Which Reading Strategy Is More Helpful for EFL Readers, Using Graphic Organizers or Enhancing Input?

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This study aimed to compare the effectiveness of well-known reading strategies, using graphic organizers and enhancing input. A group of college students read an English text while completing the given graphic organizer with topic sentences of each paragraph; another group read the same text while enhancing (underlining or highlighting) topic sentences; and the third group read the same text without doing anything. Immediate and delayed tests of both multiple-choice tests and timed free-recall were compared to examine how effectively each reading strategy helped the participants comprehend the text. Interestingly, those who enhanced topic sentences performed significantly better in the immediate multiple-choice questions than those with the graphic organizer to complete, and in the delayed test, those with the graphic organizer remembered significantly more in the timed free-recall than those who enhanced. Also, those who were required to find topic sentences actively (both graphic organizer and enhancement) performed significantly better in the delayed free-recall test than those who did not have to. Detailed results and discussions are given. (167 words)

Key words: reading strategies, enhanced input, advance organizer, topic sentences, reading comprehension, multiple-choice questions, free-recall

INTRODUCTION

What differentiates so-called 'good' readers from 'poor' readers? For several decades, researchers have made great efforts to answer this question, and a key difference between them seems to lie in their use of reading strategies (Carrell, 1992; Jiang & Grabe, 2007; Trabasso & Bouchard, 2002; Young, 1993). Then, what reading strategies are English learners using? I observed my English as a Foreign Language (EFL/L2) readers for several semesters. The students were all highly motivated, both female and male, in their twenties. Those who we typically refer to as 'poor' readers tended to linger on each sentence or word they were stuck on while reading rather than continue and attempt to absorb the entire text. They were likely to underline or mark (square or circle) the word they did not know. As a result, the 'poor' readers came to see many marked words that might not help them understand the text, and they were subsequently unable to figure out what important information they should remember, such as the topic sentences of each paragraph. Some readers tried to take notes in the margins of each paragraph or in a table on a separate sheet, in order not to forget what they already read and to relate it to what they were reading to find out the important parts. In contrast, some readers spent the given time translating sentence by sentence, resulting in a recall of only the sentences at the latter part of a text, running short of time, instead of the topic sentences, which was likely the primary reason for not comprehending the text.

Based on this observation, it only confirmed that reading strategies played an essential role in the differences in readers' performances. Reading strategies, which are defined as "activities consciously chosen by learners for the purpose of regulating their own language learning" (Griffiths, 2008, p.87), have proven effective for reading comprehension (Blachowicz & Ogle, 2001; Pressley, 2000), but there are few studies that have compared the effectiveness of individual reading strategies (Jiang & Grabe, 2007). Also, in reality, most Korean EFL learners were unaware of what reading strategies they should/could use and how to use them. In other words, Korean EFL learners

have been provided with less information of reading strategies than expected.

Therefore, I planned to explore which reading strategies would be more helpful for EFL readers to remember topic sentences: either completing a graphic organizer with topic sentences or enhancing topic sentences. Among various reading strategies, the two were selected, because completing a graphic organizer and highlighting sentences are obviously observable activities and because Korean students are familiar with those actions, compared to such mental actions as making inferences and predicting. Moreover, both graphic organizers and enhanced input share common and contrasting qualities: using a graphic organizer to fill with topic sentences is an explicit method, while enhancing topic sentences in a text is a rather implicit approach, one of least obtrusive techniques (Reinders & R. Ellis, 2009), but teachers use both to encourage their students to pay attention to the important information (Leow, 2001).

Few studies have tried to explore the two activities as learners' reading strategies. Thus, this study was planned to compare them as reading strategies: (a) enhancing topic sentences (rather implicit) instead of offering the enhanced input and (b) completing a graphic organizer with topic sentences (rather explicit) instead of providing them in it (Berkowitz, 1986; Spiegel & Barufaldi, 1994).

Compared to L1 reading research (e.g., Armbruster, Anderson, & Meyer, 1991; Blachowicz & Ogle, 2001; Robinson & Kiewra, 1995), there are not many L2 reading studies that investigate the use of graphic organizers; furthermore, graphic organizers are usually considered a pre-reading activity even with its effectiveness as a during-reading activity, especially for L2 readers with limited cognitive resources in their working memory. L2 reading studies in terms of input-oriented instruction materials, especially with enhanced input (e.g., Reinders & R. Ellis, 2009), have increased, and yet they mostly focus on the effectiveness of enhanced input on L2 learners' grammar learning (R. Ellis, 2009). They do not usually measure any kind of reading performances even with a reading text with enhanced grammar features.

