Effects of Explicit Instruction in Reading Strategies on Strategy Use and English Reading Ability of Japanese EFL College Students

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Abstract

This paper describes how explicit instruction in reading strategy affects Japanese EFL college students' strategy use and English reading abilities. Thirty-six intermediate proficiency EFL college students were instructed in five reading strategies, namely, phase reading, identifying referents, inferring unknown words, understanding signal words, and identifying main ideas and topic sentences. Instruction lasted for ninety minutes once a week during English classes provided over a four-month period. Presentation, exercises, mini-tests, and portfolios were provided to the participants. A general reading test and a questionnaire on the frequency of reading strategy use were conducted prior to and immediately after the four months of instruction in an experimental group and a control group. Moreover, in the experimental group, a pre- and post-reading strategy test was administered and additionally, a thinking-aloud protocol was used to determine the effects of the instructed strategies. Findings revealed that frequency of strategy use, but not reading ability, differed significantly between the groups. The strategy test revealed there were differences of gains in score among the five strategy sections. Students' awareness of strategy use was markedly increased by the instructed activities. In terms of reading attainment through strategy use, some strategies may be more difficult to acquire than others.

1. Introduction

The provision of explicit strategy instruction in reading has received increasing support in the fields of L1 and L2 education in recent years (Cohen, 2011; Grabe, 2009). Grabe (2009, p. 242) proposes that "strategy training is the foundation of reading comprehension development", although it is not conducted in most teaching classrooms in either the L1 or L2 context. Vital to explicit instruction in reading strategies is metacognition, namely, "the ability to reflect on one's own cognitive processes" (Baker & Brown, 1984, p. 353), otherwise often referred to as metacognitive awareness in reading. Metacognitive awareness enables learners to be aware what
strategies are effective and when, where, and how they should use appropriate strategies to improve reading comprehension (Carrell, 1989).

Cohen (2011, p. 370) proposes that “explicit strategy instruction provides the most efficient way for learners’ awareness to be heightened”, although the effects of instruction vary, depending on the methods selected in L1 and L2 settings. Reflecting on the findings of previous studies concerning the question of whether explicit reading strategy training develops L2 learners’ reading comprehension has been investigated by numerous researchers, especially since the 1980’s (Barnett, 1988; Carrell, Pharis, & Liberto, 1989; Kern, 1989). However, as Yamamori et al. (2003, p. 470) report, the “relationship between strategy use and achievement is complex [and] multifactorial” and many factors are involved in learning a foreign language.

Most previous studies were designed to examine general reading abilities pre- and post-instruction, transfer of L1 strategies to L2, and strategy use development (Barnett, 1988; Bimmell, et. al, 2001; Carrell, Pharis, & Liberto, 1989; Dreyer & Nel, 2003; Kern, 1989; Raymond, 1993). Very few have reported on whether individual instructed strategies have been acquired and used successfully after the training in order to examine whether learners know when and where the strategy should be appropriately used (Winograd & Hare, 1988).

In this research, following a review of previous studies reported over the last couple of decades, strategy training was provided for EFL Japanese college students to examine whether explicit instruction affects reading abilities and strategy use and how well the learners use each instructed strategy in reading comprehension.

2. Review of Explicit Instruction Studies

Previous studies on strategy training include a variety of factors such as the number and age of participants, the participants’ proficiency level, the instruction period, the strategies taught, and the design of instruction provided. Therefore, it is difficult to generalize their methods (= causes) and results. Following a review of four studies conducted in the last couple of decades, including articles recruiting Japanese EFL students, I will first briefly outline those studies in which the authors concluded that their instruction produced positive effects on reading comprehension, but not always with statistically significant results, and then those that did not report positive effects.

First, Kern (1989) was among those authors finding a positive effect of instruction. He conducted reading strategy instruction over one semester with 53 intermediate level students studying French at a university in the United States. Five instructors participated in the study. After the subjects were divided into an experimental group (n = 26) and a control group (n = 27), the experimental group received reading strategy instruction. The instruction showed a positive effect on comprehension gain scores but only the lower level group showed a significant difference, although for word inferring ability the effects were less clear.
Hiromori (2005) conducted metacognitive strategy instruction with 60 first-year college students. The experimental group (n = 30), consisting of three groups, high, middle and low, was treated with a series of cognitive reading strategies (e.g., pre-reading preparation, skimming, scanning, and finding topic sentences) and metacognitive strategies (e.g., planning, monitoring, and evaluation). The finding revealed that the experimental group outperformed the control group. Moreover, the low proficiency group showed considerable gains in the comprehension test. This indicates that some instruction strategies were effective for parts of the group, such as the low level group.

