Can Strategy Instruction Help EFL Learners to Improve Their Reading Ability?: An Empirical Study*

IKEDA, Maiko
Setsunan University (part-time)
TAKEUCHI, Osamu
Kansai University

1. Introduction

Since language learning strategies were identified as one of the important factors for successful language learning, strategy instruction has been implemented in a variety of approaches around the world (e.g., Cohen, 1998; O'Malley & Chamot, 1990; Oxford, Crookall, Cohen, Lavine, Nyikos, & Sutter, 1990). Classification of methods for strategy instruction has also been provided by a few studies. O'Malley and Chamot (1990) and Oxford et al. (1990), for example, use two main criteria to classify approaches to strategy instruction. One is the degree to which strategy use and its advantages are explicitly instructed to learners. Based on this criterion, approaches of strategy instruction can be divided into three types, i.e., the completely informed, the informed, or the blind method. The other criterion is the degree to which strategy instruction is incorporated in class: whether strategies are taught separately from, or embedded into, the other activities in class. Following this criterion, strategy instruction can be categorized into two types: the intensive or the integrative method. For example, if strategies are taught at the beginning of every class, the instruction adopts the intensive method. If strategy use is exercised throughout the class activities, the instruction utilizes the integrative method. With the combination of these five types, we have various methods for strategy instruction. Among these methods, Oxford (1989) and Wenden (1986) argue that the (completely) informed and the integrative method are the most effective.

Along with the development of these frameworks, the effects of strategy instruction have been examined, and some studies report a positive influence from the instruction. Cohen, Weaver, and Li (1996), among others, instructed speaking strategies to 55 American students learning a foreign language (i.e., French or Norwegian) using the completely informed integrative method. Their results show that instruction had some positive effects on the learners' speaking ability and the frequency of their strategy use. Dadour and Robbins (1996) taught speaking and listening strategies to 46 Japanese college students learning EFL using the partly-informed integrative method, and, based on questionnaire, the students reacted positively to the training.

Despite their contribution, most of these studies did not explore the influence of learners' language proficiency on the effects of strategy instruction. Furthermore, as Ikeda (2002) pointed out in her summary of empirical studies on the effects of strategy instruction, the effectiveness of instruction is often assessed immediately after the instruction was completed. In other words, the effectiveness of the instruction has not

been assessed in terms of the stability of strategy use over longer periods of time. One exception is the study by Takeuchi and Wakamoto (2001). In their study, strategies for writing, conversation, reading, and vocabulary were instructed to 21 Japanese university students learning EFL. The results show that the influence of strategy instruction is retained for two months after the instruction ended. However, to the best of our knowledge, no other study examines the stability of strategy instruction either in similar contexts or for longer periods of time. Thus, focusing on reading strategies in the EFL context, the purpose of this study is to investigate the effects of explicit strategy instruction for different proficiency levels of learners through longer periods of time. The study consists of two parts, which aim to examine the following hypotheses respectively:

Study 1
(1) Explicit strategy instruction changes the frequency of learners' strategy use.
(2) The learners' language proficiency level has an influence on the effectiveness of strategy instruction.

Study 2
(3) The effect of strategy instruction is retained after the instruction has finished.

2. Study 1

2.1 Subjects

The subjects were 210 Japanese university students learning EFL. They were first divided into two groups, i.e. the higher proficiency (HP) and the lower proficiency (LP) groups. The English proficiency levels of these two groups were confirmed to be different by a cloze test ($t = 12.71$, $p = .00$). Each proficiency group was then split into an experimental group and a control group, and their English proficiency levels were then reconfirmed to be the same (the HP groups: $t = 0.37$, $p = .71$, the LP groups: $t = 0.21$, $p = .83$). The number of subjects in each group is shown in Table 1.

