

Raising Strategic Awareness of Thai EFL Students of Science and Technology Disciplines through Metacognitive Strategy Training

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ABSTRACT

Previous studies have established that good readers' metacognitive awareness of strategic reading processes, repertoires of reading strategies and effective strategy use can be teachable to poor readers, which results in reading achievement gains. This instructional study reports 82 Thai EFL students of science and technology who were trained in the co-ordinated use of multiple strategies to develop awareness of how to be strategic when reading English general texts. This strategy training it was hoped would increase student awareness about reading strategies taught in class (declarative knowledge), how to use these strategies (procedural knowledge) and when and why to use them (situational knowledge), which in turn may result in increased reading achievement. Results suggested that higher-level reading proficiency learners (a) were more aware of procedural knowledge of how they as readers should employ the reading strategies taught in the lessons, whereas (b) low-level reading proficiency learners made a better improvement on a standardised English reading comprehension test. The findings indicated that the metacognitive strategy training employed result in greater student awareness of both lesson content and the need to be strategic and monitor comprehension, which leads to the students' more conscious use of strategic reasoning and higher achievement growth.

Keywords: EFL reading; L2-based reading strategies; strategic awareness; strategic reading instruction; explicit strategy training

INTRODUCTION

In Thailand where English is used as a foreign language, the ability to read in English has become essential for university students of science and technology as English is the global language for the dissemination of academic knowledge and it helps transform the educational experience of countless students. These students are expected to be highly qualified scientific and technological personnel who will help move the country towards scientific and technological self-dependence and increased competitiveness at both the ASEAN Economic Community (AEC) and the international levels. In order for future graduates in these fields to fulfil this mission, there must be access to English reading material in textbooks, magazines, journals, electronic media, etc.

Amongst obvious variables (student language proficiency, age, first language (L1)/second language (L2) relations, motivation, cognitive processing factors, teacher factors, curriculum and materials resources, instructional setting, and institutional factors) that impact the degree of success of these science and technology students in reading in English, reading instruction that they have received may add another level of complexity. This is because in Thailand, teacher-centred methods emphasising memory and passive learning are still prevalent in language classes. Sitthitikul (2011) mentions that reading programmes in Thailand rely too much on rote learning and translation methods by the instructors, resulting in '...[the fact that Thai students] developed a bottom-up view of reading, interacting passively with the text with the ingrained purpose of knowing every unknown word and mastering the details the writer had set forth' (p. 93). This situation accords with what

Anderson (1999) called ‘the traditional comprehension-testing model’ by which a typical foreign language (FL) reading class is still characterised. In this model, the student is a passive recipient of instruction and the teacher demonstrates word-for-word translation of the texts and completes comprehension-testing exercises in class. The classroom is teacher-dominated and solely based on using the lower-level comprehension processing (bottom-up model). The teacher’s belief lies in the idea that comprehension proceeds hierarchically from letters to words, and then to sentences and paragraphs. Only bottom-up or local strategies which focus on word-for-word understanding and comprehension-testing exercises are taught in class. This may result in heavy concentration on the surface structure of the language instead of other components of the reading process and impediment to the students’ understanding of the text’s overall meaning (Subanrat 2008). Although this method of teaching reading does not consume much time for teaching preparations, it may probably contribute little to improving the students’ reading ability.

With this scenario in mind, the researcher views that there is a need for an alternative model of teaching reading comprehension in English. As suggested by Kern (1989), if L2 readers are able to allocate enough cognitive resources to operate higher-level interpretative processes efficiently, reading will be more effective. At the same time, metacognitive awareness should be activated, to enable learners to plan, monitor, and evaluate their own reading processes (Rivers 2001). By supplying learning activities to activate such awareness in an explicit strategies-based model, the students’ lower level processing skills might be automatised to a greater extent, and cognitive resources might be utilised more proficiently. Strategy training seems to be appropriate, as it encourages teachers to ‘become enthusiastic about their roles as facilitators of classroom learning [...] more learner oriented [and] more aware of their students’ needs’ (Oxford et al. 1990, p. 210). Hence, the aim of the current study is to determine whether explicit strategy training provided in the naturalistic environment of real classrooms will increase students’ awareness about what was taught (declarative knowledge), when and why (situational knowledge), and how to use it (procedural knowledge), thereby improving performance on a standardised reading test.