In addition, in order to assess L2 learner competence, elicited imitation

tests have been considered to be appropriate measures because learners with no related information in their long-term memories cannot correct given ungrammatical sentences (N. Ellis, 2001). When an EFL learner has some implicit knowledge of an L2 target feature (let's say, infinitive verbs), if she is asked to imitate a sentence with a mistake (e.g., Alice wants coming to his party), she is likely to correct it spontaneously (e.g., Alice wants to come to his party) instead of simply repeating it. This is possible because the working memory can process and store information short term, as Baddeley (1999) noted. Researchers who have conducted elicited imitation tests to measure L2 knowledge have noticed that readers were able to recall what they read after comprehending the given sentences even though they forgot the exact words or expressions (Erlam, 2009).

Thus, this study assumes that the participants can recognize and recall the topic sentences of each paragraph once they notice (by using a graphic organizer and enhancing topic sentences) and comprehend them immediately after reading a text. Moreover, the participants are expected to recognize and recall at least part of what they comprehended in a delayed test. The reason that I did not use elicited imitation tests in this study is that these kinds of tests are more interested in assessing L2 learners' implicit grammar knowledge than memorizing ability/skill. Thus, I used timed recall and multiple-choice tests both immediately and after one week of reading.

To sum, the two modes of noticing topic sentences in this study have had their own roles in classroom: graphic organizers to activate readers' background knowledge as pre-reading activities and enhanced input to help L2 learners notice target features as during-reading activities (but not for reading itself). However, there are few studies that compare these two modes as learners' reading strategies (not as input providing techniques) as well as during-reading activities. Grabe (2002, p. 9) accordingly mentions that "one of the biggest challenges facing reading teachers is how to teach reading comprehension skills and not just assess comprehension." Therefore, the motivation of this study is to help teachers understand which reading strategies are effective and, with the better understanding, choose more

proper reading strategies to teach to their English readers.

Based on this purpose, this study addressed the following research questions: "Are there any differences between the two reading strategies, using a graphic organizer and enhancing input, in the extent of reader recollection of the topic sentences of each paragraph? If so, which is more effective for remembering topic sentences for a greater length of time?"

LITERATURE REVIEW

Although there are few studies that explore the effectiveness of a specific reading strategy with a focus on its implicitness and explicitness, there are a wide variety of prior studies that have compared explicit grammar learning with implicit grammar learning. Many of them observed the effectiveness of explicit learning more than implicit learning (e.g., N. Ellis, 1993; Gass, Svetics, & Lemelin, 2003), while some did not show any difference between the two (e.g., Doughty, 1991). Doughty (1991) showed that both the meaning-oriented (implicit) and the rule-oriented (explicit) groups performed better than the control group. Norris and Ortega (2000) selected 49 experimental and quasi-experimental studies and conducted meta-analysis on the effectiveness of implicit and explicit instructions. Based on their meta-analysis, they reported that explicit instruction is more effective than implicit instruction. However, they included only quantitative studies, which might have prevented them from seeing the benefits of implicit instruction.

Input Enhancement

Attention has long been thought to play a crucial role in learning (Schmidt, 1995), so a great deal of effort has been made to help learners pay more attention to important words or expressions in an approach called input enhancement. *Input enhancement* refers to making certain significant parts of a text noticeable: for example, bolding, italicizing, or highlighting a sentence,

writing it with different font from other parts, or writing it with uppercase letters (Sharwood Smith, 1991).

Since it has been asserted that implicit learning with enhanced input has a positive impact on learning (Leow, 2001), several studies have been conducted to see whether a student's implicit (usually incidental as well) learning is effective, which is mostly related to grammar learning (Alanen, 1995; Jourdenais, Ota, Stauffer, Boyson, & Doughty, 1995; White, 1998). For example, Jourdenais and colleagues (1995) compared two groups of Spanish learners' grammar learning in terms of enhanced input: one received 210 Spanish words that were underlined, bolded, and with different fonts; and the other received no enhanced input. They found that the former group improved significantly more than the latter group.

However, other researchers have not seen statistically significant improvement from the students with implicitly emphasized input (Alanen, 1995; Jourdenais, 1998; Leow, 1997; White, 1998). For example, Leow (1997) assigned the participants to one of four conditions, a long text with and without bold/underlined parts and a short text with and without bold/underlined parts. The four groups did not show any significant improvement in reading comprehension. Likewise, White's (1998) English learners did not show any differences between the groups with and without enhanced input either.

Leow (2001) examined whether noticing enhanced input is effective for helping learners understand the input. Think-aloud protocols by participants were analyzed, which showed that 60% of the students noticed the enhanced grammar rules better, but this did not guarantee that they understood the rules better than others. Nonetheless, he recommended that teachers use input enhanced materials to help their students discern the important points, because the students did pay attention to the enhanced content.