Table 1. Number of Subjects in Each Group

Type of Group		N
the HP	Experimental	73
	Control	82
the LP	Experimental	23
	Control	32

2.2 Treatment and Data Collection

During the eight-week treatment period, the experimental groups received a 20-minute session of explicit strategy instruction in an every class which met once a week for 90 minutes. Seven reading strategies in total were introduced to the students, and Week 8, the last week, was spent reviewing these seven strategies as shown in Table 2. During the instruction, the experimental groups learned one reading strategy per class using a handout prepared by the authors. A handout included the purpose and suggests for using a

certain strategy, an example of its use, and practice exercises for applying the strategy to reading. From Week 2, at the beginning of the class the experimental groups also reviewed the strategy learned in the last class. Except for this strategy instruction, the experimental and control groups received the same reading instruction.

Table 2. Schedule of the Treatment

	Theme	Strategy *
Week 1	Parse the sentences into phrasal groups.	Strategy 1
Week 2	Guess unfamiliar words from context.	Strategy 6
Week 3	Identify the topic sentence in each paragraph to understand the outline of a passage.	Strategy 9
Week 4	Use key words in a title and attached questions to understand the outline of a passage.	Strategy 16 Strategy 17 Strategy 33
Week 5	Use visual aids to understand the outline of a passage.	Strategy 16 Strategy 33
Week 6	Use discourse markers to comprehend a passage more.	Strategy 31
Week 7	Summarize each paragraph after reading.	Strategy 29
Week 8	Review the strategies introduced from Week 1 to Week 7.	———

* Strategy number in the inventory.

For data collection, all four groups were given three kinds of reading texts written in English, and a strategy inventory, before and after an eight-week treatment period. At each time of data collection, the subjects first read three reading texts each from a different genre: an expository text, a newspaper article, and an excerpt from a novel. Then, after each reading, they answered the strategy inventory. The inventory written in Japanese consisted of 35 items, each of which described a reading strategy. In this inventory, the subjects were asked to indicate, for each item, the degree of their strategy use in reading the three respective texts on a frequency-scale from one to five with one meaning "never", and five indicating "always". A strategy inventory used in this study (see Appendix) was developed by the authors, considering the EFL context and previous research on reading (see Ikeda & Takeuchi, 2000 for details). Its reliability was confirmed to be satisfactorily high at .90 on Cronbach alpha.

2.3 Analysis

The difference in the frequency of each strategy use was statistically analyzed between the pre- and post-conditions. For these analyses of the HP groups, statistical tests of matched *t*-tests were used. For the LP groups, nonparametric Sign Tests were used since the number of LP subjects in both groups was relatively small and imbalanced for a parametric test. The frequency of each strategy use by the HP and LP groups was therefore analyzed separately. These analyzed differences were then compared between the two proficiency groups.

51

2.4 Results and Discussion

Tables 3a and 3b present the strategies which were used significantly more after the eight-week instruction.[1] According to Table 3a, in all three texts, subjects in the HP experimental group used over ten strategies (about 37−51% of all strategies measured) significantly more often after the strategy instruction. On the contrary, the subjects in the HP control group used only a few strategies (about 14−17% of all strategies measured) significantly more often. The explicit strategy instruction, thus, changed the frequency of various strategy use by the HP learners.

Table 3a. Frequently Used Strategies After Training: the HP Group

	expository text	novel	newspaper
experimental group	Strategy 2	Strategy 2	Strategy 2
	Strategy 7	Strategy 3	Strategy 3
	Strategy 9	Strategy 7	Strategy 5
	Strategy 11	Strategy 9	Strategy 7
	Strategy 13	Strategy 11	Strategy 8
	Strategy 15	Strategy 16	Strategy 9
	Strategy 16	Strategy 17	Strategy 10
	Strategy 17	Strategy 21	Strategy 11
	Strategy 21	Strategy 25	Strategy 13
	Strategy 25	Strategy 28	Strategy 16
	Strategy 28	Strategy 30	Strategy 17
	Strategy 29	Strategy 31	Strategy 21
	Strategy 30	Strategy 33	Strategy 25
	Strategy 31		Strategy 28
	Strategy 33		Strategy 30
			Strategy 31
			Strategy 33
			Strategy 34
total	15	13	18
control group	Strategy 1	Strategy 10	Strategy 4
	Strategy 10	Strategy 14	Strategy 15
	Strategy 15	Strategy 17	Strategy 17
	Strategy 17	Strategy 25	Strategy 25
	Strategy 23	Strategy 28	Strategy 28
		Strategy 30	
total	5	6	5