STRATEGIES-BASED INSTRUCTION

Strategy instruction is underpinned by the cognitive theory of language learning, which focuses on the learner and learning to learn (Cohen & Weaver 2005, p. 5) and views learning as an active, mental, learner self-influenced process (McLaughlin 1978). During learning, learners engage in learning strategies, or behaviours and thoughts, which may affect their encoding processes (Weinstein & Mayer 1986, p. 315). The term ‘strategies’ here refers to mental processes that seem to be present within the first two developmental stages of self-consciousness, namely ‘conscious incompetence to conscious competence’, whereas the term ‘skills’ refers to those that exist only within the ‘unconscious competence stage’ (Phakiti 2003, p. 683). Once strategies are learned to the automatic level, they become skills.

Based on such cognitive processes, readers are not passive receivers of text information, but, as active participants, they bring with them different types of knowledge to facilitate their interpretation of information from the text: declarative knowledge, which deals with facts; procedural knowledge, which focuses on the procedures for using declarative knowledge; and situational knowledge, which includes knowing when and why to apply various actions (Paris, Lipson, & Wixson 1994, pp. 797-798), to facilitate their interpretation of information from the text. When readers combine their existing knowledge with new information derived from the text, comprehension occurs (Anderson & Pearson 1984, p. 256). When strategy instruction is applied to reading, it focuses on teaching learners declarative

knowledge (reading strategies), developing procedural knowledge (how to use reading strategies) and promoting situational knowledge (when and why to use reading strategies), in order to improve their comprehension of texts. It also aims to promote self-regulation by teaching readers how, when and why to activate their prior knowledge, when they read texts independently. To be good readers, learners must possess a number of flexible, adaptable strategies that they use before, during and after reading to maximise their comprehension (Garner 1987). To be strategic readers, they must be purposeful, thoughtful and reflective about their reading processes. Not only must they reflect on what they already know about a topic, and plan their approach to a text accordingly, but they must also monitor and evaluate their ongoing understanding, and use compensatory strategies, when they do not understand something. In short, the task of reading strategy training is to activate learners' metacognitive awareness.

Instruction researchers in L1 reading have also given importance to the development of learners' strategic reading. They agree that instruction that emphasises the co-ordinated utilisation of multiple strategies to negotiate the meaning of the text is more efficient than teaching strategies independently as processes of basic comprehension with instructional texts (Alfassi 2004, Kabilan, Seng, & Kee 2010). According to Grabe (2004, p. 54), ten instructional approaches for L1 reading that are commonly referred as effective combined-strategies instruction that improves reading comprehension include: 1) Know, Want to know, Learned (KWL); 2) Experience – Text – Relate (ETR); 3) Question – Answer – Response (QAR); 4) Directed Reading and Thinking Activities (DR-TA); 5) Reciprocal Teaching Procedure (RTP); 6) Collaborative Strategic Reading (CSR); 7) Direct Explanation; 8) Questioning the Author; 9) Transactional Strategies Instruction (TSI); and 10) Concept-Oriented Reading Instruction (CORI). Some of these approaches involve four to eight major strategies whilst others tend to incorporate more than eight strategies. The strategies that are commonly included in these approaches are summarising, clarifying, predicting, imaging, forming questions, using prior knowledge, monitoring and evaluating. These approaches also have implications for L2 reading comprehension instruction.

THE STUDY

Based on the principles of strategies-based instruction and as an L2 adaptation of L1 effective combined-strategies instruction mentioned above, the researcher experimented in this study with a strategic reading training programme to improve L2 learners' reading ability. The programme focused on students' co-ordinated use of multiple L2-based reading strategies whilst they actively attempted to comprehend written materials. The instruction selected included direct teaching of various reading comprehension strategies. Students were encouraged to take part in discussions about the text with the teacher whilst they learned to employ strategies in combination through a process of teacher modelling, teacher scaffolding and support, and gradual autonomous utilisation of strategies to better understand the text. Activities like those proposed for the Reciprocal Teaching Procedure (RTP) (Palincsar & Brown 1984) were also adopted and added to the lessons as classroom activities. The RTP took the form of a dialogue between the teacher and students. As an expert, the teacher first modelled how the four key reading strategies (generating questions, summarising, clarifying word meanings or confusing text, and predicting what will be in the next paragraph) could be used during the reading process. As observers during this initial phase, the students gradually interacted with the teacher by answering the questions generated by the teacher. With support, assistance and additional modelling provided by the teacher, the students attempted the four strategies in a problem-solving group activity, reading a text passage, paragraph by

