A Study of EFL Reading Ability of M.5 Phromkiripittayakom School Students with Reading Strategy Training

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Master of Arts Thesis in Applied Linguistics

Prince of Songkla University

2000

Thesis Title   A Study of EFL Reading Ability of M.5 Phromkiripittayakom School Students with Reading Strategy Training

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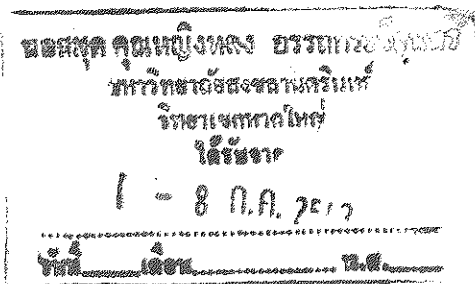
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ชื่อวิทยานิพนธ์	การศึกษาความสามารถทางการอ่านภาษาอังกฤษเป็นภาษาต่างประเทศ ของนักเรียนชั้นมัธยมศึกษาปีที่ 5 โรงเรียนพรหมคีรีพิทยาคม ที่ได้รับการฝึกกล-วิธีในการอ่าน
ผู้เขียน	นายบุญฤทธิ์ ระวังวงค์
สาขาวิชา	ภาษาศาสตร์ประยุกต์
ปีการศึกษา	2542

บทคัดย่อ

   การวิจัยครั้งนี้มีวัตถุประสงค์เพื่อศึกษากลวิธีในการอ่านบางวิธีว่าช่วยส่งเสริมความสามารถทางการอ่านภาษาอังกฤษเป็นภาษาต่างประเทศของนักเรียนชั้นมัธยมศึกษาปีที่ 5 หรือไม่ และเพื่อศึกษาทัศนคติต่อการอ่านภาษาอังกฤษของนักเรียนเหล่านี้ ทั้งก่อนและหลังการฝึกกลวิธีในการอ่าน

   การวิจัยครั้งนี้ได้ทดลองกับกลุ่มตัวอย่าง ซึ่งเป็นนักเรียนชั้นมัธยมศึกษาปีที่ 5 แผนการเรียนวิทยาศาสตร์ จำนวน 60 คน ในภาคเรียนที่ 2 ปีการศึกษา 2541 ณ โรงเรียนพรหมคีรีพิทยาคม จังหวัดนครศรีธรรมราช ผู้วิจัยได้แบ่งกลุ่มนักเรียนเหล่านี้ออกเป็นกลุ่มควบคุมและกลุ่มทดลอง กลุ่มละ 30 คน ตามคะแนนจากแบบทดสอบความสามารถทางการอ่านภาษาอังกฤษก่อนเรียน โดยทั้งสองกลุ่มมีระดับความสามารถทางการอ่านที่ไม่แตกต่างกันอย่างมีนัยสำคัญทางสถิติ ก่อนการวิจัยนักเรียนในกลุ่มตัวอย่างแต่ละคนตอบแบบสอบถามเกี่ยวกับทัศนคติต่อการอ่านภาษาอังกฤษเป็นภาษาต่างประเทศ ทัศนคติต่อการอ่านภาษาอังกฤษของทั้งสองกลุ่ม ไม่แตกต่างกันอย่างมีนัยสำคัญทางสถิติ นอกจากนี้ผู้วิจัยได้สัมภาษณ์นักเรียนในกลุ่มทดลองจำนวน 16 คน ซึ่งเป็นตัวแทนของกลุ่มที่ได้คะแนนสูงและคะแนนต่ำ เกี่ยวกับพฤติกรรมการอ่านก่อนเริ่มต้นการฝึกกลวิธีในการอ่าน จากนั้นผู้วิจัยดำเนินการสอนอ่านเป็นระยะเวลา 16 สัปดาห์ โดยกลุ่มทดลองได้รับการฝึกกลวิธีในการอ่าน ในขณะที่กลุ่มควบคุมไม่ได้รับการฝึกกลวิธีในการอ่าน

   เมื่อสิ้นสุดภาคเรียน ได้มีการประเมินความสามารถทางการอ่านและทัศนคติต่อการอ่านภาษาอังกฤษเป็นภาษาต่างประเทศของกลุ่มตัวอย่างทั้งสองกลุ่มอีกครั้งหนึ่ง โดยใช้เครื่องมือการวิจัยชุดเดิม และได้สัมภาษณ์ประชากรในกลุ่มทดลองจำนวน 16 คนที่เคยได้รับการสัมภาษณ์ก่อน

การฝึกกลวิธีในการอ่านอีกครั้งหนึ่ง เพื่อดูการเปลี่ยนแปลงของพฤติกรรมการอ่าน ซึ่งเกี่ยวข้องกับการฝึกกลวิธีในการอ่าน

ผลของการวิจัยสรุปได้ดังนี้

1. ความสามารถในการอ่านภาษาอังกฤษของกลุ่มตัวอย่างทั้งสองกลุ่ม หลังจากการใช้วิธีการสอนสองแบบที่ไม่เหมือนกัน แตกต่างกันอย่างมีนัยสำคัญทางสถิติที่ระดับ 0.05

2. ทัศนคติต่อการอ่านภาษาอังกฤษเป็นภาษาต่างประเทศของกลุ่มทดลองเปลี่ยนแปลงในเชิงบวกและอย่างมีนัยสำคัญทางสถิติที่ระดับ 0.01 หลังจากได้รับการฝึกกลวิธีในการอ่าน

3. ทัศนคติต่อการอ่านภาษาอังกฤษเป็นภาษาต่างประเทศของกลุ่มตัวอย่างทั้งสองกลุ่ม หลังจากการใช้วิธีการสอนสองแบบที่ไม่เหมือนกัน เปลี่ยนแปลงในเชิงบวกและอย่างมีนัยสำคัญทางสถิติที่ระดับ 0.01 อย่างไรก็ตาม ทัศนคติต่อการอ่านภาษาอังกฤษของกลุ่มทดลอง เปลี่ยนแปลงในเชิงบวกมากกว่าทัศนคติต่อการอ่านภาษาอังกฤษของกลุ่มควบคุม

4. นักเรียนในกลุ่มทดลองเห็นความสำคัญ และประโยชน์ของการฝึกกลวิธีในการอ่าน และจากการสัมภาษณ์พบว่านักเรียนกลุ่มนี้ใช้กลวิธีในการอ่านได้อย่างมีประสิทธิภาพมากขึ้นหลังจากได้รับการฝึกกลวิธีดังกล่าว

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Major Programme   Applied Linguistics

Academic Year   1999

ABSTRACT

The purposes of this study were to investigate whether certain reading strategies enhance EFL reading ability of M.5 students and to examine their attitudes towards EFL reading before and after they were equipped with reading strategies.

The study was conducted with sixty M.5 science-based students in the second semester of the 1998 academic year at Phromkiripittayakom School in Nakhon Si Thammarat Province. These students were equally divided into the control and experimental groups (30 each) based on their pre-test reading scores; the English reading ability of both groups was not significantly different prior to the study. Each of them was also asked to complete a questionnaire on attitudes towards EFL reading before the study commenced; the attitudes towards EFL reading of both groups were not significantly different. Besides, the investigator interviewed sixteen subjects in the experimental group, who were the representatives of the upper and lower groups, about their reading behaviour before the commencement of the reading strategy training. Subsequently, the experimental group was equipped with reading strategies, while the control group was taught through reading procedures without the reading strategy training for a sixteen-week period by the investigator.

At the end of the semester, both subject groups' EFL reading ability and attitudes towards EFL reading were re-assessed by means of the same research instruments. Sixteen subjects who were interviewed prior to the training were interviewed again to see the changes in their reading behaviour related to the reading strategy training.

The findings of this study were summarised as follows:

1. The English reading ability of both groups was significantly different after the use of two different teaching methods ($p < 0.05$).

2. The attitudes towards EFL reading of the experimental group changed positively and significantly after the reading strategy training ($p < 0.01$).

3. The attitudes towards EFL reading of both subject groups changed positively and significantly after the use of two different teaching methods ($p < 0.01$). However, the attitudes towards EFL reading of the experimental group changed more positively than those of the control group.

4. The subjects in the experimental group recognised the importance and benefit of the reading strategy training, and based on the interview, it was found that they utilised reading strategies more effectively after the training.

ACKNOWLEDGEMENTS

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CHAPTER 1

INTRODUCTION

Rationale for the Study

Based on my ten-year experience in Teaching English as a Foreign Language (TEFL) at a secondary school level, I have noticed that whenever the students at my school are confronted with a variety of reading texts (e.g. brochures, news stories, classified advertisements, letters, signs, notices, features, articles, autobiographies, short stories, conversations, etc.), both inside and outside the classroom, they often complain about the reading difficulties they experience. This information is in line with what is noted by Malinee Chandavimol (1998). The difficulties have directly affected their English examination results. For example, when they took the school examinations, as well as, the university entrance examination, they could not do well in the reading section. Despite the fact that most of them have been taught certain reading skills in English for at least five years, as specified by the secondary school syllabus, before taking the university entrance examination, their reading ability, as reflected in such examinations, was quite unsatisfactory. Learning about their poor performance in reading has astounded me!

It is believed that, in an EFL context such as Thailand, most of the students have a better chance of succeeding in reading skills than other language skills. This is because they are frequently exposed to a wide variety of reading texts which are more publicly available. On the other hand, they have not many opportunities to make contact with native English speakers or other people who use English as a medium of communication. As a result, the other three language skills: listening, speaking, and

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writing are relatively less practised. This is consistent with what is stated by Carrell (1988b : 1):

> For many students, reading is by far the most important of the four skills in a second language, particularly in English as a second or foreign language. Certainly, if we consider the study of English as a foreign language around the world -- the situation in which most English learners find themselves -- reading is the main reason why students learn the language.

In addition, Early and Ericson (1993) note that in school, reading is still the main medium through which teachers and students study literature.

In Thailand, reading skills at the secondary level have been given the first priority in the national foreign language curriculum (Achara Wongsothorn, *et al.*, 1996). This is because English is viewed as one of the most important foreign languages for higher education, a future good career and international communication.

With regard to higher education, reading skills are of great importance because it is believed that learners can acquire a great deal of knowledge through reading. As a consequence, in Thailand, a large number of English reading courses are offered to students at all levels in every educational institute, especially in secondary and tertiary levels of education. In other words, most of them have been familiarised with reading skills which generally play a more important role than other English courses for years. This should have provided students with better reading experience in English.

It is noteworthy that their extensive exposure to reading skills during their many years at school has still failed to make them achieve a desirable reading ability. This information coincides with what is stated by Malinee Chandavimol (1998). That is, most teachers of English in Thailand have acknowledged that a large number of Thai students frequently fail to comprehend English texts. These ideas are also congruent with many studies which were conducted on the EFL reading performance of Thai students at different levels. For instance, Malee Nitsaisook (1996 : 5) reported, "Surprisingly, year after year, the research findings have repeated the same

results indicating that many Thai students have difficulties in learning to read in English". In addition, she revealed:

> First, the Mattayom 3 students seemed to have a poor level of reading ability in comprehending texts. They could demonstrate limited ability to identify, select, and interpret information for specific tasks only. Second, the reading performance of the Mattayom 6 and the Rajabhat Institute English majoring freshmen group, and the Rajabhat Institute sophomores group was considered to demonstrate an inadequate level of reading ability in comprehending the texts. They could recognise explicit and implicit meanings, but with extremely limited comprehension (p.176).

She further remarked:

> Many studies on the EFL reading performance of Thai students at both the secondary level and tertiary level, conducted during the past three decades as well as the past few years, have shown that a great number of students had unsatisfactory levels of English reading achievement ... The information about the growth of EFL reading skills of Thai students at different educational levels is undoubtedly required since it will certainly shed light on the improvement of the strategies of teaching EFL reading literacy skills (p. 5).

Likewise, Sasithorn Tassaneetipagorn (1991) has stated that a large number of Thai students have scarcely succeeded in reading because they, in general, lack not only basic knowledge of English structure (i.e. a sequence of linguistic units) but also reading processes in terms of essential reading strategies to tackle reading texts effectively.

Moreover, Anamai Damnet (1998) and Wipada Ingkanart (1998) have mentioned that most Thai students have been exposed to inappropriate or/and impractical reading methods resulting in ineffective reading in general.

It seems that one of the causes leading to reading difficulties is the lack of practical reading strategies in which the students need to be well-trained.

There are many research findings on reading strategies which support the fact that reading strategy training enhances reading ability. For example, Cotterall (1990) found that developing reading strategies through small-group interaction by using four strategies (i.e. clarifying, identifying the main idea, summarising, and predicting)

helped her second language students learn how to use such reading strategies to deal with texts in order to solve their reading difficulties. Another example of reading research conducted by Auerbach and Paxton (1997) revealed that the students who were trained to investigate their own reading strategies as part of the pedagogical process could apply what they discovered to their reading. Both researchers also proposed that readers' metacognitive awareness of their reading process and strategies enhanced reading proficiency. Clearly, in the report of Green and Oxford (1995 : 291), they emphasised, "Students should be made aware of the key importance of active use of strategies involving naturalistic practice, especially in situations where the opportunities for such practice are widely available".

Besides, Janzen (1996) reported that reading strategy training helped her students understand their reading process better, both in their first and second languages. More importantly, the consequences of reading strategy training enabled the EFL teachers to realise the importance of training their students with practical reading strategies. This is because practical reading strategies lead to effective reading which is critical to the students in EFL contexts (Carrell, 1988b).

Most of the studies on reading strategies were conducted with non-Thai subjects while there exists only a few studies on reading strategy training for Thai students. What is even worse is the fact that most of the EFL teachers, based on my own teaching experience, rarely pay attention to teaching reading by employing practical reading strategies. This might be due to the fact that they do not know whether these strategies can enhance the students' reading ability and that they do not know how such strategies can be used to train students. As a result, normal reading procedures plus grammar and translation methods are mainly practised in the reading classes. This information is congruent with Broughton's (1997) concern over the lack of success in teaching English at school within the Thai educational system because for the last thirty years, grammar has been emphasised in their English classes at the expense of practical reading strategies. Broughton's comment is supported by

Songsri Soranastaporn and Panya Srichandr (1997 : 51), who state, "In Thailand, we learn a lot of grammar at the expense of other activities". They further mention that both extensively proper practice and exposure to English skills are lacking in Thailand. Additionally, Konaré (1994) remarks that in EFL reading classrooms, activities generally put great emphasis on the product of reading at the expense of the reading process. This brings about a failure to give learners any useful reading strategy training. That is the reason why the teachers do not realise the significance of such reading strategy training.

In my opinion, it is a shortcoming for EFL teaching and learning in the Thai context if most teachers do not recognise the benefits of reading strategies. One of the consequences is that Thai students will suffer from reading difficulties, which in turn, leads to negative attitudes towards English, especially reading in English. This notion is in accord with Anamai Damnet (1998 : 12), who states:

> A wide variety of research in the field of TEFL focusing on reading instruction in Thailand has indicated that the major problems causing the development of reading ability in English are related to unsuitable teaching methods and students' negative attitudes towards reading.

These ideas are also shared with Mantle-Bromley (1995 : 375), who notes, "It is already known that some students enter the classroom with less than positive attitudes towards the language, its speakers and foreign cultures". One of the ways to minimise their negative attitudes is to provide the students with positive reading activities which enable them to build up reading strategies as well as positive attitudes towards reading. This idea is confirmed by Duffy and Roehler (1993), who claim that positive attitude development is a major outcome of reading training. This is because, without positive attitudes, students are unlikely to succeed in reading and writing. Hence, students' attitudes towards English are vital and must be taken into consideration by EFL teachers when they manage classroom reading, because

according to Scarcella and Oxford (1992), positive attitudes enable reading to become an enjoyable experience for language learners.

As mentioned previously, one of the ways to help Thai students read better and more efficiently is to train them with practical reading strategies. Scarcella and Oxford (1992) confirm that reading strategies can be taught and practised in the language classroom. In addition, the reading strategies help improve students' performance on tests of reading comprehension and recall (Carrell, 1985; Carrell, Pharis and Liberto, 1989; Pearson and Fielding, 1991; all cited in Janzen, 1996). This information is supported by Janzen (1996 : 7), who states, "By using strategies, students will be reading in the way that expert readers do. Strategies help readers to process the text actively, to monitor their comprehension, and to connect what they are reading to their own knowledge and to other parts of the text".