Graphic Organizers

Many researchers have supported the assumption that informing of the

organization of a text in advance helps reading comprehension (Carrell, 1984, 1985, 1992; Grabe, 2002; Jiang & Grabe, 2007); the studies using advance organizers and graphic organizers to show the organization of a text have been on the rise. *Advance organizers* refer to materials additionally given to a main text in order to activate readers' background knowledge in advance of reading it. One in which important information of a text is summarized with pictures, graphs, or visual aids is called a *graphic organizer*.

Jiang and Grabe (2007) classified the organization of a text into cause and effect, comparison and contrast, classification, problem and solution, for and against, procedure and sequence, and definition. It is widely agreed that those who know these different patterns in advance comprehend a text better than those who do not (Carrell, 1984, 1985, 1992; Goh, 1990; Martinez, 2002; Tang, 1992); this has encouraged teachers to have their students understand the organization of a text before reading via advance organizers.

A fair amount of prior L1 research showed that advance/graphic organizers have had a significantly positive influence on readers than those without one (Alvermann, 1980, 1981; Coward, Robinson, & Hsu, 2004; Kiewra, Dubois, Christina, & McShane, 1988; Kiewra, Kauffman, Robinson, Dubois, & Staley, 1999; Robinson & Kiewra, 1995; Robinson & Schraw, 1994). For example, Geva (1983) taught poor college readers the organization of a text and the related background knowledge with a flowchart-like graphic organizer, resulting in better reading comprehension performance scores than those not provided with graphic organizers. Boothby and Alvermann (1984) taught fourth graders with advance organizers, and the students with the organizers remembered the main ideas of texts better than those without on both an immediate test and a delayed test provided after 48 hours. Armbruster, Anderson, and Ostertag (1987) found that fifth graders who summarized a text after learning the organization with advance organizers remembered more and summarized better than those who did not. Based on their results, Armbruster et al. (1991) taught fourth and fifth graders with an advance organizer called a "frame," and they showed higher scores than those without it.

In addition, some L2 researchers compared advance organizers with questions of a text to those with declarative information of a text (Herron, Cole, York, & Linden, 1998; Lin & Chen, 2006). Lin and Chen (2006) argued that advance organizers with questions would be effective for more difficult reading tests than those with declarative information, because the questions helped the learners participate in reading more actively than declarative information. However, L2 researchers should not forget Kreiner's (1996) warning that asking questions would spend unnecessary cognitive resources before comprehending a text.

Compared with the studies concerning enhanced input, there are few L2 studies about graphic organizers but a fair amount of L1 studies offering implications regarding advance organizers. Advance organizers were found to be helpful in figuring out the macrostructure of a text and for remembering the main ideas of a text (Armbruster et al., 1987). Also, advance organizers made by students themselves were found to be more effective than those provided by teachers (Berkowitz, 1986; Spiegel & Barufaldi, 1994). Providing graphic organizers before reading a text was shown to be more helpful than providing them after reading (Griffin & Tulbert, 1995). According to another study, advance organizers with summaries yielded a more positive outcome than advance organizers alone (Armbruster et al., 1987). Lastly, how long a student learned to read with advance organizers and her age were shown to play an important role in improvement (Swafford & Alvermann, 1989).

METHOD

This study was conducted for five weeks at a university in Seoul, Korea. The participants, instrumentation and data collection procedures, and data analysis procedures of this study are described in this section.

Participants

Thirty-three university students participated in this study. All the participants were in their first year in the College of Arts and Humanities. In the first week, I explained to the participants about the purpose and the procedures of this study, and 33 students volunteered to participate in this study. None of the participants had experiences of studying English in an English speaking country. Those who did not volunteer participated in all the activities with those who did, except for the two test sessions, and their data was excluded from the analysis.

The participants were asked to visit an office where a video camera was set to record their verbal protocols (to analyze their performances on the timed free-recall tests) and reading behaviors (to make sure that the participants were doing only what they were asked to do while reading). When the participants attended the first test session, they were asked to do only one of the three behaviors: reading a text by completing the given graphic organizer with topic sentences (graphic organizer; GO), reading a text with enhancing topic sentences (enhancing input; EI), or reading a text without doing any extra behavior (control; CTR). For example, the first student was assigned to GO, the second to EI, the third to EI, the fourth to CTR, and so on. Table 1 shows the profile of the participants by group.