paragraph. During the course of the instruction, the students in each group took turns at, leading and initiating the discussion of the text segment. The teacher provided guidance and feedback as necessary. Reading strategies taught in class were selected from those mentioned in the literature, including fourteen bottom-up strategies, sixteen top-down strategies, eleven metacognitive strategies, three social/affective strategies and two strategies for test taking (Phakiti 2003, Salataci & Akyel 2002).

The objective of this study was to determine whether strategic reading instruction, in which the teacher provides explicit explanations of how to use multiple reading strategies in combination would result in increased student awareness about what was taught (declarative knowledge), when and why (situational knowledge), and how to use it (procedural knowledge), which in turn would result in better English reading performance on a standardised measure. For this investigation, the instructional method was an independent variable, whereas student strategic awareness and English reading achievement were dependent variables. The following research questions are posed:

1. Can strategic reading instruction increase the awareness of the lesson content amongst different proficiency level learners (high-, moderate and low-levels)?
2. Can strategic reading instruction increase the learners' need to be strategic whilst reading?
3. Can strategic reading instruction increase learners' conscious, effective use of strategies and lead to greater reading achievement?

METHOD

PARTICIPANTS

The participants involved a purposive sampling group of 82 (assorted males and females) second to fourth-year Thai EFL undergraduates in scientific and technological disciplines, namely mechanical, electrical, civil and production engineering, industrial management, computer science and information technology at a science and technology-orientated university in Thailand. These student participants came from four existing classes of a reading course focusing on reading general texts in English. The researcher and his trained colleague taught two classes each. Based on the university entrance system for this semi-government institution of a moderate reputation in Thailand, these participants are considered average Thai undergraduates of non-language major from middle-class families, who have already been studying English for about 9 – 12 years. They have little opportunity to practise English regularly outside class and most of them find it difficult. Before taking this reading course, all of them would complete two mandatory courses. At the beginning of the course, the participants' L2 reading comprehension ability were measured and stratified, and their L1 reading competence and perceptions of L2 reading strategy use were also measured and compared. The results indicated no differences in these variables. Therefore, the student participants' L2 language competence, L1 reading competence, L2 reading competence, pre-existing utilisation of L2 reading strategies and socio-economic backgrounds were taken to be relatively homogeneous for this study.

INSTRUMENT

MEASURING STUDENT AWARENESS

Student awareness data were obtained through open-ended interviews. Two kinds of interviews were conducted. The first was conducted after each lesson (henceforth called the ‘lesson interviews’ or ‘post-lesson interviews’). The aim of the lesson interviews was to determine whether students were consciously aware of the specific reading strategies the teacher taught during individual lessons, listed in the given handouts (declarative knowledge), knowledge of when and in which situations or contexts the reading strategies presented in the lessons should be used or applied (situational knowledge), and knowledge of how the learners as readers should employ the reading strategies taught in the lessons (procedural knowledge). The researcher and his colleague interviewed three participants individually in each of the treatment classrooms, immediately following each reading session. These three representatives were selected randomly, before each class commenced from each group (high-level, moderate-level and low-level reading proficiency). If a target subject was absent, another one from the same group was randomly selected to complete the complement of three interviewees. The interviews were conducted in the same classroom, after the class was dismissed, and all interviews were audio-taped and backed up using an interview protocol. The second interview was conducted at the end of the course (henceforth called the ‘concept interviews’ or ‘post-course interviews’). The concept interview was designed to measure student awareness of the general need to be strategic when reading. It was conducted after the last teaching session, with three subjects from each classroom randomly selected as target subjects. Appendices A and B show examples of questions used in both forms of interviews.

MEASURING STUDENT ENGLISH READING ACHIEVEMENT

The participating students’ reading abilities in English were measured, using the Nelson-Denny Reading Test (NDRT) (Forms G and H) (Brown, Fishco & Hanna 1993) for both the pre- and the post-instruction phases. The researcher chose to use this test, rather than the test he had produced himself because commercially-produced tests are convenient for users.