52

Table 3b. Frequently Used Strategies After Training: the LP Group

	expository text	novel	newspaper
experimental group	Strategy 18	Strategy 27	Strategy 17
		Strategy 32	Strategy 33
total	1	2	2
control group	Strategy 17	Strategy 4	Strategy 17
	Strategy 33	Strategy 5	Strategy 33
		Strategy 12	
		Strategy 28	
total	2	4	2

On the other hand, comparing the LP subjects in the experimental group with those in the control group (Table 3b), both groups used almost the same number of strategies significantly more often after the strategy instruction. Together with the results mentioned above, we can suggest that explicit strategy instruction changed frequency of various strategy use by the HP learners only. Thus, the learners' language proficiency level seems to have an influence on the effectiveness of a strategy instruction.

Focusing only on the strategies instructed to the experimental groups, the changes in the frequency of strategy use are illustrated in Figures 1a and 1b. In the two figures, the number at the left side of a line indicates the strategy number in the inventory. A solid line and a broken line show a strategy whose frequency of use changed significantly, while a dotted line indicates a strategy whose frequency of use did not change significantly. As is seen in Figure 1a, in all three texts, most of the strategies instructed to the HP group dramatically increased in their frequency of use. In the case of the LP group (see Figure 1b), however, only one or two strategies' frequency rose significantly in one of the three texts used, and no single strategy showed such change in all three types of texts read. In other words, strategy instruction was not effective enough to make the LP learners change their strategy use. Based on these results, we can say again that explicit strategy instruction has an effect on the frequency of the learners' strategy use, but the degree of its effectiveness depends on the learners' language proficiency level.
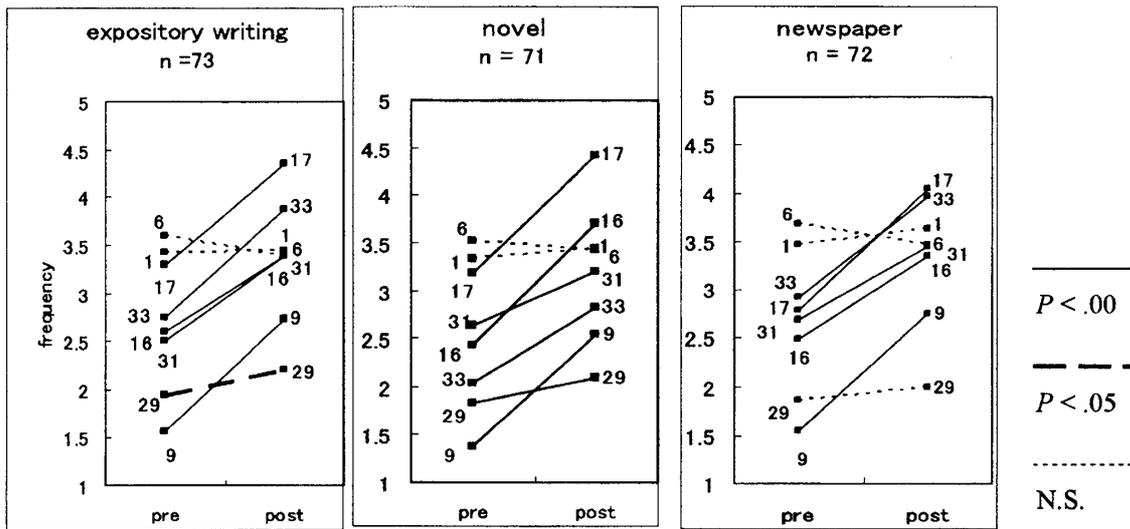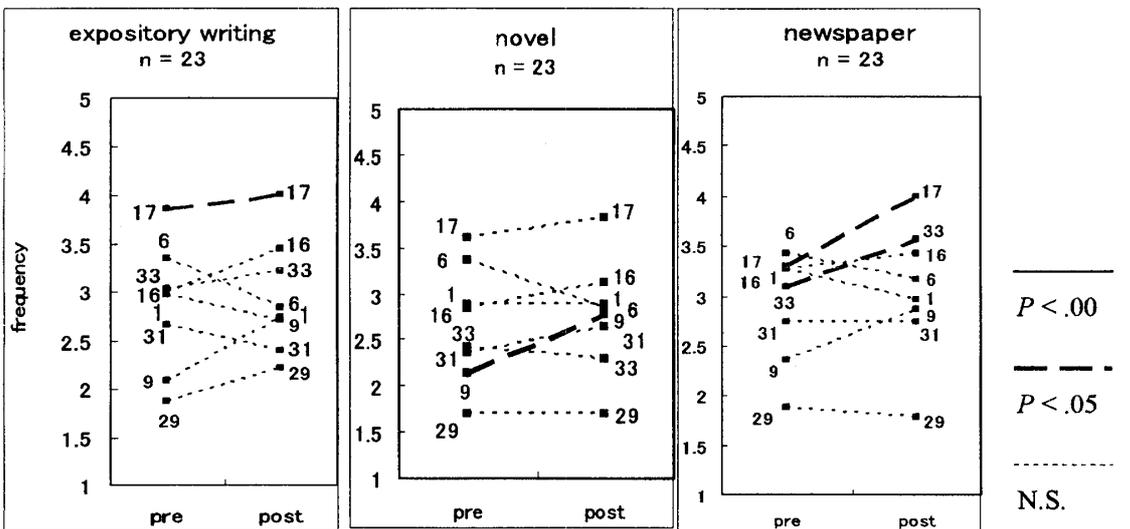
Figure 1a. Changes in Strategy Use: the HP Group

