. The Frequency of Strategy Use in While Reading

<table>
<thead>
<tr>
<th>Participants</th>
<th>L1 reading strategies</th>
<th>L2 reading strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Global Strategies</td>
<td>Local Strategies</td>
</tr>
<tr>
<td>A (245)26/30</td>
<td>73%</td>
<td>50%</td>
</tr>
<tr>
<td>B (247)28/30</td>
<td>83%</td>
<td>50%</td>
</tr>
<tr>
<td>C (230)27/30</td>
<td>64%</td>
<td>50%</td>
</tr>
<tr>
<td>D (230)27/30</td>
<td>71%</td>
<td>60%</td>
</tr>
<tr>
<td>E (226)25/30</td>
<td>58%</td>
<td>-</td>
</tr>
</tbody>
</table>

From Table 7, we can conclude that all the participants dominantly used global and supporting strategies in the L1 and L2 reading. Local strategies were rarely used in this stage.

Table 7. The Frequency of Strategy Use in After Reading

<table>
<thead>
<tr>
<th>Participants</th>
<th>L1 reading strategies</th>
<th>L2 reading strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Global Strategies</td>
<td>Local Strategies</td>
</tr>
<tr>
<td>A (245)26/30</td>
<td>75%</td>
<td>25%</td>
</tr>
<tr>
<td>B (247)28/30</td>
<td>95%</td>
<td>-</td>
</tr>
<tr>
<td>C (230)27/30</td>
<td>65%</td>
<td>-</td>
</tr>
<tr>
<td>D (230)27/30</td>
<td>55%</td>
<td>-</td>
</tr>
<tr>
<td>E (226)25/30</td>
<td>40%</td>
<td>-</td>
</tr>
</tbody>
</table>

The above results showed that the first hypothesis is not confirmed. All the participants used more top-down strategies than bottom-up strategies in the L1 and L2 reading, though there were some variations de-
pending on L1 and L2 reading types. This result supports the research, which indicates that good readers use more global strategies than local strategies. All of participants are advanced readers and experienced students in reading English texts.

The second hypothesis is partially supported. More participants used more varied types of formal schema in the L1 reading than in the L2 reading. However, all the participants used some types of formal schema during their pre-reading and while-reading stage such as using the title and their background knowledge to guess the content of the L2 text. Some participants used the text organization as well as the title of the text to guess the content of the L2 text. They also used chunking, paragraph relationships, and transition words to define the relationship between paragraphs and tones of each paragraph to facilitate their L2 reading. They could use various kinds of strategies related to the formal schema of L2 because they might have been implicitly taught the reading strategies from ample experience in reading L2 texts or because L1 strategies were transferred to L2 reading. Through their extensive L1 reading and much experience in reading L2 texts, they may have figured out when and how to use the formal schema. However, some participants relied on the grammar and vocabulary to comprehend the L2 text but not the L1 text. Their dominant way of studying English might have affected the use of these local strategies because all of the participants have studied English in Korea for a long time where grammar and vocabulary are the major focal points in learning English.

The third hypothesis turned out to be partially confirmed by the data. Participants behaved differently according to the reading stage. In the pre-reading stage, all of the participants used more varied kinds of reading strategies in the L1 reading than in the L2 reading. In the while-reading and after-reading stage, there were no significant differences in using varied kinds of reading strategies between the L1 and L2 reading. However, some participants (B, C) used less local strategies in the L1 reading than in the L2 reading at the while-reading stage.

5. Conclusion

The results of this study showed that participants, who had ample experience in reading L2 texts, used many of the same reading strategies
that they used in their L1 reading. Furthermore, many of the strategies they used in the L2 reading are the ones that successful native English readers use. This study reconfirms previous studies (Anderson, 1984, 2000; Clarke, 1980; Druker, 2003; Hardin, 2001; Sarig, 1989), which stated that reading skills transfer from L1 to L2, and L2 readers who are successful L1 readers tend to use many of the same strategies that successful L1 readers do.