Let us now turn to those studies for which the authors reported that instruction did not produce positive results. Barnett (1988) conducted training with approximately 200 university students studying elementary level French. Six teaching assistants taught four strategies to the experimental group for one year. The results revealed that the experimental group did not show statistically better improvement than the control group, although the experimental group’s scores were higher than those of the control group. As a limitation of this work, there was no statistical description of the two groups’ proficiency level before the instruction.

Kimura’s (1999) metacognitive training study did not produce any positive results. Eighty-nine first-year Japanese students majoring in English at a junior college were divided into three groups: directed reading-thinking activity using a problem-solving process, semantic mapping group to facilitate readers’ schematic activation using graphic representation, and a control group. All three groups received instruction from the author. The results revealed no significant differences between the three groups.

These previous studies tended to examine either the improvement of general reading abilities or the frequency of strategy use, rather than reading strategy achievement acquired through explicit instruction. It is also questionable whether the general reading test is an appropriate tool to investigate the effects of strategy instruction. It is necessary, therefore, to conduct a strategy test to examine the effects of explicit instruction on whether there are any differences of achievement in acquiring strategy use through an investigation of participants’ actual strategy use (see Raymond, 1993). A triangulation method including more than one method might be effective for analyzing multiple data from different perspectives (Raymond, 1993), although few studies have used it in data analysis (Cohen, & Macro, 2007). Consequently, in the present study, a quantitative methods, namely a pre- and post-reading strategy test, was combined with a qualitative method, namely think aloud (TA), to examine the effects of the explicit instruction. The TA protocol was conducted to determine how the participants answered questions applying the strategies taught to complement the outcomes of the strategy test. This study therefore sought to examine whether explicit instruction in reading strategies affects the participants’ frequency of strategy use and general reading abilities and whether they are able to use the instructed strategies appropriately in situations. Portfolios were introduced into the class in order to enhance the students’ awareness of strategy use.
The following research questions were examined.
1. Does explicit instruction affect the general reading abilities of an experimental group?
2. Does explicit instruction affect strategy use by the experimental group?
3. How does explicit instruction affect language achievement for each instructed strategy?

3. Methods

3.1 Participants

Participants in the experiments were first-year students majoring in Business Administration, Social Studies, or Law on a four-year course at a private university located in a middle-sized Japanese city. Eighty students participated at the initial stage, but as some students were absent from classes and missed either the pre- or post-general reading test, 69 in total took both tests. Proficiency level of the 69 participants (36 experimental group and 33 control group) ranged from approximately 350 to 550, converted from TOEIC Bridge to TOEIC scores, based on the conversion table issued by the English Testing Service.

3.2 Materials

Participants were provided with handouts, several textbooks, and prepared reference material for the instruction (Appendix A). Some of the materials included the handouts made for the pilot study. English passages were mainly selected from the senior high school writing textbook, Crown English Writing (Shimozaki et al., 2008). The handouts, introducing one strategy at a time, were composed of three exercises increasing in difficulty from basic to advanced level.

3.3 Procedure

Because of the class schedule, allocating participants randomly was not possible. Instead, two intact English classes were randomly assigned to either an experimental group or a control group.

The experimental group was taught by the author, whereas the control group was taught by a colleague specializing in English literature. Regarding the control group, the pre-reading test and questionnaire were conducted by another instructor prior to the four months of instruction, and a post-reading test and questionnaire were conducted by the author immediately after the four months of instruction in her class.

The final goal for the two groups was to develop their general reading abilities even though the teaching methods used were different. The specific objective for the experimental group was to develop their reading strategy use and reading abilities by providing the participants with explicit instruction in reading strategies so that they learned what the strategies were and how and when to use them successfully. The specific objective for the control group was to read the British literary work, Maurice, or The Fisher's Cot: A Tale written by Mary Shelley in 1820. Several students translated the passages into Japanese in class. The teacher taught grammar, vocabulary,
sentence structure, and the background to the novel, although she did not refer to strategies explicitly or directly.

3.4 Instruments
3.4.1 General Reading Test and Questionnaire

Two main instruments used to assess both groups were a general English reading test and a questionnaire examining frequency of strategy use, both of which were administered before and after four months of instruction. Additionally, the portfolio materials were used to examine how the participants employed the strategies by developing awareness of reading processes.