Figure 1b. Changes in Strategy Use: the LP Group

The two strategies which did not indicate a significant change in frequency by the HP group in any type of text were Strategies 1 (parsing the sentences into phrasal groups) and 6 (guessing unfamiliar words from context). These were the strategies used most frequently (over 3.3 in the inventory) even before strategy instruction. Therefore, ceiling effects could have been a reason for finding no significant change.

On the other hand, the result that strategy instruction did not influence the LP group may be attributed to the following two reasons: (1) the kinds of strategies instructed, and (2) a possible strategy learning process inherent to the LP subjects. As for the first reason, most of the strategies taught in the eight-week treatment were for top-down processing, rather than for bottom-up processing. The subjects in the LP group, however, did not seem to have enough reading ability to make use of the advantages of top-down reading. Other bottom-up strategies, such as paying attention to the sentence structures,

could have had more effect on the LP learners.

With regard to the second reason, the LP learners may have given up trying to use new strategies that were unfamiliar to them before they experienced their effectiveness, and thus have failed to expand their repertoire of strategies.

Since the effectiveness of explicit strategy instruction for the HP learners' strategy use was confirmed immediately after the instruction, our next concerns are whether this effectiveness is retained for a longer period of time, as well as whether the effectiveness of the strategy instruction for the LP learners can be identified with delay. These led us to Study 2.

3. Study 2
3.1 Subjects

The subjects for Study 2 were the same two experimental groups (of both proficiency levels) of Study 1. Some of the subjects, though, were absent on the day of data collection. Therefore, the number of subjects was 73 in the HP group, and 17 in the LP group.

3.2 Procedure

In addition to the two points in time of data collection, i.e., before and immediately after the strategy instruction, the data on the subjects' use of the instructed strategies were collected twice more. The third data collection was at the end of September, that is, about three months after the strategy instruction had finished. This third data collection was also at the beginning of the second semester, after summer vacation. This means that, during the period between the second and third data collection, the subjects' strategy use was completely left to their independent learning. The fourth data collection was approximately two months after the third, or five months since the strategy instruction session. During the period between the third and the fourth data collection, no additional treatment was given to the subjects. However, since the fourth data collection was implemented in the middle of the second semester, all subjects received at least equal opportunities to use the instructed strategies by attending English classes every week.

At each time of data collection, the subjects were first required to read a text, and then to answer the strategy inventory based on their reading.