PROCEDURE

The study covered a 16-week instruction period, which was divided into three phases, namely the pre-instruction phase (Weeks 1 and 2) in which the participants’ pre-existing homogeneity variables were measured, the instruction phase (Weeks 3-15) in which the explicit strategy training was implemented and the lesson interviews were conducted, and the post-instruction phase (Week 16) in which the post-tests and the concept interviews were conducted. In each teaching session, the researcher followed the five-phase procedure for strategy instruction proposed by Chamot and O’Malley (1994) as a framework for instruction, which includes 1) Strategy Preparation, 2) Presentation, 3) Practice, 4) Evaluation and 5) Expansion.

DATA ANALYSIS

LESSON INTERVIEW DATA

For data analysis, interview transcripts of 30 participants were randomly selected (10 from each proficiency level group) and rated by the researcher according to the coding and

categorising criteria for the lesson interview responses set forth. The reliability and consistency of the ratings were inter-rated by the researcher's two colleagues. The rating scores range from 0 to 4 (0 representing no awareness reported and 4 representing excellent awareness). After the triple rating, the level of rating agreement was calculated, and inter-rater reliability across all interviews was found to be statistically significant at the level of .01 (Rater 1 and Rater 2, $r = .907$; Rater 1 and Rater 3, $r = .924$; Rater 2 and Rater 3, $r = .828$). The mean (M) was used to report the students' average rating score of strategic awareness ((a) what strategy was taught (declarative knowledge), (b) the context or situation in which the strategy should be used or applied (situational knowledge), and (c) how one employs the strategy (procedural knowledge)). The one-way analysis of variance (ANOVA) was further employed to explore the differences of the learners' strategic awareness amongst the different groups.

CONCEPT INTERVIEW DATA

To measure the students' awareness of the need to be strategic whilst reading, 30 randomly-selected participants' verbal statements from the post-course concept interviews were qualitatively analysed by grouping according to similarities. The frequency counts were quantitatively transformed into a percentage.

STANDARDISED TEST SCORES

The paired samples t-test was used to compare the students' pre-test and post-test scores on the NDRT. As the students were divided into three groups according to their English reading comprehension abilities (high-level, moderate-level and low-level reading proficiency) before the instruction, the post-test scores of these groups were also compared, using ANOVA.

RESULTS

LESSON INTERVIEW DATA

The first research question was whether strategic reading instruction can increase high-level, moderate-level and low-level reading proficiency students' awareness of the lesson content? The results are discussed in terms of the determination of learner awareness and the comparison of learner awareness.

DETERMINATION OF LEARNER AWARENESS

The lesson awareness gains were determined by the ratings across 16 weeks of instruction as shown in Table 1.

TABLE 1. Lesson awareness ratings

Group	Overall Mean (M)		
	Declarative Knowledge	Situational Knowledge	Procedural Knowledge
High ($N = 10$)	3.07	2.37	3.57
Moderate ($N = 10$)	3.63	2.50	2.93
Low ($N = 10$)	2.93	1.17	1.70

The results of the lesson interviews revealed that, during 16 weeks of instruction, participants in all three groups developed an awareness of the specific reading strategies taught in the lessons (declarative knowledge), knowledge of when and in which situations or contexts the

strategies taught in the lessons should be used or applied (situational knowledge) and knowledge of how they as readers should employ the strategies taught in the lessons (procedural knowledge), as demonstrated by the mean ratings gained across all 30 post-lesson interview transcripts ranging from 1.70 (fair awareness) to 3.63 (very good awareness).

COMPARISON OF LEARNER AWARENESS

The learner awareness mean ratings were further compared between groups using a one-way analysis of variance (ANOVA). The results showed that a significant difference was found only in the mean ratings of all groups for procedural knowledge ('How do you do what you were taught?') at the level of .05 ($p = .001$), as shown in Table 2.

TABLE 2. A comparison of the procedural knowledge ratings

Procedural Knowledge	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	Sig.	Partial Squared	Eta
Between groups	18.006	2	9.003	9.235	.001	.406	
Within groups	26.322	27	0.975				
Total	44.328	29					

A post hoc analysis using Tukey's method was also conducted to determine these significant differences between each pair of means. The results revealed that the procedural knowledge mean ratings of the high-level and the moderate-level groups are significantly different from those of the low-level group at the .05 level ($p = .001$ and .025 respectively), whereas the mean ratings of the high-level and the moderate-level groups are not significantly different at the .05 level ($p = .337$).