The general reading test for the two groups, the third- and fourth-grade multiple-choice General Tests of English Language Proficiency (G-TELP), was conducted for forty-five minutes. It is a multiple-choice reading comprehension test consisting of 38 items. The same test was used as a posttest to control for the content variables. The questionnaire, comprised of 36 strategy use questions, was distributed to the two groups just after they took the general reading test. It was designed to examine how the frequency of strategy use changed before and after instruction. Question items referred to a previous study (Ikeda & Takeuchi, 2000). Subjects answered using a 5-point Likert scale (1: did not use the strategy at all; 2: seldom used the strategy; 3: sometimes used the strategy; 4: often used the strategy; 5: always used the strategy).

3.4.2 Reading Strategy Test and TA Protocol

For the experimental group only, a reading strategy test was created by the author to examine achievement (i.e., whether the participants were able to use instructed strategies successfully in answering reading comprehension) (see Appendix B). It was comprised of five sections: marking slashes and writing the meaning of sentences (6 items), identifying reference words (4 items), inferring unknown words (4 items), selecting appropriate signal words (4 items), and finding topic sentences (6 items). Two passages were selected from Ushiro et al. (2009). The readability of two passages was as follows: 'Free from One’s Body' (220 words): Flesch Reading Ease - 69.37, and Flesch Kincaid Grade Level - 7.49; ‘Moth or Butterfly’ (315 words): Flesch Reading Ease - 61.16, and Flesch Kincaid Grade Level - 9.62. Both passages are appropriate for the participants with intermediate proficiency level. Most participants finished answering the questions in forty-five minutes. In order to examine the reliability of the test, a pilot study was conducted with 10 students. There were strong correlation between TOEIC scores (Reading and Listening) and the reading strategy test (Pearson’s coefficient correlation \( r = .700, p < .05 \)). The correlation between the post-G-TELP test and the post-reading strategy test was considerably strong (\( r = .405, p < .05 \)). All the questions except phrase reading were scored using a 2-point scale (0 for an incorrect answer; 1 for a correct answer). Two raters scored the answers and interrater reliability was checked. Interrater reliability was 98% for the pre-test and 92% for the posttest. After discussing the few differences, all the disagreements were resolved.
To complement the results of the reading strategy test, the TA protocol and interview were conducted by the author one week after the post-reading strategy test to examine what strategies were used and whether their participants’ answers were appropriate. Five volunteers in the experimental group participated in the session. TA was conducted, with only one subject at a time in the study room. Subjects verbalized their reading processes when answering the first passage. The retrospective interview was then conducted to check the verbalization. The subjects had already practiced TA for at least 90 minutes before the session. Two raters checked the types and frequency of strategies and any disagreements were resolved.

3.5 Instruction

At the beginning of the four months of classes, the author explained to the students that the classes were designed to improve their reading abilities by learning reading strategies and joining in with several activities in class. Five strategies (i.e., phrase reading, identifying referents, inferring unknown words, understanding signal words, and identifying topic sentences and main ideas) were chosen as effective and essential strategies from previous studies (Barnett, 1988; Bimmel et al, 2001; Carrell et al., 1989; Kern, 1989; Kimura et al, 1993; Ikeda, 2007; Ikeda & Takeuchi, 2000; Raymond, 1993) and a strategy textbook (Ushiro et al, 2009). One strategy was taught once a week for ninety minutes over four months. Each of the five strategies was taught in one class over a five-week period then taught again in the succeeding five weeks.

The explicit instruction was divided into four stages: presentation (fifteen minutes), practice and exercises (twenty-five minutes), writing portfolios (twenty minutes), and answering mini-tests and round-up (twenty and ten minutes, respectively). First, the author presented a new strategy to explain what the strategy was and how to use it. As instruction, the author taught the students to combine strategies for effective strategy use (Grabe, 2009). Second, the students answered questions about the strategies instructed. The author gave suggestions and advice about their answers for further understanding. Third, immediately after answering a reading task, the students wrote their portfolios to reflect upon their reading processes. Lastly, they answered a twenty-minute mini-test to let them know in which situations the instructed strategies should be used appropriately. Mini-tests, comprised of 15 items, were selected from past Eiken 2nd and Pre-2nd examinations and exercise books.

The portfolios were introduced in the reading strategy instruction in class. Although very few studies have reported efficacy, they are effective as a consciousness raising tool (Ikeda, 2007). The students were provided with a strategy list to reflect on their strategy use in the comprehension. Immediately after the reading task, they were required to report the type and frequency of the strategies they employed and to give comments on whether the use of particular strategies was successful or not. Five weeks later when the students were familiar with reporting in this way, they were asked to complete this work at home as assignments.
4. Results

4.1 General English Reading Test Results

The pre- and post-tests were conducted for the four-month period to try to avoid relay effects. First, equivalence between the experimental and control groups was examined in order to see the effects of explicit instruction. A t-test revealed no significant differences in the mean pretest scores for the two groups ($t(67) = 1.816, \text{ns}, r = .22$).