3.3 Material

Since little difference in the frequency of the learners' strategy use was found among three types of text read in Study 1, only one of them, the text of expository writing, was used for the two additional (i.e., the third and the fourth) data collections. The expository text was chosen because this type of text is familiar to the subjects learning English in Japan. For data collection on the frequency of the subjects' strategy use, the same inventory as the one described in Study 1 was used (see Appendix A).

3.4 Analysis

The frequency of strategy use by the subjects in each proficiency group was analysed at

four points in time, including the one before and immediately after the strategy instruction in Study 1. These analyses were carried out by using statistical tests of ANOVA with repeated measures. When a significant difference was found in the ANOVA, an LSD was administered as a *post-hoc* test. Since the number of students in the LP group was small, nonparametric Friedman Tests were used instead of the ANOVA.

3.5 Results and Discussion

Figure 2 illustrates the change in strategy use by the HP group. A solid line and a broken line in Figure 2 show that the frequency of use increased or decreased significantly compared to the one in the previous data collection. A dotted line, on the other hand, means a nonsignificant increase or decrease in the frequency of use. The two strategies (Strategies, 1 and 6), whose frequency of use did not increase significantly immediately after the strategy instruction, also did not significantly change even three and five months after the end of instruction. The frequency of a few of the remaining six strategies (Strategies 9, 17, and 31) significantly decreased three months after the strategy instruction was over, but the LSD confirmed that the frequency of these strategy use at any three points of data collection after the instruction was significantly more than the frequency at the pre-instructional time. This means that, although the degree of increase in the frequency of strategy use changes as time passes, increases resulting from the strategy instruction are retained stable for at least five months.
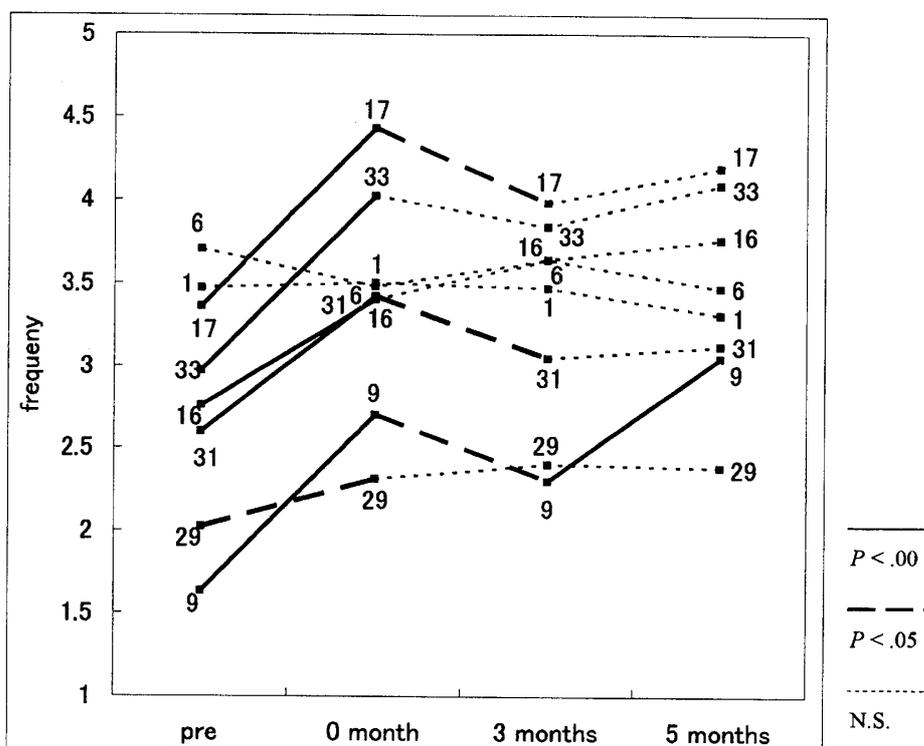

Figure 2. Changes in Strategy Use: the HP Group (n = 58)

The significant decrease in the frequency of the three strategies' use may be due to a two-month summer vacation in a period between the second and the third data collection. Furthermore, the frequency of the most of the strategies' use slightly increased between three months after and five months after the strategy instruction, although statistical significance was not confirmed. During that period, the subjects did not have any explicit training, but they had a 90-minute regular class each week. This constant opportunity to study English could have encouraged learners to use the strategies instructed. Strategies use may have been more activated by providing continuous opportunities even after five months.