As for the declarative knowledge ('What was the lesson about?') and the situational knowledge ('When is it useful?'), the results of the ANOVA analysis revealed no statistically significant difference amongst the mean ratings of the learners at the level of .05 ($p = .155$ and .061 respectively). This means that the learners in all groups had a similar awareness of the lesson content they had learned in class and the context or situation in which the material taught in the lesson should be used.

CONCEPT INTERVIEW DATA

The second research question was whether strategic reading instruction can increase high-level, moderate-level and low-level reading proficiency students' awareness of the need to be strategic whilst reading. To measure this awareness, the data from five post-course concept interview questions were used for analysis. Based on the findings, most participants in all groups developed an awareness of the general need for strategic reading during the sixteen weeks of instruction. First, they were well aware that good readers understand English texts by using certain reading processes strategically ($n = 14$, 47%). Second, when given an English text to read, they reported they first used 'advance organisation' to deal with meaning at text level ($n = 24$, 80%). Third, they mentioned that they would pay attention to the main idea, if given an English text to read ($n = 15$, 50%). Fourth, they responded that they would use 'local context clues' to tackle an unknown word ($n = 24$, 80%). Fifth, they reported using 'translation' to tackle a difficult or complex sentence ($n = 19$, 63.33%).

STUDENT READING ACHIEVEMENT

The third question was whether strategic reading instruction increase different proficiency level learners' conscious, effective use of strategies and lead to greater reading achievement.

TABLE 3 A paired samples t-test comparison of the pre-test and the post-test mean scores of English reading comprehension

Test	<i>M</i>	<i>SD</i>	Learners (<i>N</i> = 82)		
			t-value	Sig.	Cohen's d
Pre-test	30.11	7.12	-3.792	.000	0.35
Post-test	33.04	9.37			

$p < .05$

As shown in Table 3, the mean scores all learners obtained for the pre-test and the post-test were 30.11 and 33.04. The t-test result suggests a statistically significant difference between the pre-test and the post-test mean scores ($t = -3.792$, $p = .000$). The Cohen's d effect size value of the strategic reading instruction was 0.35, which indicates that this instruction (independent variable) has a small effect on the learners' English reading ability (dependent variable). This means that the English reading proficiency of these learners improved slightly after they were taught to use multiple L2-based reading strategies consciously and deliberately.

The post-test mean scores of the different reading proficiency groups were further compared using ANOVA.

TABLE 4. A comparison of the post-test mean scores (English reading comprehension) of different groups

	Sum of Squares	<i>Df</i>	Learners		Sig.	Partial Eta Squared
			Mean Square	<i>F</i>		
Between groups	2340.523	2	1170.261	27.743	.000	.413
Within groups	3332.367	79	42.182			
Total	5672.890	81				

As shown in Table 4, the post-test mean scores of these groups were significantly different at the .05 level ($p = .000$) after receiving strategic reading instruction for 16 weeks. The effect size value obtained was .413. This means that this instruction (independent variable) had a large effect on the groups' English reading scores (dependent variable) and confirmed the significant difference between the means obtained by the groups.

TABLE 5. Multiple comparisons of different groups' post-test scores (English reading comprehension)

(I) Level	(J) Level	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
High	Moderate	13.1107	1.83750	.000*	8.5264	17.6951
	Low	15.1458	2.70615	.000*	8.3943	21.8974
Moderate	Low	2.0351	2.32957	.684	-3.7770	7.8471

* $p < .05$

In addition, a post hoc analysis using Scheffé's method was conducted to measure the differences between each pair of means of the groups. As can be seen from the above table, the post-test mean score of the high-level group was significantly different from those of both the moderate-level and the low-level groups at the .05 level ($p = .000$), whereas the post-test mean scores of the moderate-level and the low-level groups were not significantly different at the .05 level ($p = .684$).