Moreover, Hopkins (1998 : 70) asserts that reading should be "taught through a 'process approach' that emphasises the development of learner skills (i.e. predicting, guessing meaning from context, note-taking, idea mapping, brainstorming, outlining, etc)".

Besides, Singhal (2000) affirms that reading strategy training leads to improvement in reading comprehension. This is because effectively delivered strategy training helps students become aware of strategy use, which in turn enables them to learn and read more purposefully and successfully. She also believes that reading strategy training, as part of a balanced literacy programme, can eventually help students become independent readers.

Likewise, in the EFL context of Thailand Chintana Sanuphan, Monta Pupuakrat and Wantana Pliansaisueb (1982); Kosol Charoenthong (1992); Napaporn Meckhayai (1992); Nuntaga Thawut (1996); Anamai Damnet (1998); Malinee Chandavimol (1998); Wipada Ingkanart (1998) all assert that proper reading techniques or strategies enable Thai learners to attain the highest reading efficiency and knowledge to apply such strategies to solve reading difficulties. Based on their

suggestions, the teachers of EFL reading have to consider utilising reading strategies to make their reading classes effective. This idea is supported by Carrell (1988b : 1), who suggests, "Professionals in L2 education should be vitally concerned with approaches that can improve the reading skills of learners." Similarly, Ellis (1997) proposes that one of the alternatives to direct instruction which can promote the abilities and predispositions of individual learners is strategy training.

Remarkably, Malee Nitsaisook (1996 : 195) proposes, "More studies on the effects of EFL reading instruction strategies need to be conducted, especially in the form of classroom-based action research". This very likely indicates that there are a relatively small number of research papers on reading strategies and their effects on students' reading ability in the Thai context. Thus, this study is conducted in the hope that it can shed further light on reading strategy training in Thailand.

Purposes of the Study

The main purposes of this study are to investigate:

1. Whether certain reading strategies enhance an ability to read in English, and

2. The students' attitudes towards reading in English before and after being trained with reading strategies.

Statements of Hypotheses

It is hypothesised that:

1. The ability of students who were equipped with reading strategies to read various text types would be greater than that of the students who were not equipped with reading strategies.

2. The attitudes towards reading in English of the subjects in the experimental group would positively change after the reading strategy training.

Significance of the Study

1. If it is found that the students in the experimental group have a higher English reading ability after they have been trained with reading strategies throughout the semester, this may provide a basis for encouraging EFL teachers to use more reading strategies to better suit their students. This is because better reading ability can come out of the strategy training.

2. If it is found that there is no difference between the English reading ability of the two groups of students after they have been taught for a semester, this will be a challenge not only to EFL teachers to find another effective way to teach reading, but also to other EFL researchers to do further research on effective reading methodology.

3. If the students' attitudes towards EFL reading within the experimental group are found to change significantly and positively after the training while this is not the case for those in the control group, this will probably be great encouragement to the EFL teachers to realise the importance of employing practical reading strategies in their reading classes.

4. If the English reading ability of the students in the experimental group is found to be significantly related to their attitudes towards EFL reading, this will be useful to the EFL teachers to know that positive attitudes can lead to better reading ability, or vice versa.

Scope and Limitations of the Study

The scope of this study is to test the hypothesis that M.5 students who were taught with specific reading strategies would not only have a higher ability to cope with EFL reading texts, but also possess more positive attitudes towards EFL reading than those who were not trained with reading strategies.

This study, however, might have some limitations as noted below:

1. This study was mainly classroom-based because it investigated a specific group of M.5 students in a particular context; that is, all of the subjects participating in this study were the M.5 science-based students at Phromkiripittayakom School in Nakhon Si Thammarat Province. As a result, the outcomes cannot be readily generalised or represent all Thai students who are studying at the same educational level at other schools throughout Thailand.

2. The subjects were selected on the basis that, according to the information gained from the observation of the English teaching staff at my school, they were not quite interested in English, especially in reading skills. In addition, based on the school records, their English reading achievement was unsatisfactory. Hence, the investigator certainly wanted these students to participate in the main study to familiarise them with certain reading strategies and to verify that their reading ability could be improved by the end of the study.

3. Because of time constraint, other data collection methods e.g. protocols, journal writing, and thinking aloud which would enable us to get more in-depth information about the students' reading process were not employed.

Basic Assumptions

1. The English reading ability and attitudes towards EFL reading of the subjects in the control and experimental groups are comparable before the commencement of the study (See **Appendices C, E, and F,** pp. 131, 134-136 for statistical analyses of their English reading ability and attitudes towards EFL reading).

2. Some intervening variables e.g. the process underlying the acquisition of reading strategies (i.e. gender, age, language aptitude, learning styles, some socio-economic factors, etc.) are not taken into account.

Definitions of Terms

1. **EFL** : EFL stands for English as a Foreign Language. In this case, English is taught as a subject in schools, but not used as medium of instruction nor as a language of communication within a country like Thailand.

2. **M.5 students or Mathayomsuksa 5 students** : The students who took part in this study were studying in the second year of the upper secondary level at Phromkiripittayakom School, a co-educational school. These students have taken at least three English reading courses (i.e. ENG 025, ENG 025A, and ENG 025B). All of them were science-based students with an age range between 17 and 18 years.

3. **The experimental group** : The group of 30 students who were given reading strategy training by the investigator.

4. **The control group** : The group of 30 students who were taught without any reading strategy training by the investigator.

5. **Strategy training** : The incorporation of reading strategies which were taught in the reading course to the students in the experimental group to help them improve their reading ability for a 16-week period.

6. **Reading strategies** : In this study, reading strategies in three main phases of reading were adapted from Auerbach and Paxton's (1997) sample strategies:

6.1 **Pre-reading strategies** : These strategies are used before a student starts to read a text. They are composed of the following sub-reading strategies:

- Accessing prior knowledge
- Writing the way into reading (or writing about the reader's experience related to the topic)
- Asking questions based on the title/ topic
- Semantic mapping
- Making predictions based on previewing
- Reading pre-text questions before going through the text
- Skimming for general ideas
- Scanning for specific information
- Reading the introduction and conclusion
- Identifying the text type or genre
- Writing a summary of the article/ text based on previewing

6.2 **While-reading strategies** : These strategies are used while a student is reading or tackling a text. They are composed of the following sub-reading strategies:

- Skipping unknown words
- Guessing the meaning of unknown words from the context
- Underlining words, phrases or sentences in the text (or marking the text)
- Identifying reference words
- Extracting the main idea of each paragraph
- Glossing
- Responding while reading

6.3 **Post-reading strategies** : These strategies are used after a student finishes reading the text. They are composed of the following sub-reading strategies:

- Revising pre-reading expectations
- Reviewing notes, glosses, text markings
- Retelling what he/she thinks the author is saying
- Relating the text to his/her own experience
- Responding to the text or criticising it

7. **Reading ability** : In this study, the reading ability refers to the scores which the subjects in both groups obtain from the test of "**the English Reading Ability**", administered as the pre-test and the post-test ($R_{tt} = 0.83$). In other words, the reading ability is reflected in the subjects' scores.

8. **Student's attitudes** : In this study, the attitudes refer to the rating allocated by the students in the control and experimental groups on the questionnaire "**Student's Attitudes towards EFL Reading**" ($R_{tt} = 0.71$).

CHAPTER 2

REVIEW OF LITERATURE AND RELATED RESEARCH

The present study is concerned with reading strategy training and attitudes towards reading in English as a foreign language (EFL), so it is essential to review related literature and research on reading to provide the reader with relevant background information.

The review is divided into five main sections as follows:

1. First language reading models influencing second/foreign language reading:

2. Schema theory

3. Reading strategies and metacognitive strategies

4. Attitudes towards EFL reading

5. Related research on reading strategy training and on attitudes towards EFL reading

1. First Language Reading Models Influencing Second/Foreign Language

Diehl, Twyford and Feathers (1981; cited in Nanta Chiramanee, 1992) suggest that it is vital for reading teachers to possess a clear theoretical understanding of the second/foreign reading processes, of research trends and implications, and of new effective techniques so that they can teach second/foreign language reading efficiently and effectively. Similarly, Samuels and Kamil (1988) recommend that one should pay attention to each of the reading models to get a more comprehensive view of reading.

According to Carrell and Eisterhold (1983); Samuels and Kamil (1988); Brown (1994), during the 1960s and early 1970s, the theory of English reading as a second/foreign language did not yet exist and research on reading in a second/foreign language was almost non-existent. As a consequence, many reading researchers and experimental psychologists had tried to apply fairly effective and practical theories of first language reading to formulate complete models or approaches to teach English as a second/foreign language. Attempts have been made to apply or transfer some well-known models of reading in first language to ESL/EFL reading. Below, first language models of reading which are relevant to ESL/EFL reading will be reviewed according to the time when they were formulated.

1.1 Bottom-up Models

According to Carrell and Eisterhold (1983); Carrell (1988b); Grabe (1988); Eskey and Grabe (1988); Samuels and Kamil (1988), during the 1980s, the first theory, applied to earlier work in reading, was called "bottom-up" models (or processes or approaches).

A 'bottom-up' process refers to a reading process which chiefly employs information being already present in the data (i.e. the words, sentences, etc.). In other words, the bottom-up processing would be understanding a text principally by analysing the words and sentences in the text itself (Richards, Platt and Platt, 1992). In the bottom-up processing, the reader first reads the message contained in the text, and then decodes it. Such processing pays close attention to language within the text; as a result, the reader's role in terms of the information processing is really passive (Nuttall, 1996). Carrell (1988b : 2) also indicates that earlier research on ESL reading regarded reading mainly from a passive viewpoint as:

a decoding process of reconstructing the author's intended meaning via recognising the printed letters and words, and building up a meaning for a text from the smallest textual units at the 'bottom' (letters and words) to larger and larger units at the 'top' (phrases, clauses, intersentential linkages).

According to Parry (1987; cited in Eskey and Grabe, 1988); Carrell, (1988b, 1988c); Barnett (1989; cited in Nanta Chiramanee, 1992), there is a hierarchy of language processing at all levels in the bottom-up approaches. That is, the reader constructs meaning from the smallest units (e.g. letters and words) to larger ones like phrases, clauses, sentences and paragraphs. Therefore, the bottom-up approaches are also called the "text-based" and "data-driven" processing (Carrell and Eisterhold, 1983; Silberstein, 1994) because the information processing greatly depends upon the printed text. In other words, this processing is started by the incoming data within the text (Carrell and Eisterhold, 1983).

However, some weak points of the bottom-up approaches have been found and criticised by several reading researchers. For example, Wallace (1992) points out that the bottom-up approaches pay much attention to the specific graphophonic and syntactic features of texts. In addition, Stanovich, 1980; Smith, 1982; van Dijk; Kintsch, 1983 (all reviewed in Nanta Chiramanee, 1992) also argue that such bottom-up models are insufficient because they fail to take many significant findings in reading literature into consideration. Besides, Samuels and Kamil (1988) state that one of the crucial drawbacks of the bottom-up models is lack of feedback because the processing starts in one direction from the lower-level to higher-level stages. As a result, sentence-context effects and the role of prior knowledge of the text topic as facilitating variables in word recognition and comprehension are hard to be accounted for.

For EFL reading in the Thai context, Malinee Chandavimol (1998) asserts that the bottom-up models, especially in terms of reading instruction by means of verbatim or word by word translation, have been generally employed for a very long period of time. She also agrees that reading processes by means of bottom-up

approaches put too much emphasis on the texts and do not pay adequate attention to the role of background knowledge.

1.2 Top-down Models

Due to the aforementioned weak points of the bottom-up models, some reading researchers, e.g. Clarke and Silberstein, 1977; Widdowson, 1978, 1983; Clarke, 1979; Mackay and Mountford, 1979 (all reviewed in Carrell, 1988b) start viewing ESL reading as a more active process, in which the reader actively participates in information processing, using predictions and only sampling parts of the actual text. The new reading model which is termed the "top-down" model subsequently emerges.

Carrell (1988b) and Brown (1994) view the top-down processing as an active process. This approach relies on active participation by the reader in the reading process through prediction and information processing, and brings a whole prior experience or background knowledge into the arena of making decisions about what something means.

Additionally, Samuels and Kamil (1988 : 31) note, "top-down models start with hypotheses and predictions and attempt to verify them by working down to the printed stimuli".

With regard to Wallace's (1992 : 147) view, the top- down processing refers to "ways of reading texts which attend to global meaning and are activated largely by existing knowledge of the world rather than the specific linguistic features of the text." Therefore, it is also called "knowledge-based" (Carrell, 1988c : 102) or "conceptually driven" (Carrell and Eisterhold, 1983 : 557) information processing.

Remarkably, Carrell (1988, 1988b) mentions that the introduction of the top-down models has had such a deep impact on ESL/EFL reading that there has been a tendency to suggest that it should take the place of the bottom-up approach,

rather than functioning as its complement. Nonetheless, Carrell (1988); Eskey and Grabe (1988); Grabe (1988) suggest that both top-down and bottom-up processing should work cooperatively.

As stated by Stanovich (1980; cited in Nanta Chiramanee, 1992 : 16), "There are actually a number of top-down conceptualisations of the reading process, e.g. Goodman, 1967/1976, 1971; Levin and Kaplan, 1970; Hochberg, 1970; Kolers, 1972; Smith, 1971, 1973". By the 1970s, ESL/EFL reading instruction was influenced by the top-down models. One of the most famous top-down models was Goodman's psycholinguistic model of reading (Carrell and Eisterhold, 1983; Samuels and Kamil, 1988; Wallace, 1992; Brown, 1994).

Goodman (1970) defines reading as "a psycholinguistic guessing game" involving the interaction between the reader's thought and the language within the text. According to his view, the reader constructs the meaning by using three textual cues: graphophonic, syntactic and semantic. The act of constructing meaning is an ongoing cyclical process consisting of sampling from the graphic input, predicting, testing and confirming or revising those predictions and sampling further. Interestingly, he further mentions that all of the textual cues are not utilised through the reading process since the reader chooses and predicts a language structure which can only be decoded. Goodman's model had a great impact on ESL/EFL reading pedagogy in the 1970s (Carrell and Eisterhold, 1983; Brown, 1994).

Though, initially, Goodman did not directly link his psycholinguistic reading model to EFL reading, it was later developed into a more interactive model for both ESL and EFL reading processing by Coady (1979; cited in Carrell and Eisterhold, 1983). Coady proposes that to comprehend any text, the reader has to have three areas of knowledge: conceptual ability, process strategies, and background knowledge (see **Figure 1,** p. 18).

Figure 1 Coady's (1979) Model of the EFL Reader

Conceptual ability ◄————► Background knowledge

Process Strategies
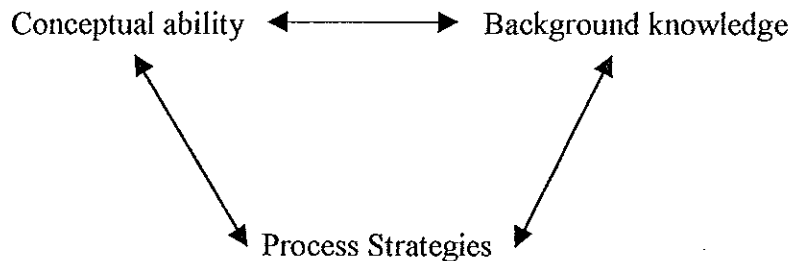
Source : Carrell and Eisterhold (1983 : 555)

Based on Coady's model, conceptual ability is general intellectual ability. Process strategies involve diverse sub-elements of reading ability comprising knowledge of phonological, syntactic and semantic systems. Background knowledge refers to knowledge of the world.

. However, Carrell and Eisterhold (1983) posit that Coady's model has generally failed to provide enough focus on the role of background knowledge, because Coady talks a little about its role. In fact, this model could not satisfy ESL/EFL reading researchers. Consequently, the role of background knowledge is further explored. In this study, it is subsequently reviewed under the heading "**Schema Theory**" (p. 22).

Besides, some reading specialists like Stanovich (1980; reviewed in Samuels and Kamil, 1988) and Eskey (1988) have found some limitations of the top-down models. Specifically, Eskey notes that these models give great emphases on such higher-level skills as the prediction of meaning by means of context clues or certain kinds of background knowledge. These emphases are at the expense of lower-level ones as the quick and correct identification of lexical and grammatical forms. He also claims that second language readers need to attend more to bottom-up features than first language readers because they have less language competence and proficiency than first language readers. Moreover, the top-down models have been

criticised for the vagueness in their conceptualisation by Stanovich (1980; cited in Samuels and Kamil, 1988). That is, the top-down approach can cause a loss of details. For example, the reader who makes too many assumptions may even encounter misinterpretation of the text.