Changes in the frequency of each instructed strategy use by the LP group is summarized in Table 4. Same as Strategies 1 and 6 in the case of the HP group, no strategy showed a significant change in its frequency of use not only immediately after the strategy instruction but also three and five months after. These findings could imply that the effectiveness of strategy instruction may not be found beyond immediately after the instruction in case of the LP group.

Table 4. Changes in Strategy Use: the LP Group

Strategy		pre	0 mth	3 mths	5 mths	n	df	χ^2	p
strategy 1	M	2.71	2.88	2.24	2.71	17	3	2.96	.40
	SD	0.99	0.93	1.25	1.49				
strategy 6	M	3.18	2.71	2.65	3.06	17	3	4.29	.23
	SD	1.24	0.92	1.11	1.09				
strategy 9	M	2.35	2.76	2.18	2.41	17	3	1.92	.59
	SD	1.06	1.09	1.29	1.46				
strategy 16	M	3.06	3.50	2.81	3.25	16	3	4.95	.18
	SD	0.85	0.97	1.22	1.24				
strategy 17	M	3.69	4.13	3.56	4.25	16	3	1.92	.59
	SD	1.25	1.02	1.36	1.13				
strategy 29	M	1.71	2.35	1.88	1.88	17	3	6.30	.59
	SD	0.77	1.27	1.17	0.86				
strategy 31	M	2.71	2.41	2.18	1.71	17	3	7.68	.05
	SD	1.21	1.06	0.95	1.05				
strategy 33	M	2.94	3.24	3.41	3.88	17	3	2.88	.40
	SD	1.03	1.25	1.50	1.41				

$**p < .01, *p < .05$

4. Conclusions

Before concluding, a few limitations of the present study should be pointed out. Firstly, the number of the subjects in the LP group was rather small. Secondly, gender, one of the major variables influencing on learners' strategy use, was ignored, and data on both male

and female subjects are analysed together.[2] Another point is that explicit and intensive strategy instruction was implemented in this study. Other methods, such as an implicit or an integrative method, may have had different results. Lastly, the subjects' reading ability of English was not assessed in this study. Therefore, it is still uncertain whether the change in the frequency of strategy use by learners contributes to more effective reading.

With these limitations in mind, the following conclusions can be drawn:

Study 1

(1) Explicit and intensive strategy instruction changes the frequency of the learners' strategy use.

(2) The learners' language proficiency level has an influence on the effectiveness of strategy instruction.

Study 2

(3) The effects of strategy instruction are retained for five months after the instruction finishes.

These conclusions provide us with some pedagogical and research implications. One pedagogical suggestion is that strategies appropriate to, or necessary for, the learners' language proficiency level should be instructed. For instance, instruction of the strategies for vocabulary and bottom-up reading may have a positive influence on the LP group.

A research implication is that variables influential on the effectiveness of strategy instruction, other than learners' language proficiency level, should be clarified. Cultural background (Oxford et al., 1990) and vocabulary levels of learners may be a few candidates. Such studies, if appropriately conducted, could also contribute to the development of material design for strategy instruction.

Notes

1. Among these strategies, Strategies 5 and 7 were used significantly less after the strategy instruction. However, such results are logical; these two were expected to be used less as a result of the strategy instruction, since Strategy 5 involves translating each sentence into Japanese, while Strategy 7 indicates reading a text from the beginning to the end in order.

2. Ehrman and Oxford (1989), among others, for example, reports that female learners tend to use some types of strategies (such as general and social strategies) more often than male counterparts do.

References

Cohen, A.D. (1998). *Strategies in learning and using a second language.* London: Longman.

Cohen, A.D., Weaver, S.J., & Li, T. (1996). *The impact of strategies-based instruction on speaking a foreign language.* (Research Report). Minneapolis, MN: Center for Advanced

Research on Language Acquisition (CARLA), University of Minnesota.