TABLE 6. Post hoc analysis of the post-test mean scores (English reading comprehension)

Group	Learners <i>N</i> (82)	Subset	
		1	2
Low	9	28.67 (<i>pre-test</i> 18.56)	<i>Continued</i>

Continued

Moderate	57	30.70 (pre-test 29.02)
High	16	43.81 (pre-test 40.50)

According to the above table, the groups can thus be classified into two subsets. Subset 1 includes the low-level and the moderate-level sub-groups with mean scores of 28.67 and 30.70 respectively. Subset 2 includes only the high-level group with a mean score of 43.81. Considering the pre-test mean scores of these three groups, it is apparent that the implemented instruction had an effect on all three groups. The mean score each group obtained increased from the pre-test to the post-test (Low – 18.56/28.67, Moderate – 29.02/30.70 and High – 40.50/43.81). The reading proficiency of the low-level learners increased to the same level as that of learners in the moderate-level group after receiving the strategic reading instruction, which means that these learners made a great gain and could strive for the higher level. As for the learners in the moderate-level and the high-level groups, they remained within the bounds of the same levels of reading ability, but their post-test mean scores improved slightly.

CONCLUSION AND DISCUSSION

This study focuses on what happens in the naturalistic context of real classrooms. The researcher put strategic reading instruction that trained students in the active processing of texts to the test. A group of 82 students received strategic training for EFL reading for 16 weeks. The focus was on the co-ordinated use of multiple strategies for effective comprehension of general English texts which include bottom-up, top-down, metacognitive, social/affective and test-taking strategies. After each teaching session, post-lesson interviews were given to determine whether the declarative knowledge, situational or conditional knowledge and procedural knowledge of reading strategies taught in class is received. Post-course interviews were also conducted to measure student awareness of the general need to be strategic whilst reading. Two main points were found – the raised awareness of both lesson content and the need to be strategic whilst reading, and the greater reading achievement, which can be brought to discussion.

First, the findings of both the lesson and concept interviews in this study indicate that the metacognitive strategy training that emphasised the co-ordinated use of multiple L2-based reading strategies whilst readers actively attempted to comprehend written materials result in greater student awareness of both lesson content and the need to be strategic and monitor comprehension. The post-lesson interview results reveal that the training helped develop strategic awareness amongst the participants. It directly affects what learners think they are learning (declarative knowledge), and that they learn more when they are consciously aware of when and why they are doing (situational or conditional knowledge) and how they are to do this (procedural knowledge). However, the higher-level groups were found to be more aware of the procedural knowledge than the low-level group. This may be due to their higher language proficiency level. They showed their greater understanding of how to do what they were taught. This finding is consistent with those of Ikeda and Takeuchi (2006) and Jamil, Aziz and Razak (2010). The former used portfolios to clarify the differences in learning EFL reading strategies between two groups of Japanese EFL learners whose English proficiency levels differ and found that their higher proficiency students understood the conditions in

which each strategy is effectively used, whereas the lower proficiency students showed in their portfolio entries that they actually did not sufficiently understand the conditions of using the strategies taught. The latter studied test-taking strategies utilised by two groups of different proficiency participants in an open-ended reading comprehension test, and found that the high-proficiency group used strategies which seemed to involve more ‘analytical thinking’. These researchers observed that the number of the strategies does not seem to be a factor in the participants’ ability to respond to a test or to choose their answers, but that the way they employ the strategies they utilise influences them to select a correct answer. This may confirm the fact that learners’ language proficiency level is likely to influence the effectiveness of strategy instruction (Ikeda & Takeuchi 2003, Grabe 2004). As for the declarative knowledge and situational knowledge, there was no difference amongst the mean ratings of the learners. The reason for this may be ascribed to the fact that an awareness of such knowledge can be easily increased and made distinct by teachers. With regard to determining students’ general awareness of the strategic nature of reading through the post-course interviews, the findings revealed that most students of all proficiency levels developed an awareness of the general need to be strategic when reading English materials across the sixteen weeks of instruction. A likely explanation for this may be that learners’ metacognitive awareness of reading strategies can be raised regardless of their level of reading ability. The concepts of high-level, moderate-level and low-level reading proficiency groups of the current study may reflect a metacognitive awareness when the strategic reasoning associated with using multiple strategies to restore meaning in connected text is explicitly explained in class. The ideas that strategic awareness is a prerequisite for strategy use and that raising students’ awareness of what reading strategies are, and of when and how to use these strategies deliberately to become ‘strategic’ readers is necessity are also supported by the findings of previous studies such as Salataci and Akyel (2002), Subanrat (2008), and Wichadee (2011).