TABLE 1
Profile of Participants by Group

Group	N	Gender		First Year	No. of ss with experiences studying in an English speaking country
		Male	Female		
GO	11	4	7	11	0
EI	11	4	7	11	0
CTR	11	3	8	11	0

Instrumentation and Data Collection Procedures

Multiple-choice tests and timed free-recall tests after reading were

employed in this study. Multiple-choice questions are considered to tap explicit knowledge while free-recall tests are to examine implicit knowledge (Norris & Ortega, 2000), so both types of assessment were adopted in this study in order not to favor any type of reading strategies tested. Eight multiple-choice questions regarding the title and the seven topic sentences (out of a possible 15; 1 for a correct answer about the title and 2 for correct answers about each topic sentence) were tested immediately and one week after reading the text; for example, "what is the topic of the text you read?" when given such choices as "tasting a shape, smelling color, synesthesia, and Cytowic"; and "what did you read in the text?" when given such choices as "Cytowic believes that females can develop the ability to be synesthetic as they mature; Cytowic believes that we are all born without synesthesia but some children can develop the ability to be synesthetic as they mature; and Cytowic believes that we are all born synesthetes but that most of us lose this ability as we mature." The topic sentences and multiple-choice questions were examined by an English major in his fourth year and a professional English teacher with an M.A. in the field to see whether the items were properly selected and written. As a timed free-recall test (out of a possible 15), the participants were given five minutes and asked to recall whatever they remembered of the text. As noted earlier, this study was highly interested in which type of reading strategies would help EFL readers remember topic sentences. To this end, the immediate tests by each group were also compared with their delayed tests.

In the first week, the participants took a free practice Test of English for International Communication (TOEIC) reading test (out of a possible 495) to compare their general reading proficiency. They also took a multiple-choice test and were asked to recall for five minutes whatever they remembered immediately after reading a text, with a different topic from the main text, to compare how well they were used to recalling textual information before any intervention.

In the second week, the pilot group was recruited and was made up of 10 freshmen students with the same major, whose average TOEIC scores were

not significantly different from the participants in this study. They were given four texts with different topics and had a focus group meeting. One of the four texts, *Ever Taste a Shape or Smell a Color?*, was chosen because it was the only topic of which none in the pilot group had any background information. It consisted of 7 paragraphs and 446 words. The readability formula, SMOG (McLaughlin, 2009), verifies that the text is readable by high school graduates (grade 12).

In the fourth week, when their first reading was expected to have no impact on the main task, the participants were asked to read the main text. While the CTR group was not given any instruction but reading the text, the GO group was given the text with a separate sheet and asked to complete a graphic organizer on the sheet with the topic sentences they found while reading, and the EI group was given the text and asked to underline the topic sentences they found while reading.

In the fifth week, when the participants were expected to forget most of their reading, the participants took the delayed multiple-choice test and were asked again to recall for five minutes whatever information they could remember from the text they had read.

Data Analysis Procedures

As described above, the data of the 33 students were analyzed to compare how well the participants remembered the text. In addition to the multiple-choice questions, their timed free-recall tests immediately and after one week, which were collected from their think-aloud protocols, were transcribed and scored based on the following rubric (see Table 2). Their transcribed responses were scored by the researcher and the professional English teacher, and the inter-rater reliability was very high (α=.99). The mean scores of the two raters were used for the analysis. Then, to discover any statistical differences, Kruskal-Wallis tests and Mann-Whitney tests were conducted because the sample sizes were not big enough to run ANOVA and t-tests.

TABLE 2
Scoring Rubric for the Free-Recall

Score	Criteria
15	Free-recall that includes all the 7 topic sentences and the title.
14	Free-recall that includes all the 7 topic sentences, except for the title.
13~0	Deduct 2 whenever a participant could not recall necessary information of 7 topic sentences. Deduct 1 when a participant produces only a part of each topic sentence. Deduct 0.5 when a participant produces a statement partly skewed by his/her own interpretation.

RESULTS

As mentioned earlier, this study was conducted to address the following research questions: "Are there any differences between the two reading strategies, using graphic organizers and enhancing input, in the extent of reader recollection of the topic sentences of each paragraph? If so, which is more effective for remembering the topic sentences for a greater length of time?"

It was of primary importance to see whether there was any difference among the three groups in this study: one group with completing a graphic organizer with the topic sentences (GO; explicitly driven), another group with enhancing the topic sentences (EI; implicitly driven), and finally a group without any help in remembering the topic sentences (control group; CTR). In order to compare their general reading proficiency, their TOEIC scores were compared. The Kruskal-Wallis test showed no statistically significant difference in the groups' TOEIC scores ($p=.368$). Also, in order to compare their reading performances, which this study was interested in (recollection of what they read), the participants were asked to read a new text, to take multiple-choice questions, and to recall what they could remember, as they would do for the main task. Kruskal-Wallis test showed statistical differences neither in the multiple-choice ($p=.836$) nor in the timed free-recall tests ($p=.923$).

TABLE 3
Participants' Reading before the Intervention

Group (N)	Pre-test		TOEIC Reading Score (495)
	Multiple-Choice Mean (SD)	Free-Recall Mean (SD)	
GO (11)	9.18 (1.72)	5.73 (3.13)	279.00
EI (11)	9.45 (1.81)	6.00 (3.55)	269.82
CTR (11)	9.27 (1.68)	5.45 (3.24)	284.44

With the same reading performances, when they were asked to use different types of reading strategies while reading a main text, the GO group was expected to do better in the explicit assessment (multiple-choice questions) than the EI group and the EI group to do better in the implicit assessment (timed free-recall) than the GO group as in the previous studies (Norris & Ortega, 2000). Also, both groups were expected to do better than the CTR group.