Dadour, E.S. & Robbins, J. (1996). University-level studies using strategy instruction to improve speaking ability in Egypt and Japan. In Oxford, R.L. (Ed.), *Language learning strategies around the world: Cross-cultural perspectives* (pp. 157–167). Honolulu: Second Language Teaching & Curriculum Center, University of Hawai'i at Manoa.

Ehrman, M. & Oxford, R. (1989). Effects of sex differences, career choice, and psychological type on adult language learning strategies. *The Modern Language Journal,* 73 (1), 1–13.

Ikeda, M. (2002). Instruction of language learning strategies: for Further research direction. In the Editorial Committee of Papers on Language and Culture Education (Ed.). *On the future of language and culture education.* (pp. 315–326). Tokyo: Sanseido.

Ikeda, M. & Takeuchi, O. (2000). Tasks and strategy use: Empirical implications for questionnaire studies. *JACET Bulletin,* 31, 21–32.

O'Malley, J.M. & Chamot, A.U. (1990). *Learning strategies in second language acquisition.* Cambridge: Cambridge University Press.

Oxford, R. (1989). Use of language learning strategies: A Synthesis of studies with implications for strategy training. *System,* 17 (2), 235–247.

Oxford, R., Crookall, D., Cohen, A., Lavine, R., Nyikos, M., & Sutter, W. (1990). Strategy training for language learners: Six situational case studies and a training model. *Foreign Language Annals,* 22 (3), 197–216.

Takeuchi, O. & Wakamoto, N. (2001). Language learning strategies used by Japanese college learners of English: A synthesis of four empirical studies. *Language Education and Technology,* 38, 21–44.

Wenden, A. (1986). Incorporating learner training in the classroom. *System,* 4 (3), 315–325.

Appendix. Reading Strategy Inventory (originally written in Japanese)

1. I read the text while paying attention to words in group such as phrases and clauses. (e.g. I think / that I know that tall boy / standing over there.)
2. I read the text by paying attention to the beginning and the end of each paragraph.
3. I read the text by focusing on a verb's tense, such as present tense and past tense.
4. I read the text while trying to understand the meaning of every word.
5. I translated each sentence into Japanese.
6. I guessed the meaning of unknown words and idioms with clues from the context.
7. I read the text from the beginning to the end in order.
8. I read the text while paying attention to the sentence structures, such as the subjects, the objects of the sentence, and so on.
9. I understood the outline of the text by reading a few important sentences from each paragraph.
10. I gave up reading the text when I had a difficulty.

11. I read the text considering its genre, such as a newspaper article, a scientific paper, or a novel.
12. I skipped unknown sentences in structures while reading.
13. I linked the content of the text with what I already know.
14. I subvocalized or read aloud the difficult parts of the text.
15. I tried to understand the meaning of unknown words by dividing it into parts such as prefixes, roots, and suffixes. (e.g. un-friend-ly)
16. I tried to find out key words of the text first, and then to read the details around them.
17. I read the attached questions first and predicted the content of the text before reading it.
18. I read the text while checking what each pronoun refers to.
19. I skipped unknown words and idioms while reading.
20. I marked important parts and took notes while reading.
21. I read the text while paying attention to the time given.
22. I read difficult parts several times.
23. I tried to understand the general meaning of the text by integrating information from the words that I could understand.
24. I read the text by imagining situations related to its content.
25. I tried to understand the text without translating it into Japanese.
26. I went back a few sentences and started reading again from there if I had difficulty.
27. I followed the line I was reading with my finger or my pen.
28. I read the attached questions first, and then read the text in order to find the parts related to their answers.
29. I summarized each paragraph after reading it.
30. I read the text while predicting what would come next based on the previous content.
31. I read the text while paying attention to linking words such as "however" and "besides" in order to understand the text structure.
32. I read the text while drawing an outline of the content in my mind.
33. I read the text by using information outside the main body of the text, such as the title, the subtitle, illustrations, and so on.
34. I read the text while paying attention to noun forms, i.e., whether they were singular or plural, whether an article was present, that is, whether it is definite or indefinite.
35. I read the text ignoring the details as far as I could follow the story.