Participants dominantly used global strategies in their pre-reading (before-reading) stage of L1 and L2. They used more varied types of global strategies more freely in their L1 reading at this stage. They used global, local and supporting strategies in their while-reading stage, though they used global strategies more than local or supporting strategies in both the L1 and L2 reading. However, participants did rely on their local strategies to comprehend their L2 reading. Unlike their L1 reading, they paid more attention to vocabulary and grammar of the L2 text. They all used supporting strategies actively in their L1 and L2 reading. In their after-reading stage, participants used global and supporting strategies dominantly in both the L1 and L2 reading.

Therefore, we can conclude that Korean students in this study used both global and local strategies in their L1 and L2 reading. The only difference between the L1 and L2 reading was the amount and types of strategies that were used. Participants tend to use more varied types of global reading strategies freely in their L1 reading at the pre-reading stage. Participants tend to use local strategies mainly in their while-reading stage. Overall, participants showed different behaviors in using different types of reading strategies in the L1 and L2 reading depending on the stage of reading.

These results indirectly indicate that reading strategies are important in their comprehension of L1 and L2 texts. Readers need to know what the reading strategies are and how and when to use them appropriately in their L2 reading to comprehend their reading better. The participants learned these reading strategies through extensive reading of L1 and ample experience in reading L2 texts, which took a long time. Therefore, it is essential for ESL/EFL teachers to verify what their students are doing in their L2 reading compared to their L1 reading and to teach reading strategies to shorten their learning time as well as to increase their reading comprehension as stated in other studies (Dickson, Simmons & Kameenui, 1995; Hosenfeld, 1977; Kern, 1989; Pardon, 1992). In other
words, ESL/EFL teachers should teach various devised reading strategies (including global, local and supporting strategies) to their students in their classroom so that L2 readers can benefit from their strategies developed in L1.

Some possible limitations on the present study should be mentioned at this point. The study was restricted to focus mainly on reading strategies by comparing the process of L1 and L2 reading of participants with same gender and similar level of English proficiency. This study also investigated a small number of Korean students and might have some of the biases that think-aloud methods usually have. Therefore, more in-depth quantitative study containing both gender and different level of students (including poor and good readers) should be conducted to provide a more complete picture of reading strategies of Korean students.

However, this study is helpful for ESL/EFL teachers to understand the following things: First, global strategies should be explicitly taught to students along with the linguistic features of English. Second, teachers should know what strategies their students use in their L2 reading compared to their L1 reading so that they can teach those reading strategies which their students lack. Third, they should teach how and when to use the specific reading strategies not just what strategies to use by modeling the strategies that good readers use to comprehend their L2 reading materials and giving them a lot of opportunities to practise.

References


Association.


Appendix A: Likert-type Ratings for Strategies
(Based on Anderson, 1991, 1999 and Pressley et al., 1995)

Please read each item carefully and circle a number (1-5) using 5 scales below, which indicates the degree to which you use the following strategies when you read a given text.

<table>
<thead>
<tr>
<th>Liker Scale</th>
<th>Never Use</th>
<th>Rarely Use</th>
<th>Sometimes Use</th>
<th>Often Use</th>
<th>Always Use</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

**Before I read.**

1. I pay attention to the title and author
2. I briefly skim the text.
3. I pay attention to the organization of the text.
4. I pay attention to the style of the text.
5. I briefly skim the comprehension questions.
6. I try to think what the text is about.
7. I note how hard or easy the text is to read.

**While I am reading**

8. I look for important information.
9. I pay more attention to important information than other information.
10. I try to relate the important points in the text to one another in an attempt to understand the entire text.
11. I use my background knowledge of the subject to help me understand what I am reading.
12. I ask myself questions about the text content.
13. I reconsider and revise my prior questions about the text based on the text's content.
14. I reconsider and revise my background knowledge about the subject based on the text's content.