Evidently, both bottom-up and top-down approaches have been criticised for their shortcomings by many reading researchers (Weber, 1984; cited in Grabe, 1988; Samuels and Kamil, 1988; Carrell, 1988; Eskey, 1988). Subsequently, the strengths of both approaches are combined in order to develop a new active approach - an "interactive model of reading." In other words, a more interactive model of reading has resulted from the better balance amongst different sub-processes of reading.

1.3 Interactive Models of Reading

Eskey (1988) notes that the interactive models may be viewed differently amongst reading researchers. As for Eskey, the word "interactive" refers to "the interaction obtained by means of bottom-up decoding and information provided by means of top-down analysis, *both* of which depend on certain kinds of prior knowledge and certain kinds of information-processing skills" (p. 96).

According to Widdowson (1979; cited in Grabe, 1988), reading is viewed as an interactive process because both textual information and the reader's prior knowledge are needed for the information processing. Likewise, Carrell and Eisterhold (1983) regard reading as an interactive process because the interaction takes place between the reader and the text itself. These tenets of an interactive process are shared with Silberstein (1994), who claims that the simultaneous interaction of two modes of information processing is required for text comprehension. That is, the bottom-up or text-based processing takes place when linguistic input from the text is mapped against the reader's prior knowledge. In

addition, Brown (1994 : 284) notes that the bottom-up processing evidently calls for "a sophisticated knowledge of the language itself" because the reader has to infer meanings, decide what to either retain or throw away and move on through the information processing. At the same time, the top-down processing happens when the reader's background knowledge is activated to make predictions or interpret the data within the text for global comprehension (Brown, 1994 and Silberstein, 1994).

Hence, in the interactive models of reading, both the bottom-up and top-down processing should take place simultaneously (Carrell, 1988, 1988b and Grabe, 1988). That is, by using top-down processing, the reader will be able to better understand concepts which he/ she has anticipated, and by bottom-up processing, the reader will be better able to completely assimilate new information. Carrell and Grabe further explain that the reader not only processes the text, but also exploits his or her own experiences and anticipation with both sources of information modifying each other.

In addition, Eskey and Grabe (1988) state that an interactive model of reading requires both bottom-up and top-down strategies to process and interpret the text. They further mention:

> This model incorporates the implications of reading as an interactive process—that is, the use of background knowledge, expectations, context, and so on. At the same time it also incorporates notions of rapid and accurate feature recognition for letters and words, spreading activation of lexical forms, and the concept of automaticity in processing such forms- that is, a processing that does not depend on context for primary recognition of linguistic units (p. 224).

Eskey and Grabe's account coincides with what is called "Interactive Parallel Processing" models (cited in Grabe, 1988 : 59). **Figure 2** (p. 21) illustrates a diagram of the simplified interactive models of reading.

Figure 2 A Simplified Interactive Parallel Processing Sketch

graphic features
letters
words
phrases
sentences
local cohesion   Reading
paragraph structuring
topic of discourse
inferencing
world knowledge
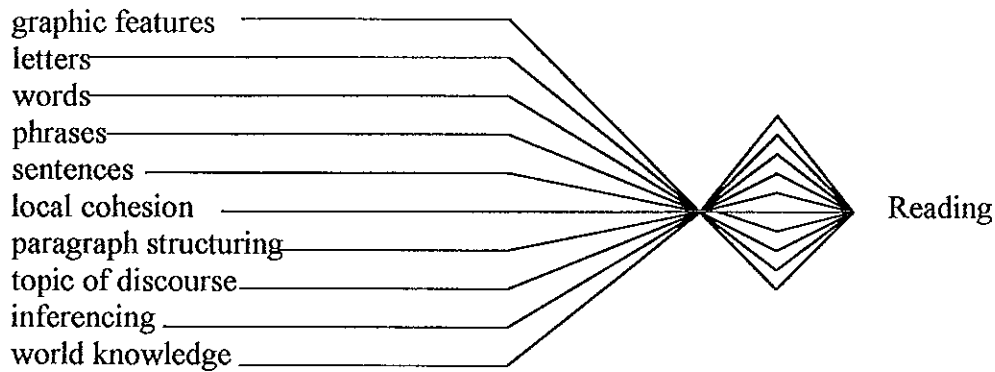
Source : Grabe (1988 : 59)

With reference to **Figure 2**, Grabe (1988) explains that different processing levels of reading skills are on the left, and the process of reading is on the right. Apparently, both bottom-up and top-down strategies are subsumed within a single model, which is also supported by Adams and Collins (1979/1985; reviewed in Nanta Chiramanee, 1992), who emphasise that such both processes should be happening concurrently at all levels of reading analysis.

Nonetheless, Eskey (1988) argues that although the interactive models let higher-level processing strategies influence lower-level processing ones, the comprehension still relies on the printed text. He asserts that the interactive approaches enable the reading process to occur, though the mix of skills and knowledge (bottom-up and top-down) is different from individual to individual and even from text to text.

Carrell (1988c) suggests that the reader who overrelies on either bottom-up or top-down processing may confront comprehension difficulties. Furthermore, Carrell (1988c); Samuels and Kamil (1988) assume that although the role of pre-existing knowledge structures has been accounted for in information

processing, predictions and interpretations of the text may not be generated if the reader has little knowledge of the topic.

2. Schema Theory

According to Bartlett (1932 : 201), the term " schema" refers to "an active organisation of past reactions, or past experience". As stated by Adams and Collins, 1979; Rumelhart, 1980 (all cited in Carrell and Eisterhold, 1983 : 556), "the previously acquired knowledge is called the reader's *background knowledge*, and the previously acquired knowledge structures are called *schemata*". Likewise, Anderson and Pearson (1988 : 37) define "schemata" as "knowledge already stored in memory, function in the process of interpreting new information and allowing it to enter and become a part of the knowledge store". These reading experts have shed light on the role of background knowledge in language comprehension, which is known as "schema theory".

Carrell and Eisterhold (1983) also note that efficient comprehension requires the capacity to relate textual material to one's own knowledge. This concept is congruent with Anderson, *et al.*'s (1977 : 369; quoted in Carrell and Eisterhold, 1983 : 557) statement, which reads, "Every act of comprehension involves one's knowledge of the world as well".

To be specific, the essence of schema theory is presented by Clarke and Silberstein (1977 : 136-137; quoted in Brown, 1994 : 284):

> Research has shown that reading is only incidentally visual. More information is contributed by the reader than by the print on the page. That is, readers understand what they read because they are able to take the stimulus beyond its graphic representation and assign its membership to an appropriate group of concepts already stored in their memories.... Skill in reading depends on the efficient interaction between linguistic knowledge and knowledge of the world.

As for Rumelhart and Ortony, 1977; Rumelhart, 1977, 1980 (all cited in Casanave, 1988), the reader uses previous knowledge and generalised concepts to comprehend what he/she reads. Carrell and Eisterhold (1983) also agree that the prominence of the ESL/ EFL reading process is related to the reader's background knowledge which plays a major role in text comprehension.

Hence, Brown (1994) points out that the hallmark or distinctive feature of schema theory is that a text alone does not carry meaning, but the reader brings information, knowledge, emotion, experience and culture to the printed text. In addition, Carrell and Eisterhold (1983 : 557) state:

> According to schema theory, the process of interpretation is guided by the principle that every input is mapped against some existing schema and that all aspects of that schema must be compatible with the input information. This principle results in two basic modes of information processing, called bottom-up and top-down processing.

According to Carrell (1983; cited in Carrell and Eisterhold, 1983 : 560) there are two distinctive kinds of schema: "formal and content." The former refers to background knowledge of the formal, rhetorical organisational structures of different types of texts, and the latter is concerned with background knowledge of the content area of a text.

Carrell (1987) has shown that texts with familiar content are easier for readers to read and comprehend than texts with distant or unfamiliar content. She also suggests that readers should have background knowledge about the organisation and rhetorical structures of different genres or text types. As for Taylor (1992; cited in U-sa Keenardputta, 1999), knowing rhetorical organisation of a text is beneficial to comprehension of the text due to the fact that the text structures are the basis of understanding and recall. Carrell (1987) notes that not only a content schema, but also a rhetorical formal schema influence ESL reading comprehension. Whenever both types are familiar to readers, the reading becomes relatively easy, and vice versa. However, she remarks that in general, a content schema is more significant than a

rhetorical formal one in the ESL reading classroom. This notion is shared with Scarcella and Oxford (1992 : 97), who note:

> Most importantly, *content* rather than language must be the *point of departure or organisation principle* of ESL reading activities. This will assure that students will acquire English language in the context of meaningful communication. At the beginning levels, ESL learners need to gain the reading skills necessary to understand readings about common, familiar topics in a restricted number of genres. ... At the more advanced levels, ESL learners need to concentrate on acquiring the skills necessary to understand more technical, specialised texts as well as more sophisticated pleasure reading.

However, Carrell (1988c) notes that schema availability is not always an adequate condition to ensure that comprehension will be facilitated.

Casanave (1988) posits that besides knowledge of content and formal schemata, the third kind of schema - strategy enforces reading, and thus should be included in ESL reading. **Figure 3** below presents the three components of schemata.

Figure 3 Schemata
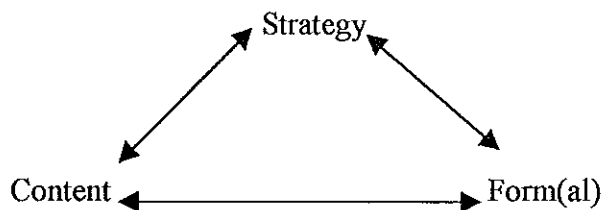
Source : Casanave (1988 : 298)

Casanave mentions that in the reading process, readers will employ existing strategic knowledge to check their comprehension and decide which strategies to use and when to use them in order to overcome the comprehension breakdowns. She further notes that the knowledge of all three types of schemata can be considered in the metacognitive strategies which a reader utilises to comprehend a text. Hence, this concept should be further explored.

3. Reading Strategies and Metacognitive Strategies

Apart from language proficiency used for approaching a text, strategy use and metacognitive awareness are important for ESL/ EFL reading (Auerbach and Paxton, 1997).

Based on the models of Goodman, 1967 and Smith, 1971 (cited in Wallace, 1992), reading is viewed as a unitary and selective process. That is, to approach the text, it is vital for the reader to draw selectively on a number of strategies or techniques to best suit his/her purpose of reading. This unitary belief of the reading process has influenced reading researchers to talk about reading strategies rather than distinct reading skills. "Reading strategies" have been variously defined by numerous reading experts. Amongst them, for example, Wallace (1992 : 147) describes "reading strategies" as "ways of reading which are employed flexibly and selectively and which vary depending upon the text-type, and the content and purpose of reading." According to Rigney, 1978 and Paris, Lipson and Wixson, 1983 (all cited in Anderson, 1991), "reading strategies" refer to intentional, cognitive steps which the reader utilises to help them access new information from the text. For Duffy and Roehler (1993), "reading strategies" involve flexible, adaptable and conscious use of knowledge about reading and how reading strategies work.

Moreover, Brown (1994a) notes that reading strategies are the moment by moment techniques used to solve problems in reading. In addition, Grellet (1981) claims that reading is concerned with various techniques employed by the reader. This claim is in accord with O' Malley, *et al.* (1985), who posit that good ESL learners make use of several types of strategies to help them facilitate the acquisition, storage or retrieval of information. Furthermore, Nuttall (1996) acknowledges that the reader makes use of diverse strategies (i.e. both the physical and study strategies) to read efficiently. She also notes that one of the main characteristics of a good reader is flexibility. That is, the reader adjusts or changes his/her speed and all manners of

reading to best suit the purpose, context of situation and the nature of text. Nuttall's notion is consistent with Wallace's (1992) definition of reading strategies mentioned earlier. Additionally, Bean (1996) suggests that it is vital for students to know that a good reader's reading process will change extensively, depending upon the reader's purposes.

As noted by Grellet (1981 : 4), there are four chief ways of reading, which are not mutually exclusive:

- Skimming: quickly running one's eyes over a text to get the gist of it.
- Scanning: quickly going through a text to find a particular piece of information.
- Extensive reading: reading longer texts, usually for one's own pleasure. This is a fluency activity, mainly involving global understanding.
- Intensive reading: reading shorter texts, to extract specific information. This is more an accuracy activity involving reading for detail.

Based on Block's (1986) coding system, reading strategies have been divided into two levels: general comprehension and local linguistic strategies. General comprehension strategies are concerned with techniques used for comprehension-gathering and comprehension-monitoring. They are composed of the following strategy types: 1) anticipating content, 2) recognising text structure, 3) integrating information, 4) questioning information in the text, 5) interpreting the text, 6) using general knowledge and associations, 7) commenting on behaviour or process, 8) monitoring comprehension, 9) correcting behaviour, and 10) reacting to the text.

Unlike general comprehension strategies, local linguistic strategies involve the reader's attempts to be aware of particular linguistic units. These attempts consist of the following strategy types: 1) paraphrasing, 2) rereading, 3) questioning meaning of a clause or sentence, 4) questioning meaning of a word, and 5) solving vocabulary problem (see Block, 1986 : 472-473 for more details). Upton (1997) views general comprehension strategies as top-down processing because they are reader-centred strategies, and he considers these local linguistic strategies as bottom-up processing because they are text-based or text-centred strategies.

According to Brown (1994), strategies for reading comprehension are composed of ten types: 1) identifying the purpose in reading, 2) using graphemic rules and patterns to help bottom-up decoding, 3) using efficient silent reading techniques for relatively rapid comprehension, 4) skimming, 5) scanning, 6) semantic mapping or clustering, 7) guessing, 8) analysing vocabulary, 9) distinguishing between literal and implied meanings, and 10) capitalising on discourse markers to process relationships (see Brown, 1994 : 291-296 for more details).

Moreover, O'Malley, *et al.* (1983, 1985a, 1985b, 1987, 1989; cited in Brown, 1994a); O'Malley and Chamot (1990) studied the utilisation of strategies by ESL learners in the United States. They revealed that these ESL learners typically used three main groups of learning strategies: metacognitive, cognitive, and social/affective. With regard to these researchers, "metacognitive strategies" are concerned with planning for learning, thinking about the learning process as it is occurring, monitoring of one's production or understanding and evaluating learning after a process is finished. "Cognitive strategies" are direct manipulation of the learning material itself using a variety of strategies, for example repetition, translation, grouping, keyword, note-taking, inferencing, etc. "Social/affective strategies" are those which are associated with social-mediating activity and dealing with other strategies, for example cooperation, and question for clarification (see Brown, 1994a : 116-117; O'Malley and Chamot, 1990 : 44-52).

Nonetheless, only "metacognitive strategies" will be elaborately reviewed in this present study because they are directly related to the main focus of this study. As for Duffy and Roehler's (1993) definition, "metacognitive strategies" refer to the strategies which the reader uses in a conscious way to achieve process goals in reading. He/she has to understand how the reading system works and how to apply strategies in initiating, during-reading and post-reading stages. Duffy and Roehler's idea is supported by Devine (1993; cited in Auerbach and Paxton, 1997), who notes that metacognitive awareness is very important in proficient reading. It is composed

of knowledge of strategies for processing texts, the ability to check understanding and the capacity to alter strategies as needed.

Besides, Antony, Pearson and Raphael (1993) state that "metacognition" involves one's understanding and suitable use of cognitive process and strategies.

According to Flavell, 1979; Garner, 1987; McNeil,, 1987 (all cited in Antony, Pearson and Raphael, 1993 : 289), "These metacognitive processes can be thought of as knowledge of self, knowledge of the task and self-monitoring". This idea is supported by Paris, Lipson and Wixson (1983; cited in Antony, Pearson and Raphael, 1993), who note that metacognitive awareness is composed of three main areas of knowledge: declarative, procedural and conditional. They further explain:

> Declarative knowledge would include one's knowledge about the task of reading-knowing that reading is a process, that background is useful, that different materials should be read at different rates if meeting different purposes. Procedural knowledge would include knowing how to run through the steps in a summary writing routine or how to search ahead in the text for clues about the meaning of a word. Conditional knowledge, knowing when and why, is particularly relevant since that is the context-based, flexible application of learned strategic knowledge (p. 289).