In contrast to expectations, however, their immediate free-recall test results showed no significant differences among the three groups ($p=.157$), while the immediate multiple-choice test results showed significant differences ($\chi^2=6.39$, $df=2$, $p=.041$). Interestingly, their delayed free-recall test results showed significant differences ($\chi^2=13.24$, $df=2$, $p=.001$), while the delayed multiple-choice test results showed no differences ($p=.279$). Their descriptive statistics are presented in Table 4, and the results are summarized in Table 5.

TABLE 4
Descriptive Statistics: Immediate and Delayed Tests

Group (N)	Immediate Tests		Delayed Tests	
	Multiple-Choice Mean (SD)	Free-Recall Mean (SD)	Multiple-Choice Mean (SD)	Free-Recall Mean (SD)
GO (11)	10.18 (1.89)	10.09 (3.62)	8.91 (1.58)	10.91 (2.02)
EI (11)	12.18 (1.17)	9.00 (5.53)	9.91 (1.22)	8.18 (3.57)
CTR (11)	11.27 (1.19)	6.55 (4.21)	9.73 (1.10)	4.64 (4.11)

TABLE 5
Summary of Results

	Immediate Tests	Delayed Tests
Multiple-Choice (Explicit Type)	Significant differences EI > GO	No difference EI = GO = CTR
Free-Recall (Implicit Type)	No difference EI = GO = CTR	Significant differences GO > EI GO, EI > CTR

Pairwise comparisons of the immediate multiple-choice test and delayed free-recall test, which showed significant differences among the three groups, were conducted with Mann-Whitney tests. First, immediate multiple-choice tests were compared: (a) significantly higher scores of the EI group than the GO group (U=26.00, Z=2.33, p=.02), (b) no difference between the GO group and the CTR group, and (c) no difference between the EI group and the CTR group. The only group that displayed significant higher scores was the EI group in the explicit type of assessment, in contrast to expectations and prior studies in this area (Norris & Ortega, 2000).

Another contrasting result was found among the delayed free-recall tests, the implicit type of assessment: (d) significantly higher scores of the GO group than the EI group (U=32.50, Z=1.96, p=.05), (e) significantly higher scores of the GO group than the CTR group (U=10.00, Z=3.41, p=.001), and (f) significant higher scores of the EI group than the CTR group (U=30.00, Z=2.08, p=.037).

DISCUSSION AND IMPLICATIONS

First, focusing on the results of the immediate tests, the participants employing the rather implicit reading strategy remembered significantly better in the explicit type of assessment in the immediate test. It was rather interesting to discover contrasting results to previous studies, because many of the previous studies used the explicit type of assessment, resulting in the favor of explicit instructions (Norris & Ortega, 2000).

To be more specific, using both types of assessment in this study, I expected that the GO group would perform better in the multiple-choice questions because the GO group was more actively engaged in remembering the topic sentences while writing the topic sentences of each paragraph in the graphic organizer, which is more explicit than enhancing the topic sentences. However, the EI group that enhanced the topic sentences in a rather implicit and passive way performed better on the multiple-choice test, which is rather a more explicit assessment than the timed free-recall. In addition, the EI group, contrary to expectation, did not remember more sentences in the free-recall test than the other two groups. In other words, both the text with the graphic organizer and the text with the enhanced topic sentences had little positive influence on the free-recall test, as little as solely the text without any strategy to notice the topic sentences.

I was somewhat surprised and disappointed to discover that the graphic organizer had no positive influence in remembering the sentences shortly after reading the text, because the process itself was likely highly obtrusive to the students. In other words, only the GO group had two sheets of paper, the text and the graphic organizer to complete. In fact, the GO group showed the lowest scores in the immediate multiple-choice test.

The result may also be attributed to the fact that the Korean college students had little knowledge or experience using graphic organizers or at least they were more accustomed to the enhanced input than the graphic organizer. Furthermore, the result might have been caused by the fact that this study used each type of assessment for the different purposes; that is, this study assessed reading performance while the previous studies measured the participants' grammar knowledge. Or it is possible that using the given graphic organizer, instead of creating one, is not so explicit as expected, and moreover, enhancing the given input is not so implicit as is textual enhancement (60 % of Leow's (2001) participants noticed the enhanced rules).

Thus, it is necessary for the extent of implicitness of various reading strategies to be compared in the following studies. In addition, further

research with bigger sample sizes regarding whether creating a graphic organizer is more effective than using a given one or how Korean EFL readers evaluate the effectiveness of graphic organizers for reading is needed.