Table 1 shows the pre- and post-test results. There were no significant differences in posttest score between the experimental and control groups, indicating there were no training effects in the experimental group ($t(67), = -.003, \text{ns}, r = .00$). The control group gained by an average of 5.59, whereas the experimental group gained by 3.55. Regarding the mean gains in pre- and post-test scores for each group, the scores of the two groups increased significantly ($p < .01$), indicating that two groups increased their reading abilities over the four months. However, the results shown in Table 1 do not provide sufficient information to analyze how far the explicit instruction affected the experimental group during the period.

Table 1 Pre- and Post-test Results of the General English Reading Test

<table>
<thead>
<tr>
<th></th>
<th>Experimental group</th>
<th>Control group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n = 36)</td>
<td>(n = 33)</td>
</tr>
<tr>
<td>Pretest</td>
<td>Posttest</td>
<td>Pretest</td>
</tr>
<tr>
<td>Mean</td>
<td>21.47</td>
<td>19.79</td>
</tr>
<tr>
<td>SD</td>
<td>4.13</td>
<td>3.81</td>
</tr>
<tr>
<td>Gain</td>
<td>3.55</td>
<td>5.59</td>
</tr>
</tbody>
</table>

4.2 Questionnaire Results

Table 2 shows the mean reading strategy scores for the experimental and control groups. The results revealed that two groups showed significant differences in mean reading strategy scores between the pre- and post-questionnaires (experimental group $t(35) = -5.107, p = .000, r = .65$; control group $t(32) = -3.576, p = .001, r = .54$). Thus, both English classes increased the frequency of strategy use with or without explicit instruction (see Table 2). However, the experimental group outperformed the control group regarding the number of significant mean gains of pre- and post-reading strategy, whether the strategy was taught by the author or not. Fourteen reading strategies in the experimental group but only five in the control group showed statistically significant differences between pre- and post-reading strategy.

In regard to the control group's results, the pre-questionnaire results tended to show a higher frequency of reading strategy use than the experimental group for strategies No. 6 Paying attention to clausal/phrasal segments ($t(67) = -2.950, p < .005, r = .34$), No. 16 Summarizing the text ($t$
### Table 2  Mean Scores for Reading Strategies

<table>
<thead>
<tr>
<th>Category</th>
<th>Experimental group</th>
<th>Control group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre (M, SD)</td>
<td>Post (M, SD)</td>
</tr>
<tr>
<td>Instructed RS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Phrases &amp; clauses (Phrase Reading: P)</td>
<td>2.36 (1.15)</td>
<td>3.06 (1.09) ***</td>
</tr>
<tr>
<td>9. Marking units (P)</td>
<td>1.92 (1.27)</td>
<td>2.56 (1.18) ***</td>
</tr>
<tr>
<td>26. Structures (P)</td>
<td>2.14 (1.13)</td>
<td>2.53 (1.11) *</td>
</tr>
<tr>
<td>27. Pronouns (Referents)</td>
<td>2.47 (1.03)</td>
<td>3.06 (0.95) ****</td>
</tr>
<tr>
<td>28. Morphemes of words (Unknown words: U)</td>
<td>2.72 (1.19)</td>
<td>3.11 (1.01)</td>
</tr>
<tr>
<td>29. U from the context (U)</td>
<td>3.47 (1.11)</td>
<td>3.28 (0.91)</td>
</tr>
<tr>
<td>20. Main points (Topic: T)</td>
<td>2.50 (1.11)</td>
<td>3.28 (1.06) ****</td>
</tr>
<tr>
<td>21. Writer’s intention (T)</td>
<td>2.06 (1.01)</td>
<td>2.97 (1.03) ****</td>
</tr>
<tr>
<td>24. Topic sentences (T)</td>
<td>2.25 (1.00)</td>
<td>.86 (0.96) ***</td>
</tr>
<tr>
<td>36. Signal words (Signal)</td>
<td>3.29 (1.15)</td>
<td>3.50 (1.28)</td>
</tr>
<tr>
<td>Other Reading Strategies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25. Grammar rule</td>
<td>2.53 (1.18)</td>
<td>2.75 (1.13)</td>
</tr>
<tr>
<td>7. Paragraph breaks</td>
<td>2.53 (1.34)</td>
<td>3.22 (1.10) ****</td>
</tr>
<tr>
<td>16. Summarizing the text</td>
<td>1.58 (0.81)</td>
<td>2.39 (1.15) ****</td>
</tr>
<tr>
<td>31. Predicting what is written next</td>
<td>2.50 (1.03)</td>
<td>3.03 (1.08) ***</td>
</tr>
<tr>
<td>32. Background knowledge</td>
<td>2.72 (0.85)</td>
<td>3.03 (1.13)</td>
</tr>
<tr>
<td>33. Images &amp; pictures</td>
<td>2.66 (1.00)</td>
<td>2.81 (1.04)</td>
</tr>
<tr>
<td>34. Predicting from the title</td>
<td>2.49 (1.01)</td>
<td>3.06 (1.17) ***</td>
</tr>
<tr>
<td>35. Predicting from pictures &amp; illustrations</td>
<td>2.40 (1.09)</td>
<td>2.83 (1.18)</td>
</tr>
<tr>
<td>Supportive Strategies (Nos. 10, 11, 12)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Underlying /Marking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Taking notes</td>
<td>1.37 (0.73)</td>
<td>2.31 (1.12) ****</td>
</tr>
<tr>
<td>12. Changing the speed</td>
<td>2.92 (1.40)</td>
<td>3.42 (1.11) *</td>
</tr>
</tbody>
</table>