It is noteworthy that metacognitive knowledge can be fostered not only through experience, but also through training (Antony, Pearson and Raphael, 1993). Several reading researchers, for instance, Hudson (1982); Carrell (1985); Block (1986); Deshler and Schumaker (1993); Bean (1996); Auerbach and Paxton (1997); Carrell (1998); Singhal (2000) suggest that students can be trained and can master the repertoire of reading strategies, which in turn, will help them gain metacognitive strategies and monitor comprehension.

Auerbach and Paxton (1997) have classified strategies used in the reading process into three stages: pre-, during- and post-reading strategies. In support to their classification, Williams (1984); Anderson, 1980; Davis and McPherson, 1989 (all cited in U-sa Keenardputta, 1999); Brown (1994); Kirn and Hartmann (1996); Lapp, Flood and Farnan (1996) agree that in general, the reading instructional process is broadly divided into three phases: pre-, while- and post-reading. These reading

researchers believe that each of the three phases of reading has its own specific aims and requires a range of strategies.

Based on Auerbach and Paxton's study (1997), ESL/EFL students should be trained to know and use practical reading strategies to achieve the goals of reading in each stage of reading. The reading strategies proposed by Auerbach and Paxton can be selectively and flexibly employed to deal with the text. In other words, it is not necessary for the students to use all the reading strategies simultaneously but each of these strategies must be taught during the strategy training. Below, reading strategies for each phase, based on Auerbach and Paxton's (1997), are discussed in detail.

3.1 Pre-reading Strategies

Auerbach and Paxton (1997) suggest that pre-reading strategies, which are used before a reader starts to read a text, are composed of the following sub-reading strategies:

- Accessing prior knowledge
- Writing the way into reading (or writing about the reader's experience related to the topic)
- Asking questions based on the title/topic
- Semantic mapping
- Making predictions based on previewing
- Reading pre-text questions before going through the text
- Skimming for general ideas
- Scanning for specific information
- Reading the introduction and conclusion
- Identifying the text type
- Writing a summary of the article/text based on previewing

As for Williams (1984), the pre-reading phase has three aims to deal with the text: 1) to introduce and evoke readers' interest in the topic or title, 2) to motivate readers by giving a purpose for reading, and 3) to provide readers with some language preparation for the text. Similarly, Carrell (1988) mentions that the pre-reading stage has two main goals: 1) to activate readers' existing background knowledge and 2) to build up new background knowledge about the text.

3.2 While-reading Strategies

According to Auerbach and Paxton (1997), while-reading strategies, which are used while a reader is reading or tackling a text, are composed of the following sub-reading strategies:

- Skipping unknown words

- Guessing the meaning of unknown words from the context

- Underlining words, phrases or sentences in the text (or marking the text)

- Identifying reference words

- Extracting the main idea of each paragraph

- Glossing

- Responding while reading

Williams (1984) notes that the while-reading phase has three aims of approaching the text: 1) to help readers know the writer's purpose, 2) to help readers understand the text structure and 3) to clarify the content of the reading text. To support this idea, Wallace (1992 : 93) states that in general, the aim of the while-reading phase is to stimulate learners to become "flexible, active and reflective readers."

In this phase, readers need two essential strategies to comprehend the text- monitoring and fix-it strategies. Monitoring, which is the most important strategy for comprehension, is used to check the reader's accuracy of predictions and to prepare to stop reading to make new predictions if the text cues are not consistent with their anticipation. Fix-it strategies are used to fix or construct new interpretations or to get rid of the blockage to meaning (Duffy and Roehler, 1993).

3.3 Post-reading Strategies

Auerbach and Paxton (1997) note that post-reading strategies, which are used after a reader finishes reading a text, are composed of the following sub-reading strategies:

- Revising pre-reading expectations

- Reviewing notes, glosses, text markings

- Retelling what he/she thinks the author is saying

- Relating the text to his/her own experience

- Responding to the text or criticising it

The aims of the post-reading phase are: "1) to consolidate or reflect upon what has been read and 2) to relate the text to the learners' own knowledge, interests or views" (Williams, 1984 : 39). In addition, Wallace (1992 : 120) states that the aim of this phase is to " serve the purpose of heightening the readers' awareness of other ways in which the topic could have been written about".

After reading the text, readers employ post-reading strategies to organise, restructure or make judgements about the writer's message (Duffy and Roehler, 1993).

Duffy and Roehler (1993) summarise that the three phases of reading strategies outlined above work interactively and take place almost instantaneously. More importantly, Traves (1994 : 96) notes:

> Readers employ different reading strategies according to the nature of the text and the purpose of the reading activity. Children need to be equipped to deal with the range of texts and purposes they will meet. This should be organised in a coherent and systematic fashion across the school.

4. Attitudes towards EFL Reading

Language teachers must have a clear understanding of attitudes and attitude-change theory so that they can address classroom issues successfully (Mantle-Bromley, 1995). To support this idea, Klein (1994) notes that attitudes are generally considered to be an important factor in second language learning.

Gagné (1977 : 232) states, "It is generally recognised that the meaning of attitudes is quite broad and need not be restricted to the social realm". Hence, the term "attitudes" is variously defined by different psychologists and scholars. For example, Gagné and Briggs (1979 : 85) define attitudes as "complex states of human beings which affect their behaviour towards people, things and events". In other words, attitudes refer to learned internal states which influence an individual's choice of actions towards some category of persons, objects or events in each situation (Gagné, 1977). Gagné and Briggs (1979) also note that attitudes vary in the intensity with which they affect the choice of personal actions.

Dagostino and Carifio (1994 : 57) describe attitudes as "mental and emotional positions about a fact or idea in relation to a frame of reference".

Attitudes generally embrace three main components: cognitive, affective, and behavioural (Triandis, 1971; cited in Gagné, 1977; Rajecki, 1990; Zimbardo and Leippe, 1991; all cited in Mantle-Bromley, 1995). Firstly, the cognitive component refers to what a person knows about an attitudinal object. In other words, it pertains

to the ideas or propositions expressing the relation between situations and attitudinal objects. Secondly, the affective component involves the emotion or feelings accompanying the ideas. Lastly, the behavioural component is concerned with the predisposition or readiness for actions. According to Mantle-Bromley (1995), of these three attitudinal aspects, the affective one has been given the most attention in attitudinal second language studies because it has been found to be statistically significant in its relationship between students' achievement and their intentions to further language study.

However, Mantle-Bromley (1995) mentions that each of these three attitudinal aspects is of importance because the nexus of attitudes, especially cognition and behaviour mainly changes when there is dissonance or disagreement within the components.

As for Gagné (1977 : 242), "attitudes may be acquired or changed rather suddenly as the result of a single experience. Or they may undergo gradual change over a period of years, presumably as the result of a cumulative series of experiences". He also claims that numerous attitudes are learned through a series of interactions with other people like parents, friends and associates. His idea is supported by Brown (1994a), who states that children have learned and developed their attitudes early in childhood because they have contact with their family members and peers.

Interestingly, Gardner and Lambert (1972; cited in Brown, 1994a : 168) have described "motivation as a construct made up of certain attitudes". In relation to this idea, Gardner and Tremblay (1994) state that nowadays both motivation and attitudes are viewed as involving not only cognitive but also affective aspects. In addition, Fazio (1990; cited in Gardner and Tremblay, 1994 : 364) note, "attitudes could be conceptualised as having motivational properties." Moreover, Rajecki (1990; quoted in Gardner and Tremblay, 1994 : 364) states, "Knowing a person's attitudes gives us

confidence that we can predict or anticipate his or her actions in general" (p. 6) because "attitudes are a source of behavioural motivation and organisation" (p. 7).

Remarkably, Dagostino and Carifio (1994 : 57) remark:

"Attitudes and dispositions are also important to reading evaluatively. ... The attitudes a reader has towards learning are related to variables such as motivation, bias, values and beliefs, all of which influence the ability to read evaluatively".

Dagostino and Carifio further note that specifically, motivation encourages an individual to action. These researchers acknowledge that motivation is a main affective component in the construct of attitudes towards reading evaluatively. That is, reading evaluatively is an interaction of attitudes, knowledge, and reflection which all lead to a reasoned, objective judgement of written texts. Therefore, if there is no motivation to learn through a text, literacy does not develop.

Gardner (1985 : 10; quoted in Gardner and Tremblay, 1994 : 361) defines motivation as "the combination of effort plus desire to achieve the goal of learning plus favourable attitudes towards learning the language". Evidently, motivation plays a major role in achieving proficiency in second language learning (Gardner, 1985 and Baker, 1992; all cited in Sung and Padilla, 1998).

To motivate students to succeed in reading and help them develop their positive attitudes towards it, language teachers should have their students enthusiastically involve in literacy events (Duffy and Roehler, 1993). This enables them to love to read and understand what reading can do for them. Consequently, they may not have incomplete or erroneous concepts about reading or perceive reading negatively.

Similarly, favourable attitudes arise from the experience of success which subsequently leads to the establishment of positive attitudes; and unfavourable ones result from repeated instances of failure which leads to changes into negative attitudes afterwards (Gagné, 1977). This notion is consistent with what is stated by Gagné and Briggs (1979 : 92): "The establishment of attitudes is widely acknowledged to be a

highly significant objective of many courses of study, and some would probably accord it highest importance of all". More interestingly, Gagné (1977) remarks that some attitudes can be learned or strengthened in the school setting with deliberate planning.

5. Related Research on Reading Strategies Training and Attitudes towards EFL Reading

Recently, the prominence of reading has changed from an emphasis on the products to a focus on a process of reading - determining the strategies which the reader uses in different reading contexts (Anderson, 1991). This idea is in line with what is noted by Anderson and Roit (1993 : 121): "Recently, conferences and journals for teachers and administrators, as well as some popular reading programmes, have featured strategy instruction, and it is becoming more widely attempted in schools." They further mention that there is an urgent need for research in the development of the adaptations of strategy instruction in the classroom settings. Some related research on reading strategies is reviewed below.

Sternberg (1987; cited in Bean, 1996) investigated the strategy use of a group of subjects using four reading comprehension texts, each of which was to be read for a different purpose (i.e. for a gist, main ideas, details, and inference and application). He discovered that good readers could adjust their reading strategies and could vary their reading speed appropriately, whereas poor readers could not use reading strategies properly and approached all four texts at the same speed.

Taglieber, Johnson and Yarbrough (1988) studied the effects of three pre-reading activities (pictorial context, vocabulary pre-reading and pre-questioning) on EFL reading comprehension with a group of forty Brazilian students in Brazil. The results revealed that the subjects who were provided with all three pre-reading activities produced significantly higher multiple-choice scores. Taglieber, Johnson

and Yarbrough also suggested that EFL teachers and students should attempt different pre-reading strategies for diverse texts and reading purposes.

Vann and Abraham (1990) investigated the strategy use of two unsuccessful Saudi Arabian learners of TESL in the United States by means of think-aloud protocols and task products analyses (i.e. verb exercise, a cloze passage and a composition). They reported that both subjects were somehow active strategy users; though, they sometimes employed their repertoire of strategies unsuitably to the task at hand.

Interestingly, Anderson (1991) investigated individual differences in strategy use in ESL reading and testing of Spanish-speaking students in the United States. This study aimed to assess the subjects' reading comprehension and check the strategy use in each phase of the reading process. He identified a list of forty-seven different reading strategies which were used for classifying the data. These strategies were divided into five major groups: 1) supervising strategies, 2) support strategies, 3) paraphrase strategies, 4) strategies for establishing coherence in text and 5) test-taking strategies (See Anderson, 1991 : 463 for more details). He found that subjects with high and low scores utilised the same types of strategies while reading and answering the comprehension questions on the Descriptive Test of Language Skills- Reading Comprehension Test and the Textbook Reading Profile. The subjects who reported using more strategies on each reading measure tended to score higher overall. He pointed out that a strategic reader had to know what strategy to use and how to use it with other strategies successfully. Hence, he suggested that it was not enough for the reader to know about strategies, but he/she also had to be able to apply them strategically.

Block (1993) examined the effects of strategy instruction in a literature-based reading programme with a group of non-native English elementary students in the United States. She pointed out that experimental subjects significantly outperformed control subjects on standardised tests of reading comprehension, and in their ability to

transfer cognitive strategies to situations outside of school, as well as, in the assessment of self-esteem and critical thinking.

Anderson and Roit (1993) examined collaborative strategy instruction with small-group reading sessions of multiethnic, inner-city, delayed students (aged 12-16 years) and sixteen teachers. The results showed that the teachers and students in the experimental group gained over those in the control group in all dimensions (i.e. problem-solving discussions, techniques for fostering active reading and intentional learning and self-evaluation). Anderson and Roit posited that collaborative, small-group strategy instruction was advantageous because it could help students solve some reading problems so as to learn how to make sense of the text.

As previously stated in Chapter 1, there are a relatively small number of studies on reading strategies in the context of Thailand. Some of these are those by Sasithorn Tassaneetipagorn (1991); Malee Nitsaisook (1996); Anamai Damnet (1998); Wipada Ingkanart (1998); U-sa Keenardputta (1999).

Sasithorn Tassaneetipagorn (1991) studied the effects of two different teaching methods on reading comprehension of a group of M. 3 students in Bangkok. The control group was taught using the conventional methods, while the experimental group was taught how to make use of microprocesses (e.g. chunking and microselection) and integrative processes (e.g. understanding anaphoric relationship, understanding connectives and slot-filling inferences). The result demonstrated that the reading achievement of the experimental group was significantly higher than that of the control group. She also suggested that EFL students with low language proficiency could benefit more from both microprocesses and integrative processes.

Malee Nitsaisook (1996) compared the EFL reading literacy of three different educational groups of students: 1) M.3 & 6 students; 2) first- and second-year Rajabhat Institute (RI) students majoring in English; and 3) first- and second-year Thammasat University (TU) students majoring in Mass Communications and Economics (English programme). The results revealed that there were three levels of

the reading ability ranging from the lowest to the highest - M.3 students; M. 6 students and first- and second-year RI students; and first- and second-year TU students respectively. In addition, all of the groups reported that they "sometimes to often" used reading strategies (before-, while- and after- reading) recommended by teachers. Each group also reported similarly that they "seldom to often" employed metacognitive strategies (review, recall, predict and discuss) for EFL reading in the reading process. Surprisingly, the students at the lower educational levels repeatedly used the same strategies more often than those at the higher levels. Yet, the TU students used a wider range of strategies. Besides, Malee Nitsaisook revealed that the utilisation of both reading strategies and metacognitve strategies amongst them was positively and significantly associated with their reading achievement.

Anamai Damnet (1998) compared the EFL reading ability and attitudes towards reading of 46 third-year students of Certificate in Vocational Education in Kanchanaburi. He demonstrated that there were statistically significant differences both in their EFL reading ability and attitudes towards reading after the training by means of the interactive reading model. That is, these students made a gain significantly greater in their reading ability on the post-test than the pre-test. They also possessed more positive attitudes towards reading after the training. Besides, he suggested that the interactive reading model could be applied to teach any other languages.

Wipada Ingkanart (1998) examined the reading achievement of 35 second-, third- and fourth-year students at Kasetsart University, using four reading strategies: 1) phrase reading, 2) semantic expectancy questions, 3) concept formation, and 4) 2SQR (survey of major concepts, survey of details, questioning and reading). She reported that such strategies helped her students read better. In addition, they made use of more reading strategies and felt more satisfied with reading in English. She proposed that teaching EFL reading by means of metacognitive strategies could be effective in the Thai context.

Recently, U-sa Keenardputta (1999) studied the effects of "PLAN (Predict, Locate, Add and Note) technique" on the reading comprehension of 60 first-year nursing students at Mahidol University with three different levels of reading ability - high, medium and low. The results revealed that the students who were trained with the PLAN technique scored higher on a reading comprehension test than the students who were taught with a product-oriented approach. The majority of the students in the experimental group were satisfied with the PLAN technique and had positive attitudes towards it.

As far as attitudes are concerned, there are a few studies on attitudes towards second/foreign language learning. Some of which are reviewed below.

Gardner, Lalonde and Moorcrof (1985) investigated the role of attitudes and motivation in second language learning (i.e. French) of 170 university students in Canada. They found that all three factors (attitudes, motivation and language aptitude) were important to second language learning because these factors affected the rate at which second language materials were learned.

Mantle-Bromley (1995) examined middle-school-aged students' attitudes towards and beliefs about learning a second language in the United States by means of a 9-week Foreign Language Exploratory (FLEX) programme and the Beliefs about Language Learning Inventory (BALLI). The results revealed that the attitudes of students who took part in the experimental treatment programme were more significantly positive than those of students in the control group. Also, many young students possessed misconcepts about language learning which possibly hindered their progress and persistence in language study. She posited that foreign language teachers could make a difference in their students' attitudes towards language and cultures. She further noted that language teachers had to first accept that some students entered the language classroom with certain attitudes, beliefs and expectations which might really prove harmful to their success.