Based on the result, it would likely be effective for teachers to encourage their students to enhance important information while reading rather than writing it in a graphic organizer, especially when they plan to help their students remember reading material in a more selected response test than in a freely constructed response test.

Second, it was even more interesting to see the opposite results of the delayed tests than those of the immediate tests. Whereas there was a significant difference in the multiple-choice questions and no difference in the free-recall in terms of the immediate tests, there was no difference in the multiple-choice questions but significant difference in the free-recall in terms of the delayed tests.

Since this study was investigating which of the two strategies will be more effective in remembering topic sentences, it is important to discuss implications of the results of the delayed tests. As Table 5 shows, the GO group remembered more than the EI group, and both GO and EI groups remembered more than the CTR group in the free-recall but not in the multiple-choice test. This means that the action of enhancing topic sentences, which showed a short-term effect in the multiple-choice test, did not carry on their effect in the long-term. Also, the action of completing the graphic organizer with the topic sentences, which seemed to have no effect on any type of test, eventually had a long-term effect in the free-recall but not in the explicit type of assessment.

This result suggests that the participants could not recall the information in the graphic organizer in immediate tests, but by the time they were expected to forget most of what they read, the usage of graphic organizers worked as an effective method for the participants' recollection of what they read in the long run. It is possible that the double processing of reading the topic sentences and writing them in graphic organizers (active) was a more effective way to remember than that of reading the topic sentences and

simply highlighting them (passive). Thus, it is recommended to conduct future studies to explore the relationship between active and passive reading strategies as well as explicit and implicit reading strategies.

Third, when comparing the descriptive statistics (the mean scores of the tests between the immediate and delayed tests in Table 4) to observe the tendency, both the GO group (multiple-choice: 10.18 to 8.91; free-recall: 10.09 to 10.91) and the EI group (multiple-choice: 12.18 to 9.91; free-recall: 9.00 to 8.18) seemed to preserve what they remembered in the delayed tests, unlike the CTR group (multiple-choice: 11.27 to 6.55; free-recall: 9.73 to 4.64). Moreover, the GO group remembered more in the delayed free-recall test than in the immediate test; even though it was not statistically significant, the effectiveness of graphic organizers in the long-term memory should be noted. In addition, both types of reading strategies related to the topic sentences were more effective than simply reading the text, as was the case in the CTR group, in helping students remember them for a longer period of time.

Therefore, teachers should encourage their students to actively mark the topic sentences of each paragraph than simply reading a text passively. To be more exact based on the results of this study, when they want a short-term memory effect, readers should use textual enhancement but use graphic organizers when they want a long-term memory effect. In other words, teachers should let their students enhance newly introduced content and let them use graphic organizers to help them remember the content on a long-term basis. Also, since this study gives implications regarding only the two reading strategies, but because EFL readers should eventually be able to use various proper reading strategies for different texts, teachers should encourage their students to employ different types of reading strategies and evaluate the effectiveness of the strategies by themselves, ultimately resulting in self-regulated reading.

CONCLUSION

In this study, I hoped to expand the discussion of implicitness and explicitness to the characteristics of reading strategies. The effects of explicit or implicit ways to present target features have been examined mostly in rule-learning, i.e., grammar instruction. In this context, reading texts have been provided with enhanced target rules to see whether the participants pick up the rules while reading the texts. However, since reading texts to collect information is one of the most important skills in the EFL learners' academic world, in this study, I tried to explore the effects of explicit and implicit ways to remember the target feature (topic sentences in this study) in reading.

The results were remarkable. First, the implicit way of underlining the topic sentences was the most effective way for EFL readers to remember the topic sentences in the immediate multiple-choice test. Second, the explicit way of writing the topic sentences in a given graphic organizer was the most effective way for EFL readers to remember them in the delayed free-recall test. Third, those employing the two reading strategies were able to remember more topic sentences in the delayed free-recall test than those without any help in remembering topic sentences. These results imply that enhancing input was effective for Korean EFL readers to remember what was given in the short-term memory, while using a graphic organizer was effective for them to remember what was read in the long-term memory; both will help them more than those with no reading strategies.

Even with the interesting results, this study has limitations to be considered for future studies. First, this study compared the effectiveness of only two reading behaviors, but there are much more reading strategies whose effectiveness should be examined. Second, this study focused on whether the reading strategies helped EFL learners remember the topic sentences (or recall them), but since recollection is not the only purpose of reading, various reading strategies for different purposes should be investigated. Third, although any strategy-like behavior was not observed with the CTR group (analyzed with the videotaped data), the possibility that they also used some

reading strategies should not be ignored. Also, even though the GO and the EI groups were not observed for additional behaviors other than what they were asked to do, according to the videotaped data and their verbal protocols, it is still possible for them to have used non-observable strategies, such as visualizing, in order to remember the topic sentences well. Lastly, different results might have been observed with bigger samples, so the results of this study should be considered to provide an insight for further studies rather than being generalized to different contexts.