**Note:**

*p* < .05, **p** < .01, ***p*** < .005, ****p*** < .001
(67) = -2.048, p < .05, r = .24), No. 20 Identifying main ideas (t (67) = -1.403, ns, r = .17), and No. 21 Paying attention to author’s intention (t (67) = -2.341, p < .05, r = .28). However, after explicit instruction, the experimental group overtook the control group except with regard to No. 6. In terms of the significant mean gains, the control group showed significant differences in No. 6 Paying attention to clausal/phrasal segments (t (32) = 3.260, p < .005, r = .50), No. 26 Paying attention to sentence structures (t (32) = -2.362, p < .05, r = .39), No. 28 Paying attention to morphemes of words (t (32) = -2.608, p < .05, r = .42), No. 31 Predicting what is written next (t (32) = 8.671, p < .001, r = 84), and No. 33 Paying attention to images, pictures, & feelings of the characters (t (32) = -2.701, p < .05, r = .43).

As for the results of the experimental group, regarding the instructed strategies, most except Nos. 28, 29, and 36 demonstrated significant mean gains: No. 6 Paying attention to clausal/phrasal segments (t (35) = -3.430, p < .005, r = .50); No. 9 Marking semantic/syntactic units (t (35) = -3.136, p < .005, r = .47); No. 26 Paying attention to sentence structures (t (35) = -2.068, p < .05, r = .33); No. 27 Identifying referents (t (35) = -3.862, p < .001, r = .55); No. 20 Guessing main points (t (35) = -5.197, p < .001, r = .66); No. 21 Guessing the writer’s intention (t (35) = -5.367, p < .001, r = .67); and No. 24 Paying attention to topic sentences (t (35) = -3.690, p < .005, r = .53). Strategies that did not change significantly were No. 28 Paying attention to morphemes of words (t (32) = -2.068, ns, r = .34), No. 29 Inferring unknown words from the context (t (35) = .909, ns, r = .15), and No. 36 Paying attention to signal words (t (35) = -1.426, ns, r = .24). However, No. 36 Paying attention to signal words already had a high mean score before the instruction (Pre: 3.29, Post: 3.50).

Regarding other strategies, the experimental group demonstrated statistically significant differences in strategies related to instructed reading strategies such as No. 7 Paying attention to paragraph breaks (t (35) = -2.834, p < .01, r = .43 from ‘signal words’ and ‘topic sentences’) and No. 34 Predicting the text from the title (t (35) = -3.260, p < .005, r = .48) from ‘topic sentences’), although the author did not refer directly to these strategies during instruction. It could not be ascertained which instructed strategy was associated with No. 31 Predicting what is written next (t (35) = -3.081, p < .005, r = .46). Second, it is worth noting that supportive strategies that are regarded as among the metacognitive strategies showed significant differences, such as No. 10 Underlying or marking important parts (t (35) = -2.494, p < .05, r = .39), No. 11 Taking notes (t (35) = -4.144, p < .001, r = .57), and No. 12 Changing the speed of reading depending on the difficulty of the text (t (35) = -2.393, p < .05, r = .38), even though these strategies were not specifically taught. It can be inferred that strategies relating to phrase reading and top-down strategies or global strategies are affected greatly by explicit instruction.
4.3 Mini-Test Results

Figure 1 indicates the score of the first and tenth class mini-tests. Missing scores were converted into average scores. Significant differences can be seen between the first and tenth tests ($t(35) = -7.739$, $p < .001$, $r = .80$), indicating that the participants increased their reading abilities during the instruction.