Kim and Krashen (1997) investigated the attitudes towards ESL reading of five female Korean adults living in the United States. These subjects were interviewed four times, either by phone or in person. Kim and Krashen found that their subjects had rather negative attitudes towards EFL reading because traditionally, reading in EFL classes in Korea meant decoding every word; hence a labourious and time-consuming task. None of these subjects considered reading as a means of improving their second language ability because they were often exposed to boring and difficult materials in EFL classes. Kim and Krashen suggested that it was necessary for teachers to make students realise the benefits of reading and to provide them with direct instruction. These can help them overcome the ineffective reading strategies and eventually change their attitudes towards reading over time.

Recently, Wilhelm and Hu (1998) used an Individualised Reading Programme (IRP) to study the change in both attitudes and language use choices of a bilingual (Mandarin/English) Taiwanese adolescent in the United States. They found that the subject's reading proficiency improved from below level to appropriate age group level and that his attitudes towards recreational reading also improved. The results suggested that explicit motivational techniques and high interest readings were contributing factors in helping improve learners' reading ability and commitment to read in English over time.

Nanta Chiramanee (1992) investigated first-year Pharmacy students' attitudes/motivation towards EFL reading and learning English in general in Thailand, using two sets of attitudinal questionnaires. She found that good and poor readers were not significantly different in their attitudes towards EFL reading. However, the good readers enjoyed learning to read in English to a significantly greater extent than the poor ones. She also found that there were no significant differences in the attitudes/motivation towards learning English in general between good and poor readers.

Based on the aforementioned research findings, it is possible to assume that reading strategies can be taught to students in different contexts and at various educational levels. More importantly, reading strategy training can lead to metacognitive strategies which help students understand how the reading system works and how to apply reading strategies in each of the reading phases – pre-, while- and post-reading. It is noteworthy that reading strategy training enables students to positively change their attitudes towards EFL reading.

CHAPTER 3

RESEARCH METHODOLOGY

The purpose of this chapter is to describe the design and procedures of the study. This chapter includes the description and details of the following.

1. The test construction
2. The pilot study
3. The main study
4. Research instruments
5. Data collection
6. Data analysis and the statistical devices

1. Test Construction

In constructing a test of "**the English Reading Ability,**" the investigator went through the following seven steps:

1) A set of behavioural course objectives directly pertinent to the reading strategy training was adapted from the 1996 upper secondary school English syllabus so that these objectives could be covered in the instruction.

2) The processes and techniques of test construction were studied from some textbooks such as "Language Tests at School" by Oller (1979); "Testing Language Ability in the Classroom" by Cohen (1980); "Techniques in Testing" by Madsen (1983); "A Guide to Language Testing" by Henning (1987); "Writing English Language Tests" by Heaton (1988); "Testing for Language Teachers" by Hughes (1989); "Classroom Testing" by Heaton (1990); "Communicative Language

Testing" by Weir (1990); "Understanding & Developing Language Tests" by Weir (1993); "Language Test Construction and Evaluation" by Alderson, Clapham and Wall (1995).

3) After having studied the advantages and disadvantages of various test types, the investigator selected multiple-choice questions, gap-filling items and a modified cloze test to measure the subjects' English reading ability in both groups. The choice of these three test formats is according to Oller (1979); Madsen (1983); Heaton (1988, 1990); Hughes (1989); Weir (1990, 1993), who suggest that the multiple-choice items are objective, reliable, and easy to administer and score. Oller (1979), Madsen (1983) and Heaton (1990) also propose that a reading passage followed by multiple-choice questions and multiple-choice cloze is suitable to assess reading ability. Especially, the multiple-choice cloze has been accepted that it can be utilised to measure the test takers' overall proficiency: linguistic knowledge, textual knowledge, and knowledge of the world (Cohen, 1980). Additionally, most Thai students have been relatively more familiar with multiple-choice items than other test types since their early school years. This is consistent with what is stated by Knox (1996 : 2): "Multiple-choice questions are one of the most common methods used in English language testing in Thailand". Apart from such advantages of multiple-choice questions and modified cloze, Heaton (1988, 1990), Hughes (1989) and Weir (1990) suggest that gap-filling items are also useful and suitable for assessing testees' abilities to comprehend a reading text, as well as, recalling information from the context clues available because the content words are intentionally omitted from the original text in order to test their knowledge of lexical items related to the theme.

4) In choosing text types to be included in the test of "**the English Reading Ability**", the investigator made sure that the contents of the texts are not only familiar to the students, but are also related to their everyday life. This is in accordance with Grant's (1987 : 60) recommendation:

> Since we cannot predict exactly what our students will need to read in the future, they should be given a wide variety of texts in their English course. Materials should include newspaper articles, brochures, advertisements, extracts from short stories or novels, and so on. Textbooks that do not contain a sufficient variety of material will thus need to be supplemented.

This means that texts from various sources must be included in the test simply because each of the test takers possesses different experience in reading texts. The use of different text sources also overcomes some problems like text bias as what has been suggested by Madsen (1983 : 90): "...in order not to give some students a special advantage, use at least three to five passages from different sources". Besides, Hughes (1989) suggests that including many texts in a test enables test takers to experience a large number of fresh starts and eventually makes the test acceptably reliable.

In addition, Coady (1979 : 12; cited in Scarcella and Oxford, 1992 : 114) recommends that:

> The subject of reading materials should be of high interest and relate well to the background of the reader, since strong semantic input can help compensate when syntactic control is weak. The interest and background knowledge will enable the student to comprehend at a reasonable rate and keep him [or her] involved in the material in spite of its syntactic difficulty.

Content familiarity is another point of concern. Rigg (1986; cited in Scarcella and Oxford, 1992 : 106) also asserts, "The more ESL readers know about the content of the material, the better they comprehend."

In sum, the texts to be included in the test have been carefully chosen from various sources so that they can sufficiently cover variety, familiarity, high interest, and some background knowledge of the test takers.

Accordingly, there are 13 different texts used in the test in order to avoid the test bias in terms of the subject-matter (i.e. content difficulty, benefits, frequency, authenticity, students' interests and background knowledge). The texts

were carefully collected from some non-coursebooks, magazines, newspapers and authentic materials, for instance "AIDS Resource Manual: A Guide for Teaching about AIDS in Thailand" by the Peace Corps of the United States (1992 : 8); "Bangkok Post Student Weekly" (Vol. XXXI No. 738, 10 November 1997 : 9 and No. 778, 17 August 1998 : 3); " Bangkok Post" (10 September 1998 : 9); "Real Life Reading Skills: A Scholastic Program in Functional Literacy" by Levin (1977 : 65, 91); "The Nation Junior Magazine" (Vol. 6 Issue 144, 1-15 August 1998 : 9); "Disney's World of Discovery Vol.3" by Clarke (1981 : 39); "Interchange: English for International Communication Workbook 2" by Richards, Hull and Proctor (1991 : 4); and some product labels. The scope of some texts also appears in some M.4 and M.5 Thai version coursebooks, for example, Health Education, Social Studies, Chemistry, Physical, and Biological Science.

5) After exploiting and adapting the texts from the aforementioned sources, the investigator constructed the test of "**the English Reading Ability**". The test comprises 60 multiple-choice items with only one best answer and three other distractors in each item. They are made up of three main item types: multiple-choice questions, gap-filling and modified cloze test (see **Appendix A**, pp. 112-129).

The multiple-choice questions are composed of 40 items with four alternatives each. Most of them consist of comprehension questions while some of them are comprehension questions followed by alternatives which include ordering task or true-false.

As for gap-filling items, they consist of 10 items which require only the most significant content word (related to the theme) for each blank since the focus of the test is on the reading ability, not on the grammatical knowledge.

In selecting a text for cloze procedure, Madsen (1983 : 89) states, "The number of passages and the length of each depend on your particular test. ...Usually longer passages will run from 100 to 300 words." Since the text selected herein contains 205 words and only 10 blanks (for 10 items) are needed in this test. Thus,

the investigator decided to delete every eighth word because every eighth word seems to be the most appropriate deletion which may not have confused the test takers' understanding. In addition, the deletion of every eighth word is one of the most widely favoured for cloze techniques recommended by Hughes (1989) and Heaton (1990).

6) The first and second drafts of the test were developed by the investigator, and then edited by Mr. Geoffrey L. Nolan, a native English speaker and an English instructor of the Department of Languages and Linguistics, Faculty of Liberal Arts at Prince of Songkla University. Afterwards, the subsequent drafts were revised by the investigator with the help of Assistant Professor Doctor Nanta Chiramanee, the thesis adviser; Miss Sutaree Prasertsan, the thesis co-adviser, and Miss Sukanya Tanewong, the instructor of the course "Language Testing and Evaluation".

7) In the test construction, care has been taken to minimise the chance of guessing. Thus, the choices of correct answers are distributed as shown below:

Choice 1 as correct answer = 15 out of 60 items = 25%

Choice 2 as correct answer = 15 out of 60 items = 25%

Choice 3 as correct answer = 15 out of 60 items = 25%

Choice 4 as correct answer = 15 out of 60 items = 25%

2. The Pilot Study

The main purpose of the pilot study was to test the validity and reliability of the tailor-made test. It also helped the investigator develop and revise the test. The test of "the English Reading Ability" was tried out on 90 M.5 science-based students at Kanlayanee Si Thammarat School, a provincial secondary school in Nakhon Si Thammarat Province on 22nd September, 1998. The test time was 90 minutes, from 8.30 a.m. to 10.00 a.m. This group of the students was chosen because their learning

backgrounds were comparable to those of the subjects in the main study; that is, they came from small schools in districts under the same secondary school English syllabus.

After the pilot study, all the items were statistically analysed, using a 27% technique (Hughes, 1989). Accordingly, there was a total of 24 test takers in each group (i.e. the top and bottom groups). The investigator did an item analysis of the test manually to calculate the mean ($\overline{X}$), the standard deviation (S. D.), item difficulty index or facility value (F.V. or p.), the item discriminability index (D. I.) of each item, and the reliability (R_{tt}) of the whole test. From the pilot study, the test revealed the statistic information as shown below in **Table 1**.

Table 1 The Pilot Study Results

Test	No. of Items	Highest Possible Score	No. of Test Takers		$\overline{X}$	S.D.	KR20 R_{tt}
A test of "the English Reading Ability"	60	60	90		25.83	8.39	0.83
			Top 27%	Bottom 27%			
			24	24			

Only items which met the item difficulty index between 0.20 and 0.80 and the item discriminability index ≥ 0.20 were chosen to be used in the main study (Nuttal and Skurnik, 1969; cited in U-sa Keenardputta, 1999; Heaton, 1988; Alderson, Clapham and Wall, 1995). Afterwards, the chosen items which revealed unanticipated flaws in the test were revised.

3. The Main Study

3.1 Subjects

The subjects of this study were 60 science-based students who were studying in Mathayomsuksa 5 (M.5) and taking the fourth English Reading Course (ENG 025C) in the second semester of 1998 academic year at Phromkiripittayakom School in Nakhon Si Thammarat Province. They regularly spent two periods (50 minutes each) per week studying this course. This English course is one of the elective courses in the school's current foreign languages syllabus. These subjects were intentionally selected in terms of their study programme and educational levels since the investigation was classroom-based. Additionally, all of them lived in villages or districts near the school; therefore, their educational background and family socio-economic status were quite similar.

According to Hatch and Lazaraton (1991), dividing the subjects into two groups by using their pre-test scores helps ensure the equivalent performance of both groups before the commencement of the study. They also claim that doing this helps increase the internal and external validity of the study. Consequently, in this study, the subjects with comparable English reading ability and EFL learning experience were systematically and equally divided into two main groups based on their pre-test scores: the control and experimental groups. To be specific, each group was composed of 10 male and 20 female subjects as shown below in **Table 2**.

Table 2 Distribution of Subjects in the Main Study

No. of Subjects	The Control Group		The Experimental Group	
	Male	Female	Male	Female
60	10	20	10	20

3.2 Research Instruments

The following instruments were employed in the study.

3.2.1 A test of "**the English Reading Ability**" designed by the investigator was composed of 40 multiple-choice questions, 10 gap-filling items, and 10 modified cloze items. Ninety minutes were allocated to the subjects to complete the test. The same test version was administered twice (as the pre-test and the post-test) to the subjects in the experimental group and the control group in order to assess their reading ability before and after the instruction. Scores obtained were taken as the subjects' EFL reading ability. The reliability index of this test is 0.83 (see **Table 1**, p. 47)

It should be noted that the scores obtained from the pre-test administration of the test were also used as a criterion to divide the subjects into the control and experimental groups, as mentioned earlier under the heading "**Subjects**", p. 48 (also see **Appendix B**, p. 130).

3.2.2 A questionnaire on "**Student's Attitudes towards EFL Reading**" developed by Somchit (1987; cited in Nanta Chiramanee, 1992: 450) was simplified and used to investigate the subjects' attitudes towards reading in English before and after the instruction in both groups. Its original rating scales (i.e. agree and disagree) were modified to be a five-point scale whose levels of agreement vary from 5 (= strongly agree), 4 (= agree), 3 (= neutral), 2 (=disagree), and 1 (= strongly disagree). The reliability index of this questionnaire is 0.71 (see **Appendix D**, pp. 132-133).

3.2.3 **An interview** was conducted with a number of subjects in only the experimental group by the investigator. The purposes of the interview were to find out the subjects' self-reflection on their reading behaviour while taking the pre-test and post-test, as well as the change of reading strategies which were used both before and after the training. The subjects for the interview were systematically selected by

using a 27% technique based on their pre-test scores. That is, there was a total of 16 subjects participating in the interview as shown below in **Table 3**.

Table 3 The Number of the Subjects in the Experimental Group Chosen for the Interview

No. of Subjects	Top 27%		Bottom 27%	
	Male	Female	Male	Female
16	2	6	2	6

In the interview, these subjects were asked what techniques or strategies they employed to tackle particular texts, and how they chose their own answers to particular items during the examination. The same subjects were interviewed before and after the training, and the interview results were compared to see whether there were any changes in their strategy use. The interview was conducted in Thai, and subsequently translated into English for the data presentation (see **Appendices G** and **H**, pp.137-138 for the interview questions and pp. 62-67, 82-87 for an English version of the interview results).

3.3 Data Collection

The data for the study were collected from the subjects in the main study, using the three aforementioned instruments: the test of **"the English Reading Ability"**, the questionnaire on **"Student's Attitudes towards EFL Reading"**, and **the interview**. In order to assess the subjects' reading ability prior to the Reading Course: ENG 025C, the pre-test was administered by the investigator to all sixty subjects, who were involved in the main study. Before the pre-test administration, the

subjects were told that the results of the test would not affect their English grades at all. They were also encouraged to appreciate the significance of the study which would hopefully lead to long-range improvements in teaching EFL reading in the school. The pre-test took place on 3rd November, 1998 from 2.20 p.m. to 3.50 p.m., a total of 90 minutes.

Their pre-test answer sheets were manually marked by the investigator. One point was awarded for a correct answer to each item, and there was no direct penalty for guessing.

Based on their pre-test scores, both male and female subjects were put systematically and equally into either the control group or the experimental group. The EFL reading ability of both groups was not significantly different before the commencement of the study; that is, the mean score on the English reading ability of the control group was 17.17, and that of the experimental group was 17.13 (see **Appendix C**, p. 131). This enabled the investigator to have subjects of equally mixed abilities in each group. It is worth noting that in the test administration, each of them was assigned a number from 1 to 30 and asked to use the number within the group instead of their names. This numbering system helped to prevent scoring bias. On the next day, all of the subjects were asked to complete the questionnaire on their attitudes towards EFL reading before the beginning of the course. They were told that all the information would be kept confidential and would have no effect on their English grades at all. The questionnaire was administered by the investigator on 4th November, 1998 from 8.30 a.m. to 9.20 a.m., a total of 50 minutes. The data were also recorded for each individual and as a group. The attitudes towards EFL reading of both groups were not significantly different before the commencement of the study; that is, the mean score on positive attitudinal items of the control group was 36.97, and that of the experimental group was 36.17; the mean score on negative attitudinal items of the control group was 24.03, and that of the experimental group was 24.10 (see **Appendix F**, p. 136). After the questionnaire administration, 16 subjects (using

a 27% technique) in the experimental group were interviewed about the techniques which they used to deal with the EFL reading test before the strategy training. The data were also recorded individually by the investigator.