15. I try to look for main ideas and supporting idea.

16. I pay attention to various tones.

17. I try to infer author's tones and ideas.

18. When information is not directly stated in the text, I try to infer that information from the text.

19. I try to determine the meaning of unknown words using context clues.

20. I underline the important information.

21. I read material more than once when I don't understand.

22. I make notes.

23. I try to visualize the descriptions in the text.

24. I summarize/paraphrase the materials.

25. When I don't understand the text, I slow down and reread the text.

26. I evaluate the text to determine whether it contributes to my knowledge/understanding of the subjects and whether it is against my belief or my cultural norms.

27. I am able to anticipate what will come next in the text.

28. I try to find what author is trying to say.

When I try to do the comprehension exercise/ After reading

29. I go back to the text to verify my answers.

30. I summarize it.

31. I try to interpret what I have read.

32. I go back to the text to look for the answer.
33. I use my background knowledge to find the answer.

34. While I am reading I distinguish between information that I already know and new information.

35. While I am reading, I jump forward and backward in the text to find the important information.

36. I try to construct an overall summary.

37. I scan the text to find information related to the question.
Appendix B: Reading Texts and Multiple-Choice Questions

Man Versus Machine (Level II: 400-word nonfiction passage)

Vegetable crops have required and continue to require large amounts of hand labor. Until recently, these crops have resisted the trend toward mechanization. Although some of the cultural, post harvest, and marketing practices of vegetable growers are among the most modern in present-day agriculture, vegetable thinning and harvesting operations do not differ essentially from those used in the 1829s and 1930s.

This picture is now changing rapidly. The scarcity and cost of hand labor are creating pressures that have accelerated the trend toward mechanization in vegetable production. There seems little doubt that those vegetable crops produced in large volume will soon be fully mechanized. The processing tomato in California is a good example of a crop where the harvest has been almost completely mechanized within a period of less than ten years. Rapid progress in mechanical harvesting of this crop must be credited to the close cooperation of plant breeder and mechanical engineer.

Designing plants for complete mechanization has presented the plant breeder with a challenging array of new and exciting problems. The problems of each crop demand somewhat different solutions.

In lettuce, for example, it may not be necessary to alter present-day varieties drastically to make them suitable for mechanization, although varieties with an upright frame and with the lower leaves a half inch to an inch above the soil are likely to be preferred to those having leaves flush with the soil. Lettuce is self-pollinated, and usually the percentage of out-crossing is low. Therefore, we find great genetic uniformity in this crop.

If we assume that the commonly used varieties of lettuce are genetically uniform, further uniformity in growth and development must come from improved cultural practices. In other words, the grower must create an environment for planting, germination and development of the plant. Proper bed design and precision planting of high-quality seed are essential for mechanization. Usually in conventional planting, an excess of seed is used, and the plants are hand thinned to the desired spacing. This procedure is wasteful of seed and requires costly hand labor.

But an even more serious defect of over planting is that it favors uneven plant growth because of crowding, competition, and mechanical injury to the young seedlings from which they never completely recover. The ideal is to plant one seed or one mature lettuce plant at the desired spacing.
Recalling Facts

1. The growing and harvesting of which vegetable has been almost completely mechanized?
   a. the potato
   b. the tomato
   c. the pepe

2. Mechanized tomato production has been in operation for nearly
   a. five years.
   b. ten years.
   c. twenty years.

3. For mechanized farming, the farmer must
   a. select seed carefully.
   b. use a potassium fertilizer.
   c. mix sand with soil.

4. A farmer who follows conversational planting methods
   a. wastes seeds.
   b. uses organic fertilizers.
   c. plants his crops after the last full moon of winter.

5. In this article, the author mentions the state of
   a. Oregon.
   b. Idaho
   c. California

Understanding the Passage

6. The acceleration of mechanized harvesting has been caused by
   a. population growth.
   b. Unemployment.
   c. Increasing labor costs.

7. Lettuce is an example of a plant that
   a. is difficult to crossbreed.
   b. Will not adapt well to mechanization.
   c. Shows genetic uniformity.