Since this study has explored a partial topic in reading strategies with a small number of students, I hope this study offers a foundation for further research to be conducted in the near future.

THE AUTHOR

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REFERENCES

Alanen, R. (1995). Input enhancement and rule presentation in second language acquisition. In R. W. Schmidt (Ed.), *Attention and awareness in foreign language learning* (pp. 259-302). Honolulu, HI: University of Hawai'i, Second Language Teaching and Learning Center.

Alvermann, D. (1980). Effects of graphic organizers, textual organizers, and reading comprehension level on recall of expository prose (Doctoral dissertation, Syracuse University, 1980). *Dissertation Abstracts International, 41*, 3963A.

Alvermann, D. (1981). The compensatory effect of graphic organizers on descriptive text. *The Journal of Educational Research, 75,* 44-48.

Armbruster, B., Anderson, T., & Meyer, J. (1991). Improving content area reading using instructional graphics. *Reading Research Quarterly, 26*, 393–416.

Armbruster, B., Anderson, T., & Ostertag, J. (1987). Does text structure/summarization instruction facilitate learning from expository text? *Reading Research Quarterly, 22*(3), 331-346.

Baddeley, A. D. (1999). *Essentials of human memory.* UK: Psychology Press Ltd.

Berkowitz, S. (1986). Effects of instruction in text organization on sixth-grade students' memory for expository reading. *Reading Research Quarterly, 21,* 161–178.

Blachowicz, C., & Ogle, D. (2001). *Reading comprehension: Strategies for independent learners*. New York: The Guilford Press.

Boothby, P., & Alvermann, D. (1984). A classroom training study: The effects of graphic organizer instruction on fourth graders' comprehension. *Reading World, 23,* 325–339.

Carrell, P. L. (1984). The effects of rhetorical organization on ESL readers. *TESOL Quarterly, 18*(3), 441-469.

Carrell, P. L. (1985). Facilitating ESL reading by teaching text structure. *TESOL Quarterly, 19*(4), 727-752.

Carrell, P. L. (1992). Awareness of text structure: Effects on recall. *Language Learning, 42*(1), 1-20.

Coward, F. L., Robinson, D. H., & Hsu, C. (2004). The role of cultural background in using adjunct displays. *Research in the Schools*, *11*, 35-41.

Doughty, C. (1991). Second language instruction does make a difference: Evidence from an empirical study on SL relativization. *Studies in Second Language Acquisition, 13*, 431-469.

Ellis, N. (2001). Memory for language. In P. Robinson (Ed.), *Cognition and second language instruction* (pp. 33-68). Cambridge: Cambridge University Press.

Ellis, N. (1993). Rules and instances in foreign language learning: Interactions of explicit and implicit knowledge. *European Journal of Cognitive Psychology, 5*, 289-319.

Ellis, R. (2009). Measuring implicit and explicit knowledge of a second language. In R. Ellis, S. Loewen, C. Elder, R. Erlam, J. Philip, & H. Reinders (Eds.), *Implicit and explicit knowledge in second language learning, testing and teaching* (pp. 31-64). Toronto: Multilingual Matters.

Erlam, R. (2009). The elicited oral imitation test as a measure of implicit knowledge. In R. Ellis, S. Loewen, C. Elder, R. Erlam, J. Philip, & H. Reinders (Eds.), *Implicit and explicit knowledge in second language learning, testing and teaching* (pp. 65-93).Toronto: Multilingual Matters.

Gass, S. M., Svetics, I., & Lemelin, S. (2003). Differential effects of attention. *Language Learning, 53*(3), 497-545.

Geva, E. (1983). Facilitating reading comprehension through flowcharting. *Reading Research Quarterly, 18,* 384–405.

Goh, S. T. (1990). The effects of rhetorical organization in expository prose on ESL readers in Singapore. *RELC Journal, 21*(2), 1–13.

Grabe, W. (2002). Using discourse patterns to improve reading comprehension. *Proceedings of the Japan Association for Language Teaching, Japan, 28*, 9-17.

Griffin, C., & Tulbert, B. (1995). The effect of graphic organizers on students' comprehension and recall of expository texts: A review of the research and implications for practice. *Reading and Writing Quarterly, 11*(1), 73–89.

Griffiths, C. (2008). *The good language learner: Lessons from research*. Cambridge: Cambridge University Press.

Herron, C., Cole, P., York, H., & Linden, P. (1998). A comparison study of student retention of foreign language video: Declarative versus interrogative advance organizer. *Modern Language Journal, 82*(2), 237-247.

Jiang, X., & Grabe, W. (2007). Graphic organizers in reading instruction: Research findings and issues. *Reading in a Foreign Language, 19*(1), 34-55.