![Figure 1 Means of Scores of Mini-Tests](image)

4.4 Reading Strategy Test Results

Table 3 shows that the results of the pre- and post-reading strategy tests for the experimental group. For the unknown word section, where the proper meaning of one artificial word must be guessed through context, there were significant differences in mean scores between the pre- and post-reading strategy tests ($t(35) = -5.205$, $p < .001$, $r = .66$). This reveals that the participants increased their reading abilities after the instruction as a whole and indicates instruction in strategy use might contribute to the reading comprehension as a whole. However, the possibility of effects of practice should be taken account.

Let us now turn to each section of the reading strategy test. Phrase reading, unknown words, and signal words showed significant differences between the pre- and post-tests ($t(35) = -3.872$, $p < .001$, $r = .55$, $t(35) = -5.676$, $p < .001$, $r = .69$, $t(35) = -2.092$, $p < .05$, $r = .33$, respectively). The post-percentage of signal words (i.e., choosing conjunctions of 'but, when, however, and also') showed the highest percentage among all the strategies (78.50%). These results show that a level high of achievement can be reached in a limited period. However, it had the highest score prior to the instruction (67.25%). This indicates that the participants might have had sufficient strategy knowledge about how to select signal words prior to the training.

After unknown words, the section of phrase reading strategies showed the second highest mean gains from 46.08% to 60.33%. Some of the students marked almost the same places as in the pretest, while some marked more and some marked fewer, but overall the placements marked were satisfactory. The author did not deduct points unless sentence structures were misunderstood. There were very few mistakes concerning the vocabulary used. Therefore, gains in the score might be mainly due to improvement in understanding sentence structure ($t(35) = -3.872$, $p < .001$, $r = .55$).

Inferring unknown words showed the highest gains, from 49.25% to 73.50% ($t(35) = -5.676$, $p < .001$, $r = .69$). For example, accuracy for 'time-consuming' and 'blinking' increased greatly over the pretest scores (38.89% to 77.78% and 30.56% to 61.11%, respectively). This
indicates that strategies for inferring unknown words might offer a positive effect. However, the possibility that the participants expanded their vocabulary during the study period cannot be ruled out.

<table>
<thead>
<tr>
<th>Table 3</th>
<th>Reading Strategy Test Section Results for the Experimental Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Phrase reading (12)*</td>
</tr>
<tr>
<td></td>
<td>M %</td>
</tr>
<tr>
<td>Pre</td>
<td>5.53 (3.60)**</td>
</tr>
<tr>
<td>Post</td>
<td>7.24 (2.72)</td>
</tr>
</tbody>
</table>

Note: * Numbers in parentheses indicate the total scores for each section.  
** Numbers in parentheses indicate SD.

In contrast, the sections on identifying referents and identifying topic sentences and main ideas did not show significant differences (t (35) = -.154, ns, r = .03; t (35) = -1.253, r = .21, respectively). The section on identifying referents showed the lowest achievement of all (57.75% to 58.25%), indicating that these strategies were difficult to improve over the short term of the study. The students did not answer correctly what the pronouns refer to in context. The section on topic sentences improved to some degree (59.33% to 67.00%). Overall, the findings demonstrate that there are differences in achievements among the five sections of reading strategies, although all the strategies were taught using the same procedure with the same amount of time allocated.

4.5 TA Protocol and Interview Results

Table 4 shows the results of the TA protocol for the five participants regarding ‘Free from One’s Body’ used in the reading strategy test (see 4.1.4). The table shows the results for the five sections of the test relating to the five instructed strategies. Other strategies were employed in understanding the passage such as reading sentences aloud, translation (words & sentences), simplification, and monitoring (non-understanding, misunderstanding, and confirmation) but the results are not shown in the table.