During the second semester of 1998 academic year, both groups were taught by the investigator during that semester which lasted sixteen weeks or four months, a total of 32 periods (50 minutes each). The timetable was strictly set so that there was no difference in terms of time which could affect the results of the study. That is, every Tuesday the experimental group attended the reading class from 2.20 p.m. to 3.10 p.m., a total of 50 minutes and the control group from 3.10 p.m. to 4.00 p.m., a total of 50 minutes. And as a reversal, every Wednesday the control group attended the reading class from 8.30 a.m. to 9.20 a.m., a total of 50 minutes and the experimental group from 9.20 a.m. to 10.10 a.m., a total of 50 minutes as well.

At the end of the semester, both groups' reading ability was re-assessed by using the same test version as the pre-test. The assessment was conducted by the investigator on 25th February, 1999 from 2.20 p.m. to 3.50 p.m., a total of 90 minutes. The answer sheets of the post-test were marked in the same ways as the pre-test scoring. Again, their post-test results were recorded for each individual and as a group. The questionnaire was also re-administered to both groups on the same day as the post-test administration from 3.50 p.m. to 4.40 p.m., a total of 50 minutes. The data were recorded in the same way as the post-test results.

Besides, the same subjects who were questioned about their reading behaviour in the pre-test were interviewed again about the techniques which they employed to cope with the post-test on 1st and 2nd March, 1999 for three hours. The data were recorded individually by the investigator.

3.4 Data Analysis and the Statistical Devices

There were two main variables in this study:

3.4.1 Independent variables:

3.4.1.1 reading strategy training provided by the investigator, a total of 32 periods (50 minutes each), and

3.4.1.2 teaching reading procedures without the strategy training also provided by the investigator, a total of 32 periods (50 minutes each).

3.4.2 Dependent variables:

3.4.2.1 the subjects' reading ability measured by the test of **"the English Reading Ability"** and reflected in their reading scores of the pre-test and the post-test, and

3.4.2.2 the subjects' attitudes towards EFL reading measured by the questionnaire on **"Students' Attitudes towards EFL Reading"** and reflected in their levels of agreement with items in the questionnaire.

Another variable probably affecting the expected results of the study was the teachers' proficiency in both linguistics and teaching methodology. Therefore, both groups were taught by the investigator instead of by another teacher with similar qualifications and experience in Teaching English as a Foreign Language (TEFL) as the investigator. In other words, this variable had to be closely controlled to ensure that both groups would not be treated in similar ways. This notion is supported by Mantle-Bromley (1995), who notes that the same teacher teaching both the control and experimental groups helps control the teacher variation between groups and avoid contamination of the effects of the treatment.

However, some intervening variables e.g. the process underlying the acquisition of reading strategies (i.e. language aptitude, learning styles, some socio-economic factors, etc.) were not taken into account because these were quite difficult to observe, measure or manipulate within a short period of time.

After scoring the pre-test, the post-test and the questionnaire, the investigator did the following to compute the data obtained:

1) The data collected were quantitatively analysed. The scores of both pre-test and the post-test of the subjects in the two groups were calculated statistically in order to compare the means between the two groups by means of an SPSS/PC (Statistical Package for the Social Sciences/ Personal Computer) programme. That is, the means of the two-group scores were calculated and compared by T-test so as to determine whether they were significantly different or not.

2) All information obtained from the questionnaires was also quantitatively analysed in order to compare the means of the rating scores of their attitudes towards EFL reading by means of an SPSS/PC programme. That is, the means scores of each attitudinal item and of the overall of both groups were statistically calculated and compared by T-test so as to determine whether they were significantly different or not.

3) All information obtained from the interview was qualitatively analysed and used to explain the phenomenon and support the results of this study.

CHAPTER 4

FINDINGS AND DISCUSSION

This chapter presents the results and discussion derived from the data analyses which are presented in two main sections as follows:

1. The preliminary information about the subjects before the commencement of the study

2. The findings after the instruction by means of the two different teaching methods

To support the discussion, the information gathered from the interview with the experimental group is incorporated throughout this chapter.

1. The Preliminary Information about the Subjects before the Commencement of the Study

With reference to **the Basic Assumptions** (see **Chapter 1**, p. 10), the English reading ability and attitudes towards EFL reading of the subjects in the control and experimental groups are comparable before the outset of the study (see **Appendices C, E, and F,** pp. 131, 134-136 for the statistical analyses).

After the pre-test administration, the two groups' mean scores are of no statistically significant difference, although the subjects in the control group scored slightly higher than those in the experimental group (see **Appendix C**, p. 131). That is, the control group's mean score is 17.17, while that of the experimental group is 17.13 (the total score = 60 marks). Their English reading ability prior to the course is

quite comparable. In other words, the two subject groups do not possess different English reading ability before the instruction.

It should be noted that the English reading ability of both groups as reflected by the pre-test scores is unsatisfactory because virtually both groups' mean scores are low. This is supported by the findings showing that Thai students' reading ability at most levels was quite low, for example, in Kedsuda Ratchadawisitkul's (1986); Malee Nitsaisook's (1996); Charan Lymhan's (1997); U-sa Keenardputta's (1999).

It has been believed that there are several factors affecting the reading ability of Thai students at different levels. One of them may be due to the lack and/ or inadequacy of effective reading strategy training during their early schooling. This is in line with Malee Nitsaisook's (1996) study, which revealed that Thai students in various educational levels were never or were rarely provided with the strategy-oriented instruction. Most of the reading lessons consisted of teacher-centred activities and a very few student-oriented readings. The activities enhancing reading ability were rarely provided. In addition, Malinee Chandavimol (1998 : 32) notes, "There is little or no attention paid to pre-reading, during-reading and post-reading activities... The teachers explain everything ... The lesson is, in fact, teacher-oriented, and the students are merely passive observers." Both Malee Nitsaisook and Malinee Chandavimol believe that the great emphasis on the teacher-oriented instruction can cause most Thai students to frequently fail to comprehend English texts because they lack practice in the reading process, i.e. effective reading strategy training. Not surprisingly, that is the reason why they read and comprehend texts rather slowly. This may result in problematic reading afterwards (Songsri Soranastaporn and Panya Srichandr, 1997). Besides, most of them often complain that they are not good at reading in English. This notion is in harmony with the statement of Anderson and Roit (1993 : 125): "Poor readers often believe that any difficulty in reading reflects gross incompetence". They further note that such poor readers are unwilling to bring their problem-solving abilities to bear on reading.

The information derived from the pre-course interview with 16 subjects in the experimental group confirms the assertion that the majority of these subjects have not been trained in reading strategies. This may lead them to score low marks in the pre-test (see **Table 13**, pp. 82-87) because they did not know how to successfully tackle each text in the test. Most of the subjects gave the interviewer similar responses, that is, they often employed ineffective reading strategies, e.g. reading every word and sentence in a text, choosing answers containing long and unfamiliar words or the same words as those in the text, and stopping reading whenever facing unknown words. These ineffective reading strategies might cause them to guess a large number of answers in the test. The fact that they paid attention to every word and sentence in every text while reading caused them to spend too much time on each text.

After the questionnaires were completed by both groups, their responses were statistically analysed. In the light of this analysis and interpretation, attitudinal items of the questionnaire are classified into two main types: positive and negative (10 each). The asterisk (*) marks negative attitudes (see **Appendix D**, pp. 132-133).

As for positively attitudinal items prior to the instruction, there seem to be differences in their responses to some items (see **Appendix E**, pp. 134-135). That is, the subjects in the control group possess more positive attitudes towards reading in English than those in the experimental group in Nos. 4, 6, 8, 9, 11, 17 and 20, while the subjects in the experimental group hold more positive attitudes towards EFL reading than those in the control group in Nos. 1 and 16. However, statistics reveal that out of such 10 positively attitudinal items, only one significant difference is detected, i.e. No.1 (The time allocated for the reading class should be increased; t = 1.817, p < 0.05). The subjects in both groups strongly agree to this item, though the subjects in the experimental group rated significantly higher than those in the control group.

Based on their pre-test results, both groups have realised that their EFL reading ability is unsatisfactory. It can be assumed that the time generally allocated

for the reading class may be insufficient, thus resulting in low reading ability of students in general. Accordingly, the subjects in both groups need much more time for learning to read in English. Nonetheless, the subjects in the experimental group ask for much more time for classroom practice than those in the control group. This may indicate that the subjects in the experimental group give far more importance to EFL reading than those in the control group.

Interestingly, both groups have the same positive attitude level in No.14 (English reading skills will be helpful in my higher studies). It is likely that they realise the importance and benefits of reading skills which can be utilised to facilitate their performance in the entrance examination, especially in the reading section.

As for the items of negative attitudes, there also seems to be differences in their responses to each item. That is, the subjects in the control group rated higher than those in the experimental group in Nos. 2, 10, 13, 18, and 19, while the subjects in the experimental group rated higher than those in the control group in Nos. 3, 5, 7, 12, and 15. Yet, statistics show that the two groups' mean score on each item of negative attitudes towards reading in English is not significantly different before the course of the instruction (p > 0.05).

These are confirmed when all of the 20 positive and negative attitudinal items are put together under one analysis as presented in **Appendix F** (p. 136), it is evident that both groups possess very similar attitudes towards reading in English. That is, the control group's mean score on positive attitudes is 36.97, while that of the experimental group is 36.17. These mean scores do not make a significant difference (t = -.892, p > 0.05). As for the negative attitudes, the control group's mean score is 24.03, while that of the experimental group is 24.10. These mean scores are of no significant difference (t = -.071, p > 0.05).

Overall, the English reading ability and attitudes towards EFL reading of both groups are of no significant differences before the beginning of the study.

2. The Findings after the Instruction by Means of Two Different Teaching Methods

2.1 The English Reading Ability of the Subjects in the Control and Experimental Groups after the Use of Two Different Teaching Methods

The hypothesis: The ability of the students who were equipped with reading strategies to read various text types would be greater than that of the students who were not.

To test this alternative hypothesis, a one-tailed t-test for equality of means was applied to determine whether there was a significant difference between English reading ability of the two subject groups (as measured by a test of "**the English Reading Ability**", see **Appendix B**, p. 130). The result is displayed below in **Table 4**.

Table 4 The English Reading Ability of the Subjects in the Control and Experimental Groups after the Use of Two Different Teaching Methods

Subjects	No. of Subjects	The Post-test				df	t
		No. of Items	Highest Possible Score	Mean	S.D.		
The Control Group	30	60	60	23.20	6.43		
The Experimental Group	30	60	60	27.20	8.84	58	2.004*

* Significant at 0.05 level

Obviously, the result indicates that there is a significant difference in the mean scores between the two groups which could be attributed to different teaching methods ($p < 0.05$). That is, the ability of the subjects who were equipped with specific reading strategies to read various text types is greater than that of those who were not. Thus, this hypothesis is accepted.

To better illustrate the difference in the two subject groups' mean scores, **Figure 4** (p. 61) shows that their English reading ability is comparable prior to the start of the course and that the difference in their reading ability emerge after the course. That is, in the pre-test, the control group's mean score is 17.17, while that of the experimental group is 17.13 (the total score = 60 marks). This difference fails to reach a significant level ($t = -.027$, $p > 0.05$). The experimental group's reading ability is much higher than the control group's in the post-test. That is, they possess the mean score of 27.20 while those in the control group have the mean score of 23.20 (the total score = 60 marks) and the English reading ability of the two subject groups at the end of the course is significantly different ($t = 2.004$, $p < 0.05$).

Figure 4 Two Groups' Mean Scores on English Reading Ability

Figure 4 Two Groups' Mean Scores on English Reading Ability

- Control group's pre-test mean score
- Experimental group's pre-test mean score
- Control group's post-test mean score
- Experimental group's post-test mean score
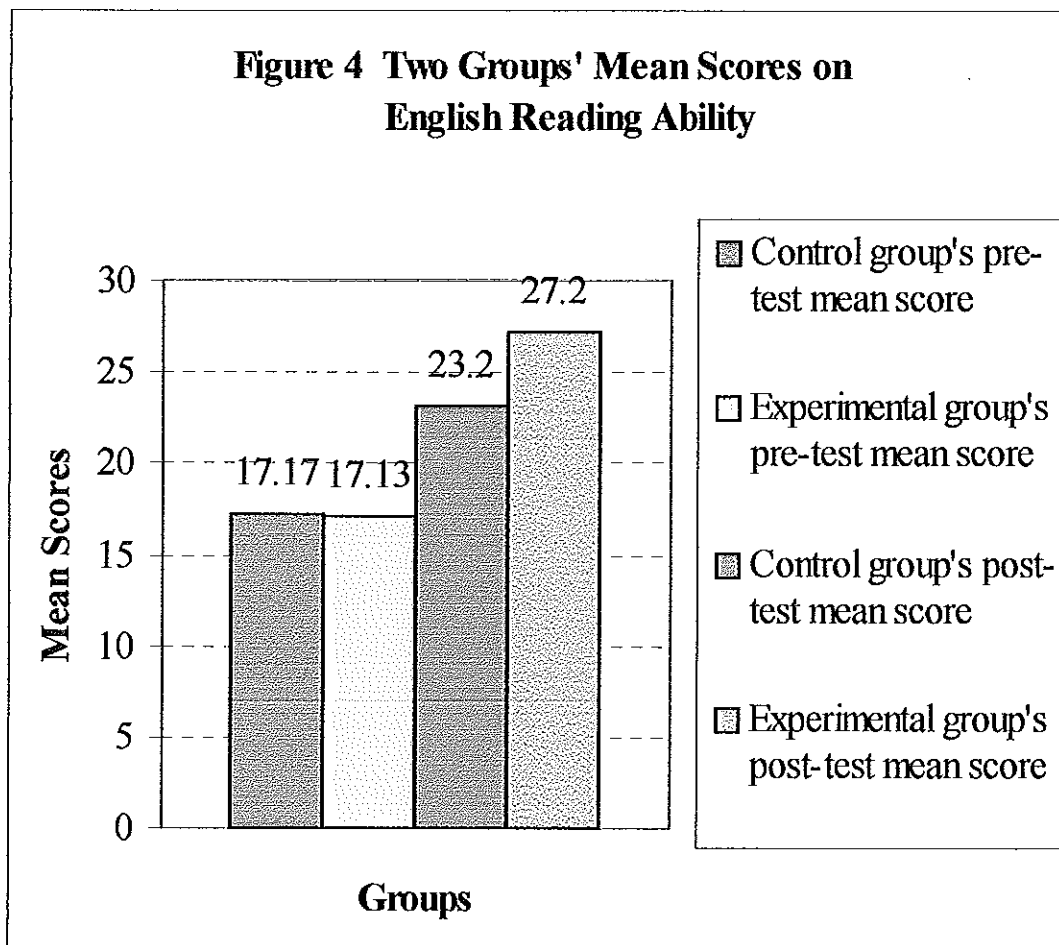
It is noticeable that both groups did better in the post-test than in the pre-test. In other words, they read better at the end of the course. However, the experimental group did significantly better than the control group after the reading strategy training. That is, after they had been trained with the specific reading strategies for a semester, they read significantly better in the post-test (see **Appendix B**, p. 130). The statistical difference in the mean scores between the two groups emerges after the use of the two different teaching methods (i.e. the reading strategy training and reading procedures without the strategy training). It should be assumed, herein, that the better reading ability is probably due to the reading strategy training which has a positive effect on learners' reading ability.

Surprisingly, the control group also did better in the post-test, though they were not given any reading strategy training at all. It is implied that apart from effective reading strategies, other factors such as the same teacher, teaching materials, and classroom activities can also contribute to better reading ability after the pre-test.

Based on the interview after the post-test administration, some of the subjects in the experimental group reported that they had changed the ways they dealt with the post-test after the reading strategy training. That is, they employed, applied or transferred the specific reading strategies taught in the classroom to help them tackle the reading texts. **Table 5** below presents what they did during the post-test.