Jourdenais, R. (1998). *The effects of textual enhancement on the acquisition of the Spanish preterit and imperfect*. Unpublished doctoral dissertation, Georgetown University, Washington, D.C.

Jourdenais, R., Ota, M., Stauffer, S., Boyson, B., & Doughty, C. (1995). Does textual enhancement promote noticing?: A think aloud protocol analysis. In R. W. Schmidt (Ed.), *Attention and awareness in foreign language learning* (pp. 183-216). Honolulu, HI: Univerisity of Hawai'i, Second Language Teaching and Learning Center.

Kiewra, K. A., Dubois, N. F., Christina, D., & McShane, A. (1988). Providing study notes: Relation of three types of notes for review. *Journal of Educational Psychology, 80*, 595-597.

Kiewra, K. A., Kauffman, D., Robinson, D. H., Dubois, N. F., & Staley, R. K. (1999). Supplementing floundering text with adjunct aids. *Instructional Science, 27*, 373-401.

Kreiner, D. S. (1996). Effects of advance questions on reading comprehension. *Journal of General Psychology*, *123*(4), 352-364.

Leow, R. (1997). The effects of input enhancement and text length on adult L2 readers' comprehension and intake in second language acquisition. *Applied Language Learning, 8*(2), 151-182.

Leow, R. (2001). Do learners notice enhanced forms while interacting with the L2?

An on-line and off-line study of the role of written input enhancement in L2 reading, *Hispania, 84*, 496–509.

Lin, H., & Chen, T. (2006). Decreasing cognitive load for novice EFL learners: Effects of question and descriptive advance organizers in facilitating EFL learners' comprehension of an animated-based content lesson. *System, 34*, 416-431.

Martinez, A. C. L. (2002). Empirical examination of EFL readers' use of rhetorical information. *English for Specific Purposes, 21*, 81–98.

McLaughlin, H. (2009). *SMOG: Simple Measure of Gobbledygook*. Retrieved July 9, 2009, from http://www.harrymclaughlin.com/SMOG.htm.

Norris, J., & Ortega, L. (2000). Effectiveness f L2 instruction: A research synthesis and quantitative meta-analysis. *Language Learning, 50*(3), 417-528.

Pressley, M. (2000). What should comprehension instruction be the instruction of? In M. L. Kamil, et al. (Eds.), *Handbook of reading research* (pp. 545-561). Mahwah, NJ: Lawrence Erlbaum Associates.

Reinders, H., & Ellis, R. (2009). The effects of two types of input on intake and the acquisition of implicit and explicit knowledge. In R. Ellis, S. Loewen, C. Elder, R. Erlam, J. Philip, & H. Reinders (Eds.), *Implicit and explicit knowledge in second language learning, testing and teaching* (pp. 281-302). Bristol, Buffalo, Toronto: Multilingual Matters.

Robinson, D. H., & Kiewra, K. A., (1995). Visual argument: Graphic organizers are superior to outlines in improving learning from text. *Journal of Educational Psychology, 87*, 455-467.

Robinson, D. H., & Schraw, G. (1994). Computational efficiency through visual argument: Do graphic organizers communicate relations in text too effectively? *Contemporary Educational Psychology, 19,* 399-415.

Schmidt, R. (1995). Consciousness and foreign language learning: A tutorial on the role of attention and awareness in learning. In R. Schmidt (ed.), *Attention and awareness in foreign language learning* (pp.1-63). Manoa: University of Hawai'i Press.

Sharwood Smith, M. (1991). Speaking to many minds: On the relevance of different types of language information for the L2 learner. *Second Language Research, 7*(2), 118-132.

Spiegel, G. F., & Barufaldi, J. P. (1994). The effects of a combination of text structure awareness and graphic postorganizers on recall and retention of science knowledge. *Journal of Research in Science Teaching, 31*, 913–932.

Swafford, J., & Alvermann, D. (1989). Postsecondary research base for content reading strategies. *Journal of Reading, 33*, 164–169.

Tang, C. (1992). The effect of graphic representation of knowledge structure on ESL reading comprehension, *Studies in Second Language Acquisition*, *14*, 177-195.

Trabasso, T., & Bouchard, E. (2002). Teaching readers how to comprehend text strategically. In C. C. Block & M. Pressley (Eds.), *Comprehension instruction: Research-based best practices* (pp. 176–200). New York: The Guilford Press.

White, J. (1998). Getting the learners' attention: In C. Doughty, & J. Williams (Eds.), *A typographical input enhancement study. Focus on form in classroom second language acquisition* (pp. 85-113). London: Cambridge University Press.

Young, D. J. (1993). Processing strategies of foreign language readers: Authentic and edited input. *Foreign Language Annals*, *26*(4), 451-468.