8. Compared to hand labor, mechanization of crop production today is
   a. time consuming.
   b. Less acceptable.
   c. Less costly

9. According to the author, overplanting often produces
   a. inferior plants.
   b. A wired variety of hybrids.
   c. Self-pollinating plants.

10. Much of the responsibility for successful mechanization lies with
    a. the manufacture of specialized equipment.
    b. the federal government.
    c. Community zoning boards

Source

년도

<table>
<thead>
<tr>
<th>60</th>
<th>00</th>
<th>100</th>
<th>00</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>D</td>
<td>C</td>
<td>B</td>
<td>A</td>
</tr>
</tbody>
</table>

Comprehension Score of English Text
1. 왜 클에서 설명하지 않은 것은?
   1) 사회 문제의 역사성
   2) 사회 문제의 다양한 측면
   3) 사회 문제와 문제 상황의 관계
   4) 사회 문제의 객관성과 주관성
   5) 사회 문제의 발생원인

2. 왜 클을 바탕으로 ‘사회 문제’의 개념을 정리할 때, 적절한 것은?
   1) 객관적으로 존재하는 문제 상황
   2) 지속성과 반복성을 지닌 개인적 차원의 문제
   3) 현대 사회에 들어와서 인식된 사회적 차원의 문제
   4) 많은 사람들이 문제로 여기는 객관적인 사회 상황
   5) 정상적이지 못하고 기대한 바와 다른 현상이나 행위

3. 글쓴이의 견해와 부합하지 않는 것은? (L2점)
   1) 노인 문제가 사회 문제의 하나로 부각된 것은 근대화가 일정한 수준에까지 진전된 시점부터. 따라서 노인 문제는 사회의 전반적인 변화와 밀접한 관계를 맺고 있다.
   2) 우리 사회의 심각한 사회 문제 가운데 하나는 권력형 비리와 부정부패이다. 이러한 부정 폐가 근절되지 않는 한, 사회 개혁을 바라는 국민들의 기대 또한 계속 유지될 것이다.
   3) 많은 사람들은 각종 선거에서 나타나는 지역감정을 시급히 없어져야 할 ‘방국병’으로 인식하고 있다. 그러나 이 문제의 심각성을 느끼는 정도는 사람에 따라 조금씩 다르다.
   4) 환경오염은 인류의 역사만큼이나 오래되었다. 그러나, 예전의 환경오염과 오늘날의 환경 오염은 양적으로나 질적으로 차원을 달리하기 때문에, 비로소 그것이 사회 문제로 인식되었다.
   5) 산업화가 진행됨에 따라 노사 문제가 발생한다는 것은 당연한 일이다. 이런 점에 비추어 봐만, 일반적으로 사회 문제로 하는 것은 개개인의 가치 판단과는 상관없이 존재하는 현상이다.

4. 왜 클에서 글쓴이가 사회 문제의 개념을 설명하기 위해 글을 전개한 방식으로 가장 적절한 것은?
   1) 사회 문제에 관한 여러 가지 상반된 인식들을 대비시킨다.
   2) 사회 문제에 대한 여러 가지 정의(定義)를 주관적인 기준에 따라 분석한다.
   3) 여러 가지의 부정적 이미지를 어떤 관점에 의해 차례차례 밝힌다.
   4) 사회 문제로 규정되는 데 필요한 조건들을 하나씩 하나씩 살펴본다.
   5) 구체적인 사례들을 가급적 많이, 여러 각도에서 제시한다.
5. ① ①중 "적(的)"의 쓰임이 반드시 필요한 것은?
1) ① 사회적 현상(社會的 現象)
2) ① 자연적 재해(自然的 災害)
3) ② 개인적 차원(個人的 次元)
4) ③ 개념적 규정(概念的 規定)
5) ④ 주관적 판단(主觀的 判斷)

**Source**

**Comprehension Score of Korean Text**

<table>
<thead>
<tr>
<th>Participants</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score (%)</td>
<td>100</td>
<td>100</td>
<td>90</td>
<td>100</td>
<td>100</td>
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</tbody>
</table>

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