Table 5 The Experimental Group's Responses to the Interview after the Training

Question 2: How did you read texts (both short and long) in the test?		
Subject	**Responses**	**Trained Reading Strategies**
1	*I read each text twice to three times. Sometimes, it depends on their difficulty. I ¹read the title or topic of the text first, and then I ²skimmed each text. While I was reading, I ³underlined some words, phrases or sentences in the texts. I often ²focused on the first sentence of each paragraph. I tried to ⁴understand the reference words.*	1. Reading the title/ topic of the text 2. Skimming for general ideas 3. Underlining words, phrases or sentences in the texts 4. Identifying reference words
5	*I think that the ways I used to read the texts in the pre-test were very different from those I used to read the texts in the post-*	1. Skimming for general ideas 2. Reading the title or

	test. I [1]hardly read every word or sentence. I [1]skimmed through the texts before starting to read in detail. I felt that each text type needed different techniques in reading. This helped me understand the texts easily and quickly. I [2]never forgot reading the title or topic of each text before moving to other parts of the text. I [1]skimmed and [3]scanned the texts. I concentrated on what I was reading. I [4]often underlined or marked the texts too.	topic of the text 3. Scanning for specific information 4. Underlining or marking the text
6	*I read each text 2-3 times but I [1]gave up reading every word and sentence in each paragraph. I tried to [2]find the topic sentence of each paragraph. I think that it could help me understand the texts more quickly. I also [3]paid attention to the reference words (e.g. he, her, that, such, there, one, it, etc.) that helped me not miss the points while reading. For some long texts, I [4]started reading the first paragraph, and the last one before starting reading the whole text.*	1. Skimming for general ideas 2. Extracting the main idea of each paragraph 3. Identifying reference words 4. Reading the introduction and conclusion

As can be seen, these subjects employed specific reading strategies to tackle the texts in the post-test. The use of trained strategies (i.e. understanding titles or topics, previewing questions, skimming, scanning, marking texts, skipping unknown

words, understanding reference terms, etc.) contributed to the changes in their reading ability which were reflected by the increased post-test scores.

There is an interesting point in most of the subjects' responses to **Question 6,** which they had not mentioned in the pre-course interview (see **Table 13,** pp. 82-87). In the post-course interview, most of them reported that they read the questions before reading each text. They tried to minimise the irrelevant alternatives until there was the most likely answer which they eventually chose. That is, the attempts at choosing the correct answers in the post-test became more systematic and logical than those in the pre-test. **Table 6** below displays what they did during the post-test.

Table 6 The Experimental Group's Responses to Question 6
after the Training

Question 6: How did you get your answer to each question?		
Subject	**Responses**	**Trained Reading Strategies**
1	I [1]_read the questions before reading each text_ because I could [2]_skim or_ [3]_scan the text to get the needed answers quickly._ If I didn't know the answer, I would guess it by looking at the answer containing the same words as those in the text.	1. Reading questions before going through the text 2. Skimming for general ideas 3. Scanning for specific information
6	I [1]_looked at the questions before reading the text._ I [2]_skimmed or_ [3]_scanned the text_ to get the best answer. I sometimes used my grammatical knowledge to choose the best answer.	1. Reading questions before going through the text 2. Skimming for general ideas

		3. Scanning for specific information
7	*I ¹read the questions before reading the text. I ²skipped the parts which weren't asked. I chose to read the easy text before the difficult one.*	1. Reading the questions before going through the text 2. Skipping irrelevant parts

It should be noted that their responses in the pre-course interview which contrasted with those in the post-course interview will later be discussed in detail. **Table 6** above indicates that the reading strategies in finding the correct answers were changed after these subjects were equipped with the reading strategies. That is, in the pre-test, they did not read the questions before reading the texts; as a result, they wasted their time reading the whole texts before the questions, and probably had to reread them for the answers. Such reading method possibly slowed their reading process and did not allow them to have enough time to tackle each text. Hence, they guessed a large number of answers. It is noticeable that after the training, specific reading strategies seem to enable the subjects to read better in the test. In other words, they make better scores in the post-test than in the pre-test (see **Appendix B**, p. 130).

Besides, in the post-course interview, when they were asked what they thought about the reading strategy training (Question 10), they reported that the reading strategy training brought about changes in their English reading behaviour. That is, they have learnt specific reading strategies, and then applied them to tackle various text types. More importantly, the interviewees in the experimental group have

realised the importance and great benefits of the reading strategy training as reflected in their similar viewpoints shown below.

> *Subject 1: In my opinion, the reading strategy training helps me deal with each text in the test more successfully. It makes me know how to read in English quickly e.g. skimming and scanning. At first, I didn't like it because I felt that it was a waste of time in reading. But now, I realise that it's very helpful. It also makes me have more self-confidence in asking and answering questions in class. In brief, I think that my English reading ability is better now.*

> *Subject 3: The reading strategy training helps me do the test more quickly. At the end of the semester, I think that my reading improves because it makes me change my reading habits. That is, I read texts with a critical mind. I like prediction both in the pre- and while-reading stages. I don't mind making mistakes in class. I feel that it makes me enjoy reading activities. Previously I used to think that it's a waste of time. I enjoy your class very much.*

> *Subject 7: I think the reading strategy training helps me read in English better. I have to consider the three main stages in reading, i.e. pre-, while- and post-reading. I know how to use my vocabulary and grammatical knowledge to interpret each text. This makes me know how to read in English effectively. I want you to teach us next semester.*

> *Subject 16: The reading strategy training helps me finish the test in time. It makes me know how to read in English. It also helps me read with a critical mind. I think reading strategies are important for us. They*

should be taught in other English courses too. I want you to teach us next semester.

It could be concluded from the above testaments that better English reading ability of the experimental group probably comes from the specific reading strategy training. This is consistent with the results from a great number of studies conducted by Block (1986); Carrell (1988); Taglieber, Johnson and Yarbrough (1988); Cotterall (1990); Vann and Abraham (1990); Anderson (1991); Sasithorn Tassaneetipagorn (1991); Anderson and Roit (1993); Block (1993); Janzen (1996); Malee Nitsaisook (1996); Sola (1996); Auerbach and Paxton (1997); Jiménez (1997); Anamai Damnet (1998); Wipada Ingkanart (1998); U-sa Keenardputta (1999); Singhal (2000). They all affirm that reading strategy training has a positive influence on reading performance and that there is some connection between strategy use and ability to read.

2.2 The Experimental Group's Attitudes towards Reading in English after the Reading Strategy Training

The hypothesis: The attitudes of the subjects in the experimental group towards reading in English would change positively after the reading strategy training.

Again, at the end of the course, the subjects in the experimental group were asked to rate the questionnaires on attitudes towards reading in English in much the same way as they did before the start of the course. The purpose of this is to find out changes in their attitudes towards reading in English after they were equipped with specific reading strategies for a total of 32 periods (50 minutes each).

To test this alternative hypothesis, the subjects' responses of the pre-course questionnaires were compared with those of the post-course questionnaires within the

experimental group itself. Once more, a one-tailed t-test for equal variance was applied to see whether there was a significant change, and the results are displayed below in **Table 7.** The asterisk (*) marks negative attitudes.

Table 7 The Experimental Group's Attitudes towards EFL Reading before and after the Instruction

Nos.	Statements	Before the Instruction		After the Instruction		df	t
		Mean	S.D.	Mean	S.D.		
1.	The time allocated for the reading class should be increased.	3.90	1.12	4.23	.68	29	1.720*
2.	Thai students do **not** need to learn how to read in English.*	1.30	.75	1.33	.48	29	-.205^{NS}
3.	I am glad when there is **no** English reading class. *	3.30	.79	2.13	.63	29	6.067**
4.	If I have free time, I like to read English texts.	2.27	.83	3.23	.82	29	6.227**
5.	Activities in reading classes reduce my self-confidence.*	3.43	.94	1.90	.48	29	7.818**
6.	I always look forward to the English reading class.	2.20	.92	3.43	.77	29	5.656**
7.	It is difficult to learn how to read in English. *	3.67	1.09	2.40	.77	29	5.400**
8.	English reading skills make me knowledgeable.	4.37	.93	4.53	.51	29	1.000^{NS}
9.	Activities in the English reading class lead to cooperation in solving problems and difficulties.	3.37	.67	4.07	.52	29	4.583**
10.	In my future study, I will **no** longer take the English reading course as my subject choice. *	2.53	1.04	1.83	.59	29	2.971**
11.	English reading skills enable me to do better in other subjects.	3.60	.89	4.13	.63	29	3.395**
12.	Educated people are **not** necessarily those with high English reading ability. *	1.83	.83	1.57	.50	29	1.765*

13.	Learning to read in English is a waste of time. *	1.67	.88	1.33	.55	29	1.720*
14.	English reading skills will be helpful in my higher studies.	4.60	.81	4.53	.51	29	-.372[NS]
15.	English reading skills are **not** a necessity in getting a good job. *	1.70	.79	1.37	.49	29	2.065*
16.	English reading skills help me understand more about the way of life of English-speaking people.	4.13	.68	4.10	.48	29	-.239[NS]
17.	After attending the English reading class, I feel that there is more and more to learn about the world.	4.13	.90	4.47	.57	29	1.836*
18.	Better reading skills do **not** help me improve in my education. *	1.50	.73	1.50	.51	29	.000[NS]
19.	Reading English texts makes me sleepy. *	3.17	.95	1.80	.71	29	5.539**
20.	Activities in English reading class make students more confident in expressing their ideas.	3.60	.62	4.10	.71	29	3.340**

**Significant at 0.01 level

* Significant at 0.05 level

[NS] Non-significant

Statistics convincingly demonstrate that for the experimental group, most of their responses to the attitudinal items have been significantly and positively changed after the strategy training. That is, seven out of ten positive attitudinal items have been rated significantly higher: Nos. 4, 6, 9, 11, and 20 are of statistical significance at 0.01 level; Nos.1 and 17 are significantly different at 0.05 level.

Similarly, for the experimental group, there are tremendous changes in most negative attitudinal items after the reading strategy training. That is, eight out of ten negative attitudinal items have been rated significantly lower and are of statistical

significance at 0.01 level (Nos. 3, 5, 7, 10 and 19) and at 0.05 level (Nos. 12, 13 and 15).

To be more specific, when all of the 20 attitudinal items are put together under one analysis as shown below in **Table 8,** the results reveal that for the experimental group, the subjects' mean score on positive attitudes after the training is significantly higher than that before the training. At the same time, their mean score on negative attitudes after the training is significantly lower than that before the training; that is, this group has less negative attitudes towards EFL reading. Evidently, before the training the experimental group's mean score on all positive attitudinal items is 36.17 and that on all negative attitudinal items is 24.10, whereas after the training the experimental group's mean score on positive attitudinal items is 40.83 and that on all negative attitudinal items is 17.17. Such mean scores on both positive and negative attitudes are significantly different at the level of 0.01 (t = 7.480 and 8.364 respectively). The results indicate that the experimental group's attitudes towards reading in English significantly and positively change after the strategy training. Therefore, the alternative hypothesis posed to account for the impact of specific reading strategies on attitudinal changes is accepted.

Table 8 Comparison of Mean Scores on Attitudes towards EFL Reading within the Experimental Group before and after the Strategy Training

Attitude Types	No. of Items	Before the Instruction		After the Instruction		df	t
		Mean	S.D.	Mean	S.D.		
Positives	10	36.17	3.58	40.83	3.58	29	7.480**
Negatives	10	24.10	3.59	17.17	2.89	29	8.364**

** Significant at 0.01 level

It can be noticed that after the strategy training, the subjects in the experimental group tend to develop more positive attitudes towards EFL reading and seem to realise the significance, advantages, and application of reading strategies. This possibly points out that the reading strategy training definitely has an appreciable effect on the large changes in the learners' attitudes towards EFL reading. In other words, the reading strategy training and the learners' attitudes towards reading in English have a positive relationship.

On the whole, the positive changes in their attitudes can be attributed to the fact that the subjects were trained with specific reading strategies for a period of time. As a result, the dramatic changes in their attitudes towards EFL reading before and after the strategy training are of statistical significance ($p < 0.01$). Besides, they have become more aware of the factors involving teaching and learning EFL reading, such as time, teachers, classroom activities, and future education. This is revealed through their responses to post-course questionnaires and interview.

Apart from the aforementioned findings in this study, there are other interesting results derived from their responses to post-questionnaires of the subjects within the control group who were also asked to complete the same questionnaires after the instruction. The results are presented below in **Table 9**. The asterisk (*) marks negative attitudes.

Table 9 The Control Group's Attitudes towards EFL Reading

before and after the Instruction

Nos.	Statements	Before the Instruction		After the Instruction		df	t
		Mean	S.D.	Mean	S.D.		
1.	The time allocated for the reading class should be increased.	3.40	1.00	3.77	.63	29	1.733*
2.	Thai students do **not** need to learn how to read in English.*	1.53	.90	1.67	1.09	29	-.486[NS]

3.	I am glad when there is **no** English reading class. *	2.97	1.00	2.70	.75	29	1.352 NS
4.	If I have free time, I like to read English texts.	2.57	1.04	2.97	.67	29	1.838*
5.	Activities in reading classes reduce my self-confidence. *	3.30	1.09	1.97	1.03	29	5.525**
6.	I always look forward to the English reading class.	2.23	.82	2.70	.75	29	2.971**
7.	It is difficult to learn how to read in English. *	3.60	1.04	2.90	1.06	29	3.881**
8.	English reading skills make me knowledgeable.	4.50	.73	4.37	.85	29	-.626 NS
9.	Activities in the English reading class lead to cooperation in solving problems and difficulties.	3.63	.85	3.80	.81	29	.895 NS
10.	In my future study, I will **no** longer take the English reading course as my subject choice. *	2.70	.95	2.00	.91	29	3.881**
11.	English reading skills enable me to do better in other subjects.	3.67	.96	3.83	.70	29	.895 NS
12.	Educated people are **not** necessarily those with high English reading ability. *	1.67	.80	1.60	.86	29	.304 NS
13.	Learning to read in English is a waste of time.*	1.70	.70	1.47	1.04	29	1.045 NS
14.	English reading skills will be helpful in my higher studies.	4.60	.81	4.80	.48	29	1.293 NS
15.	English reading skills are **not** a necessity in getting a good job. *	1.57	.77	1.30	.47	29	2.283*
16.	English reading skills help me understand more about the way of life of English-speaking people.	4.00	.83	3.37	1.05	29	-1.072 NS
17.	After attending the English reading class, I feel that there is more and more to learn about the world.	4.47	.57	4.60	.50	29	1.161 NS
18.	Better reading skills do **not** help me improve in my education. *	1.67	.84	1.80	.85	29	-.571 NS

| 19. | Reading English texts makes me sleepy. * | 3.33 | .88 | 2.93 | .69 | 29 | 1.989* |
| 20. | Activities in English reading class make students more confident in expressing their ideas. | 3.90 | .96 | 4.00 | .64 | 29 | .619[NS] |

** Significant at 0.01 level

* Significant at 0.05 level

[NS] Non-significant

Statistics provide evidence that the control group's attitudes towards reading in English also significantly and positively change in some items (i.e. Nos.1, 4, and 6 for positives; Nos.5, 7, 10, 15, and 19 for negatives) despite the fact that they were not given the same specific reading strategies as those in the experimental group. These positive changes make a statistical significance at 0.01 and 0.05 levels.

This can be confirmed when all of the 20 attitudinal items are put together under one analysis as shown in **Table 10** (p.74). It is found that their attitudes towards reading in English have positively changed, notwithstanding the different teaching methods. That is, the mean score on positive attitudes of the control group after the instruction is higher than that before the instruction, and the mean score on negative attitudes after the instruction is lower than that before the instruction. The changes in their positive and negative attitudes are significantly different ($p < 0.05$ and 0.01 respectively). This may denote that the teaching method without reading strategies also has a beneficial influence on changes in learners' attitudes at a certain level, though to a lesser extent than that of the strategy training.

Table 10   Comparison of   Mean Scores on Attitudes towards EFL
Reading before and after the Instruction within the Control
Group

Attitude Types	No. of Items	Before the Instruction		After the Instruction		df	t
		Mean	S.D.	Mean	S.D.		
Positives	10	36.97	3.36	38.57	3.50	29	1.934*
Negatives	10	24.03	3.68	20.33	3.29	29	3.820**

** Significant at 0.01 level

 * Significant at 0.05 level

The very changes in such positive and negative attitudinal items may be due to
the fact that for a one-semester period, the subjects in the control group were also
exposed to the same factors (e.g. the teacher, classroom atmosphere, teaching
materials, and classroom management) as those in the experimental group. These
factors possibly enable them to significantly and positively change their attitudes
towards EFL reading. Nos.1 and 4 involve the time for reading which probably
reflect the pleasant atmosphere of the reading class; the control group feels that
reading is more enjoyable than in the past. Consequently, they would like to spend
more time reading. In addition, No.5 shows that activities in reading classes help
them improve their self-confidence which might have resulted from the effective
classroom management. Specifically, No.6 reflects the control group's significantly
positive attitudes towards EFL reading since they always look forward to the English
reading class. Moreover, Nos.14 and 15 (involving benefits of English for higher
education and getting a good job) show that the control group has realised the vital
role of EFL reading. In other words, most of these subjects have better perception of

future education and careers requiring English. This notion is in accordance with Gardner (1985; cited in Scarcella and Oxford, 1992; Brown, 1994), who states that a learner who wishes to learn a language to get a good job or meet a language requirement has highly instrumental motivation. Indeed, the subjects in the control group also have particular goals in learning to read in English in order to pass the entrance examination like those in the experimental group. This may lead to positive attitudinal changes, though without the reading strategy training.