Second, the greater student awareness of both lesson content and the need to be strategic and monitor comprehension may lead to the students’ more conscious use of strategic reasoning and higher achievement growth as measured by the Nelson-Denny standardised reading test. Students in all groups (high, moderate and low) demonstrated improvement in their English reading ability, achieving increased mean scores from pre-test to post-test. This was especially evident in the low-level participants, whose performance rose to the same level as that of the moderate-level participants. This finding is similar to the findings of studies conducted by Kusiak (2001), Song (1998), Subanrat (2008) and Wichadee (2011), in which strategy training was found to be more effective for less proficient readers.

IMPLICATIONS AND RECOMMENDATIONS

First of all, a limitation of the present study should be mentioned. The format of the concept interviews in this study was changed to acquiring written responses to open-ended questions, as interviewing students face to face on the last day at the end of the course proved problematic. However, many of the participants provided very brief written responses. Their answers did not provide as much detailed description as those obtained from interviewing students in person. This meant the researcher did not have access to as rich a body of information as anticipated.

With this limitation in mind, a pedagogical implication can be made. Results from this study provide insights into the positive relationship between the metacognitive strategy training for EFL reading and the learners’ awareness of lesson content and strategic nature, resulting in improved English reading proficiency. Given the importance of learner strategic behaviour in reading, such awareness would seem to be crucial. Providing EFL student

readers with metacognitive reading strategy instruction seems to be a pedagogically-rich method that could usefully replace the traditionally teacher-dominated classroom or may, as a starting point, be incorporated into the usual classroom settings. A major focus for teaching reading should be on raising awareness of the co-ordinated utilisation of reading strategies through combined-strategies instruction (Grabe 2004). Moreover, teachers should teach strategies through explicit modelling, direct explanation and ample feedback, so that students have a clear understanding of what the strategies are, when they can be used, and how they are used, as well as the value and usefulness of strategies in EFL reading (Song 1998). Lastly, EFL learners, less capable ones in particular, need to receive such training over extended periods. Without direct explanation and explicit teacher modelling over an extended period, it is unlikely that students will become long-term strategic readers (Gaskins 1994). However, this depends on the way present EFL teachers view teaching reading, as well as the time-consuming preparation for the strategy instruction EFL teachers have to devote themselves to. Not only should teachers be concerned about the processes of reading and learning, but they must also be happy to dedicate themselves to these processes by means of explicit strategy training and modelling (Singhal 2001). To deal with this, the researcher concurs with Zhang and Wu (2009), and Cubukcu (2007) that teacher training programmes or ongoing professional development workshops and conferences on language teaching methodologies, particularly those in strategies-based approaches to L2 reading (Anderson 1999, Cohen & Weaver 2005, Grabe 2004) should be provided to help EFL teachers implement strategic reading instruction.

The current study also provides two research agendas for future studies. First, acquiring written responses to open-ended questions described as the limitation above may have been a major drawback of this study. Future studies designed to access face-to-face interview data are recommended. Second, this study could not be conducted as a longitudinal experiment for two consecutive courses (reading I and II courses), to explore how lasting the effect of strategic reading instruction could be. This is because not all of the participants who took the reading I course proceeded with the reading II course. Future research should include a longitudinal study of strategy training.

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APPENDIX A

Lesson interview questions:

Level I

Could you tell me what you were learning to do today?

Level II

What were you learning in the lesson I?

When would you use what the teacher was teaching you?

How do you do what you were taught to do?

Level III

Ask the how question at both Levels II and III, but ask the what and when questions at Levels II and III only when the student's what and when answers at the prior level are less than exemplary.

Prepared probes, if responses to the initial questions are incomplete or vague:

-Can you tell me more?

-How do you figure out what the main idea of a paragraph is?

-When I watched your teacher in class, what was she teaching you?

-Now, can you think of a time when you can use what you learned in class?

-If you were going to teach this to someone else, what would you tell them to do?

-Can you think of other clues?

Others

Have you got any comments or difficulties understanding the lesson the teacher taught today?

APPENDIX B

Concept interview questions:

1. What do you think good readers do?
2. When you are given an English text, what do you do first?
3. If you are given an English text to read, will you pay attention to the main idea or textual details? Will you see how the text was organised, or text structure?
4. What do you do when you come across a word that you do not know? How do you approach an unknown word?
5. What do you do when you come across a long sentence you do not understand? How do you approach the sentence?