Students tended to combine strategies as explicitly instructed except in the case of Participant C. Participants A (percentage correct 90.00% of the post-reading strategy test) and E (90.00%) used reading strategies more frequently than the other three participants. However, Participants B (70.00%) and D (51.52%) also attempted to use strategies to find the correct answers. Participant C, with the lowest correct percentage on the test (43.33%), was unable to use strategies properly, although the interview showed that she knew what each strategy entailed.
Marking slashes in the three test sentences was likely to be the most familiar strategy to the five students because all of them had already been taught it during junior or senior high school. Participant B always used slash reading in comprehension processes. However, construction of meaning when connecting syntactic structures seemed to be a little difficult for them to understand (Correct percentage of all the five subjects (CP5): 76.67%). In terms of inferring unknown words, Participants A, B, D, and E combined strategies, such as dividing the word ‘time-consuming’ into two or associating the word ‘blink’ with the words ‘eyelids’ and ‘eyes’ as hints, while referring to the context in which they appeared. They combined strategies and succeeded in understanding the answers (CP5: 90.00%). Participant C said the strategy instruction about inferring unknown words was effective for her, although she did not verbalize how to use them appropriately and did not provide an answer. In answering about signal words, Participants A, B, and E combined many strategies, while Participants C and D used one strategy. Participants B and E answered all the two questions correctly (CP5: 70.00%). In contrast, most of them failed to answer one of the referents successfully. Participants B, C, and D failed to identify what the referents referred to due to a lack of understanding of grammatical rules and incomplete understanding of the context, although they looked for other words as instructed (CP5: 60.00%). Regarding topic sentences and main ideas, Participants B and C attempted to select them from the position of a sentence in the paragraph (e.g. first or last sentence) without reflecting on the gist of

<table>
<thead>
<tr>
<th>Question Type</th>
<th>Phrase Reading</th>
<th>Referents</th>
<th>Unknown Words</th>
<th>Signal Words</th>
<th>Topic sentences</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (Male)</td>
<td>CP 2 S 2 G</td>
<td>B 2 C 1 G</td>
<td>C 1 D 1 H</td>
<td>C 1 G PO</td>
<td>A CI M P</td>
</tr>
<tr>
<td>B (Male)</td>
<td>CP 2 S 2 G</td>
<td>B 1 C 1 G</td>
<td>C 1 D 1 H</td>
<td>C 1 G PO</td>
<td>A CI M P</td>
</tr>
<tr>
<td>C (Female)</td>
<td>CP 2 S 2 G</td>
<td>B 1 C 1 G</td>
<td>C 1 D 1 H</td>
<td>C 1 G PO</td>
<td>A CI M P</td>
</tr>
<tr>
<td>D (Male)</td>
<td>CP 2 S 2 G</td>
<td>B 1 C 1 G</td>
<td>C 1 D 1 H</td>
<td>C 1 G PO</td>
<td>A CI M P</td>
</tr>
<tr>
<td>E (Male)</td>
<td>CP 2 S 2 G</td>
<td>B 1 C 1 G</td>
<td>C 1 D 1 H</td>
<td>C 1 G PO</td>
<td>A CI M P</td>
</tr>
<tr>
<td>Total</td>
<td>CP 9 S 6 G</td>
<td>B 1 C 1 G</td>
<td>C 1 D 1 H</td>
<td>C 1 G PO</td>
<td>A CI M P</td>
</tr>
</tbody>
</table>

Note: *Numbers in parentheses indicate frequency of strategy use

CP: Paying attention to clauses and phrases, S = Paying attention to structures,
G: Using grammatical knowledge, B: Using background knowledge, C: Using context,
D: Dividing a word into parts, H: Referring to words containing hints,
PO: Paying attention to paragraph organization, A: Inferring the author’s ideas,
CI: Characters’ information, M: Identifying main ideas,
P: Paying attention to the first/final position in a paragraph
the passage thoroughly (CP5: 80.00%). This might be connected to the results that the percentage correct of identifying topic sentences was rather high prior to the instruction and did not improve more as expected. Participants A, D, and E answered all the three test questions. The results of the TA may correspond to the results of the reading strategy test.

5. Discussion

Let us now address each of the research questions with reference to the study results.

1. Does explicit instruction affect the general reading abilities of an experimental group?

   No. There were no significant differences between the pre- and post-reading scores between the two groups, indicating no effects of explicit instruction. As Grabe (2009) suggests, explicit instruction is not the final goal. To improve reading comprehension, more careful design of strategy instruction should be planned and incorporated into the curriculum or language learning in class. One of the weaknesses of the instruction is having insufficient materials. The passages should include a “certain amount of English of a more challenging level of difficulty” (Kimura, 1999, p. 56). As reading materials were written in short and easy sentences, they were not sufficiently difficult to improve students’ reading comprehension. Moreover, useful advice and feedback should be provided after the mini-tests were conducted on how to apply reading strategies appropriately.

2. Does explicit instruction affect strategy use by the experimental group?

   Yes. The frequency of strategy use increased remarkably for the experimental group, although the control group also gained in mean score of frequency of strategy use. Cohen (2011) suggests explicit instruction is needed in the development of strategy use, and application is preferable to implicit and unplanned learning, although implicit learning also gives some effects to learners. ‘Implicit learning’ here indicates strategies are not explicitly taught in systematic ways. The result indicates that indirect and implicit teaching can improve the frequency of strategy use, especially particular strategies frequently needed in the teaching style. However, explicit instruction improves not only use of the instructed strategies but other strategies as well. Supportive strategies (metacognitive strategies) also developed significantly, indicating that metacognitive awareness is developed through several activities such as writing portfolios and answering questionnaires. However, a delayed post-test should be conducted to confirm this finding.

3. How does explicit instruction affect language achievement for each instructed strategy?

   The study findings reveal that there are differences in linguistic achievements depending on the strategies used. While acknowledging the possibility that the vocabulary used was being learned over the study period, the strategies of phrase reading and signal words seem to readily show improvement in reading comprehension within the short four-month study period, whereas improvement with the strategy of identifying referents might be difficult to achieve. The strategy
of topic sentences needs a longer time to develop: whether this is due to the difficulty of strategy construction itself or an interaction of factors is not clear. However, different results for the strategies might appear depending on the subjects and test materials used.

6. Conclusions and Implications

Teaching strategies directly and explicitly in learning situations has more beneficial effects on learners than teaching implicitly (Cohen, 2011). However, very few studies have used appropriate tools to measure the effects of instructed strategies. The present study used a strategy test to examine how explicit instruction affects the acquisition of each instructed strategy, and the TA protocol was used to be able to track how the participants used the instructed strategies in reading comprehension. Differences in language achievement were found depending on the reading strategies used by the learners. Teachers should be aware that some strategies are comparatively easy to teach, while others need more time and they should always bear in mind that the effects of strategy use are not always consistent. Such use is affected by multiple factors such as learners’ strategy use itself, their proficiency level and learning style, text difficulty, and types of task used. The same test should be conducted with the control group next time.

Students’ frequency of strategy use increased remarkably in this study with explicit instruction, indicating that their awareness of strategy use (i.e., metacognitive awareness) might be enhanced by this method. Regarding reading comprehension in general, strategy instruction did not show significant differences between the experimental and control groups. Explicit instruction in reading strategies should be planned carefully. To improve the effects of explicit instruction, metalinguistic knowledge and effective teaching materials should be provided along with factors concerning individual learners such as their interests, motivation, and learning styles.

Explicit instruction in reading strategy is important for learners to be autonomous readers in language learning. More extensive study about the effects of explicit instruction in reading strategies is warranted.

References


Appendices

Appendix A

<table>
<thead>
<tr>
<th>談み方のワン・ポイント</th>
<th>レッスン</th>
<th>Today's lesson</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strategy</strong></td>
<td><strong>Inferring Unknown Words (1)</strong></td>
<td></td>
</tr>
<tr>
<td>未知語の推測</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

今日は、わからない単語を英文の中で推測する訓練をやってみましょう。

英文を読んでいると、わからない単語がよく出てきます。英文を理解する場合、単語がわからないと、どうしていいか困ってしまいます。でもあせらず、あきらめず、未知語を推測する方法を試してみましょう。もしわからない単語が出てきた場合は、1. 文法から 2. 前後関係の意味から 3. 手がかり語から 4. 予備知識から総合的に判断してふさわしい意味を推測してみましょう。

文末で単語を正しく推測できるためには、語彙力も大切で、全体の95割の単語がわかってないと未知語を正しく推測できないといわれます。推測の学習とともに語彙数を増やす学習もしてみましょう。

Appendix B

RS Test (Extract)

Jean-Dominique Bauby was only 42 years old when he had a stroke and was taken to the hospital. He was the chief editor of Elle magazine in Paris. Before the stroke, he had enjoyed meeting his friends, spending time with his wife, son, and daughter, having delicious food and wine, and his work. 1( ) because of the stroke, he lost his ability to speak or move his arms, hands, and legs. In short, Bauby was locked in his own body. 2The only part of his body that he was able to move was one of his eyelids.

3 In this condition, he wrote a complete book. It is made up of 28 beautiful short essays about his family and his life at the hospital. ---- (The original sentences were cited from Ushiro, et al., 2009)

1. ( )の中に当てはまる接続詞をいれなさい。 a. And b. But c. Though d. For
2. 意味の区切りにスラッシュをいれ、英文の意味を書きなさい。
3. 下線部のさしている箇所を本文から見つけ、その部分を囲みなさい。
4. 第一パラグラフの主要な出来事・情報をあらわす英文を選びなさい。