As have been previously mentioned, the two subject groups' attitudes towards reading in English positively change although they were taught with two different reading methods. In order to compare the extent to which level their attitudes change, a one-tailed t-test for equal variance was applied again, and the results are revealed below in **Table 11.** The asterisk (*) marks negative attitudes.

Table 11 The Two Groups' Attitudes towards EFL Reading

after the Use of Two Different Teaching Methods

Nos.	Statements	The Control Group N = 30		The Experimental Group N = 30		df	t
		Mean	S.D.	Mean	S.D.		
1.	The time allocated for the reading class should be increased.	3.77	.63	4.23	.68	58	2.768**
2.	Thai students do **not** need to learn how to read in English.*	1.67	1.09	1.33	.48	58	1.529 ^{NS}
3.	I am glad when there is **no** English reading class.*	2.70	.75	2.13	.63	58	3.172**
4.	If I have free time, I like to read English texts.	2.97	.67	3.23	.82	58	1.383 ^{NS}
5.	Activities in reading classes reduce my self-confidence. *	1.97	1.03	1.90	.48	58	.320 ^{NS}

6.	I always look forward to the English reading class.	2.70	.75	3.43	.77	58	3.728**
7.	It is difficult to learn how to read in English. *	2.90	1.06	2.40	.77	58	2.088*
8.	English reading skills make me knowledgeable.	4.37	.85	4.53	.51	58	.922^{NS}
9.	Activities in the English reading class lead to cooperation in solving problems and difficulties.	3.80	.81	4.07	.52	58	1.523^{NS}
10.	In my future study, I will **no** longer take the English reading course as my subject choice. *	2.00	.91	1.83	.59	58	.841^{NS}
11.	English reading skills enable me to do better in other subjects.	3.83	.70	4.13	.63	58	1.748*
12.	Educated people are **not** necessarily those with high English reading ability. *	1.60	.86	1.57	.50	58	.184^{NS}
13.	Learning to read in English is a waste of time. *	1.47	1.04	1.33	.55	58	.621^{NS}
14.	English reading skills will be helpful in my higher studies.	4.80	.48	4.53	.51	58	-2.188^{NS}
15.	English reading skills are **not** a necessity in getting a good job. *	1.30	.47	1.37	.49	58	-.540^{NS}
16.	English reading skills help me understand more about the way of life of English-speaking people.	3.73	1.05	4.10	.48	58	1.742*
17.	After attending the English reading class, I feel that there is more and more to learn about the world.	4.60	.50	4.47	.57	58	-.963^{NS}
18.	Better reading skills do **not** help me improve in my education. *	1.80	.85	1.50	.51	58	1.663^{NS}
19.	Reading English texts makes me sleepy. *	2.93	.69	1.80	.71	58	6.244**

| 20. | Activities in English reading class make students more confident in expressing their ideas. | 4.00 | .64 | 4.10 | .71 | 58 | .571 NS |

** Significant at 0.01 level

 * Significant at 0.05 level

NS Non-significant

Statistics show that there are some differences in the attitudes towards EFL reading between the two groups. That is, the subjects in the experimental group rated significantly higher on four positive attitudinal items (Nos.1, 6, 11, and 16), and they rated significantly lower on three negative attitudinal items (Nos. 3, 7, and 19) than those in the control group. This seems to indicate that specific reading strategies enable the subjects in the experimental group to have many more positive attitudes towards reading in English than those in the control group. Thus, the mean scores of such items make statistical difference ($p < 0.01$ and 0.05).

Apparently, when all of the 20 attitudinal items are put together under one analysis as demonstrated in **Table 12** (p. 78), we found that there are significant differences in the attitudes towards reading in English between the two groups. That is, the subjects in the experimental group rated significantly higher on positive attitudinal items than those in the control group, whereas they rated significantly lower on negative attitudinal items than those in the control group. After the reading strategy training, the experimental group's attitudes towards EFL reading change much more positively than those of the control group. As a consequence, the differences in such mean scores are of statistical significance ($t = 2.479$ and 3.958, $p < 0.01$).

Table 12 Comparison of Mean Scores on Attitudes towards EFL Reading across Two Groups after the Use of Two Different Teaching Methods

Attitude Types	No. of Items	Groups				df	t
		The Control N = 30		The Experimental N = 30			
		Mean	S.D.	Mean	S.D.		
Positives	10	38.57	3.50	40.83	3.58	58	2.479**
Negatives	10	20.33	3.29	17.17	2.89	58	3.958**

** Significant at 0.01 level

For a better view of the differences of the two subject groups' attitudes towards reading in English, **Figure 5** (p. 79) shows the mean scores on positive attitudes. The results point out that before the course of the instruction, the mean scores on the positive attitudes towards EFL reading of both groups are not significantly different, although the control group rated slightly higher than the experimental group. However, after the use of the two different teaching methods, the mean scores of both groups are of significant difference. That is, the experimental group rated much higher than the control group. This indicates that the subjects in the experimental group tend to have more positive attitudes towards reading in English than those in the control group.

Figure 5 Comparison of Mean Scores on Positive Attitudes towards EFL Reading between Two Groups before and after the Instruction
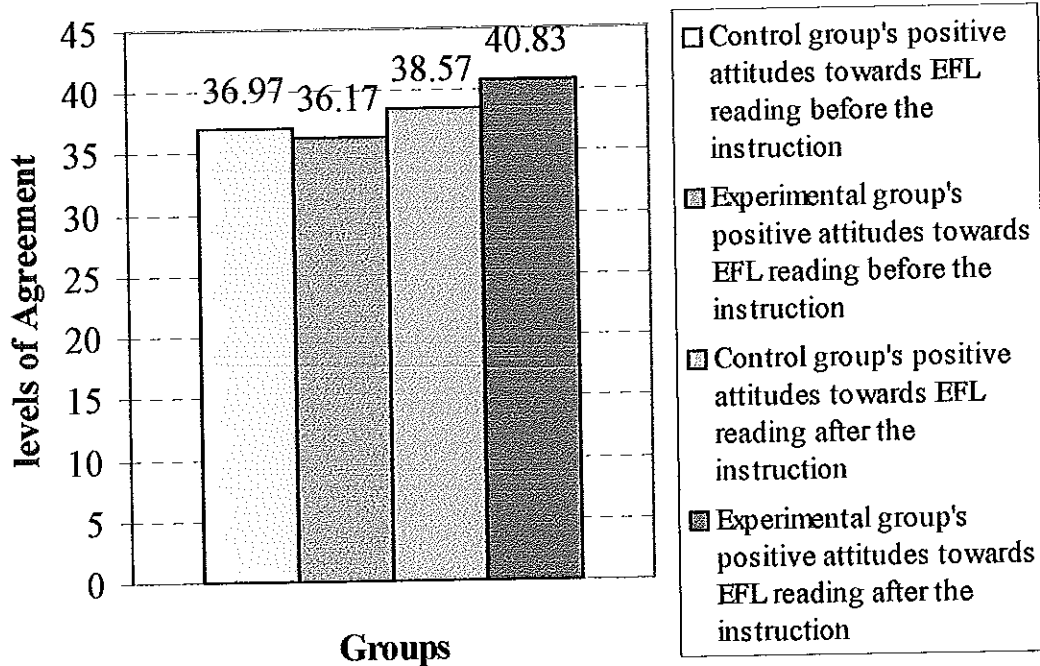
In addition, the data in **Figure 6** (p. 80) show the mean scores on negative attitudes towards EFL reading of the two groups before the instruction which are not significantly different. Evidently, after the subjects in the experimental group were equipped with specific reading strategies, their attitudes towards reading in English have changed much more positively than those of the subjects in the control group who were taught reading procedures without the strategy training.

<figure>

Figure 6 Comparison of Mean Scores on Negative Attitudes towards EFL Reading between Two Groups before and after the Instruction

Levels of Agreement (y-axis: 0 to 30)

24.03 24.1
20.33
17.17

Groups (x-axis)

Legend:
- Control group's negative attitudes towards EFL reading before the instruction
- Experimental group's negative attitudes towards EFL reading before the instruction
- Control group's negative attitudes towards EFL reading after the instruction
- Experimental group's negative attitudes towards EFL reading after the instruction

</figure>
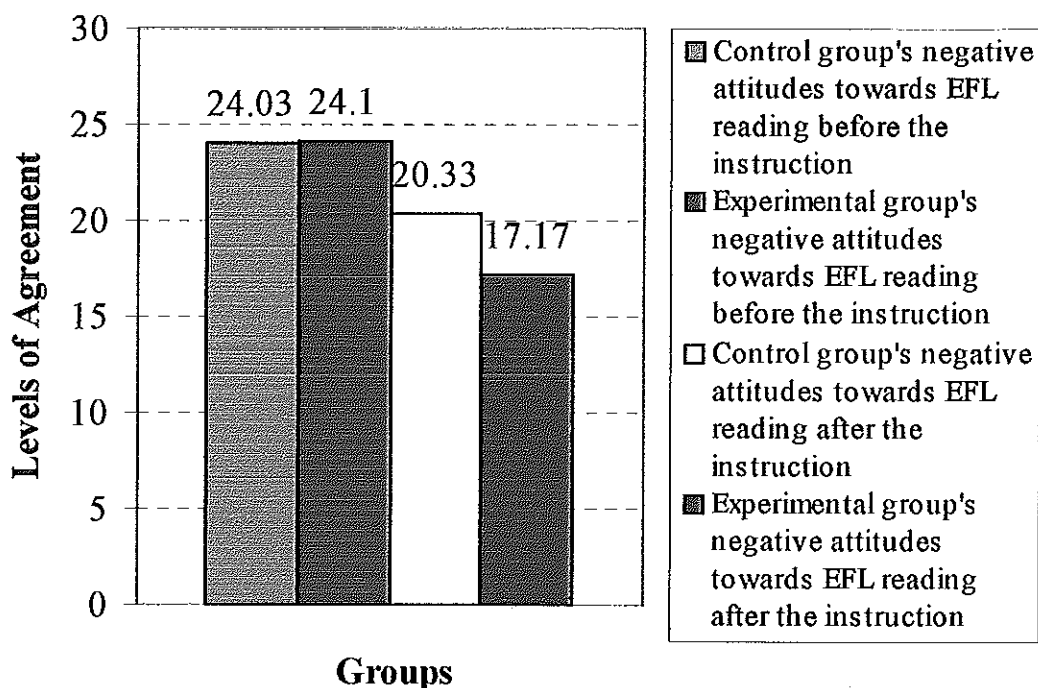
Remarkably, at the end of the course, the two groups' mean scores on negative attitudes towards EFL reading are sharply reduced. Besides, the mean scores between both groups are of statistically significant difference which may be due to the two different teaching methods as have been mentioned previously. The subjects in the experimental group have better attitudes towards EFL reading because they were directly and explicitly provided with specific reading strategies which enable them to know how to read better in English to a greater extent than those in the control group. It is possible that when the experimental group realises the great benefits and significance of reading strategies, they will know what, when or how to apply or

transfer the strategies to achieve a high reading ability. Thus, it may be easy for them to change their negative attitudes towards EFL reading. This construct is consonant with what is mentioned by Oxford and Nyikos (1989). That is, positive attitudes often lead language learners to utilise different strategies to facilitate their language learning. In addition, Duffy and Roehler (1993) note that positive attitudes for reading rely on learners being metacognitively aware of concepts about what reading is involved and about their feelings for taking part in reading activities.

Since the subjects in the experimental group were exposed to the reading activities at hand by means of specific reading strategies previously trained in the actual classroom situations, the strategy training possibly helped them develop more positive attitudes towards EFL reading than those in the control group.

At the end of the course of the instruction, the subjects in the control group also have more positive attitudes towards EFL reading than at the outset of the course. The positive changes might be due to the fact that they have been in the same conditions: the teacher, teaching materials, classroom activities, learning objectives, etc.

2.3 The Experimental Group's Responses to the Interview before and after the Reading Strategy Training

To find out the changes of reading strategies employed by the subjects in the experimental group, 16 subjects systematically selected by using a 27% technique were interviewed for 10 questions (see **Appendices G** and **H**, pp. 137-138) before and after the strategy training. Some parts of the interview have been previously presented. Therefore, only Questions 2, 3, and 6 were displayed and discussed hereafter because they could explicitly illustrate the reading strategies used by the subjects while coping with reading texts. Examples of a non-statistical investigation into some subjects' responses are reported in **Table 13** (pp. 82-87).

Table 13 The Experimental Group's Responses to the Interview

before and after the Reading Strategy Training

Questions	Subjects	Pre-course Interview	Post-course Interview
# 2: How did you read texts (both short and long) in the test?	1	*I read short texts once and long texts twice before choosing the answers.*	*I read each text twice to three times. Sometimes, it depended on their difficulty. I read the title or topic of the texts first, and then I skimmed each text. While I was reading, I underlined some words, phrases or sentences in the texts. I often focused on the first sentence of each paragraph. I tried to understand the reference words.*
	3	*I spent a little time reading short texts and a lot of time reading long texts at least 2-3 times a text.*	*I mostly read texts once. I read short texts by skimming and scanning. For difficult, long texts I read the first sentence of each paragraph. I liked marking, underlining the texts. I tried to link the ideas within each text.*

Questions	Subjects	Pre-course Interview	Post-course Interview
	6	*I read every word and sentence in short texts and I read long texts for two or three times.*	*I read each text 2-3 times but I gave up reading every word and sentence in each paragraph. I tried to find the topic sentence of each paragraph. I thought that it could help me understand the texts more quickly. I also paid attention to the reference words (e.g. he, her, that, such, there, one, it, etc.) that helped me not miss the points while reading. For some long text, I started reading the first paragraph, and the last one before starting reading the whole text.*
	13	*I read every word and sentence until I could answer the questions.*	*I read each text 2-3 times but I didn't read every word or sentence. I looked at the questions before starting reading the texts. I underlined some words, phrases or sentences in the texts while reading.*

Questions	Subjects	Pre-course Interview	Post-course Interview
	14	*I read short texts before long texts and read each of them again before answering the questions*	*I read most of the texts twice. I chose the texts that were easy to understand to read first regardless of whether they're short or long. I tried to understand the questions before reading each text.*
	16	*I read every word and sentence in each text once only. The more I read, the more confused I got.*	*I read some texts several times because there were many unknown words. I read the questions before starting reading each text. I sometimes underlined and put some marks (e.g. *, ✳, ↗, ➔, etc.) on the texts.*
# 3: Did you know the meaning of every word in each text? If not, what did you do?	1	*No. I guessed the answers by comparing the words in each of the alternatives with those in the text.*	*No. I tried to notice the words repeatedly used in the text. I sometimes skipped the unknown words and read the words around them instead.*

Questions	Subjects	Pre-course Interview	Post-course Interview
	3	*No. I couldn't translate every word into Thai. I tried to read every word around the unknown words.*	*No. I didn't really care about the unknown words but I tried to understand them by using the context clues.*
	6	*No. I sometimes skipped unknown words. Then, I read the texts more carefully than I did in the first time.*	*No. I sometimes skipped the unknown words and moved to other words nearby.*
	13	*No. I read the whole text again.*	*No. I guessed the meanings from the context but I didn't know whether they're right or wrong.*
	14	*No. I stopped reading, and then guessed the answers.*	*No. I tried to read them again and guessed their meanings from context.*
	16	*No. I tried to read every word in each paragraph.*	*No. I sometimes moved to other words. If I really didn't know the meanings of the unknown words, I'd skip them. Then, I read the sentences nearby.*

Questions	Subjects	Pre-course Interview	Post-course Interview
# 6: How did you get your answer to each question?	1	*I read the whole text and then questions. If I couldn't answer them, I'd read the whole text again. When I didn't know how to answer, I decided to guess by choosing the answer containing the same words as those in those in the text. Sometimes, I chose the answer including long and unfamiliar words.*	*I read questions before reading each text because I could skim or scan the text to get needed answers quickly. If I didn't know the answer, I'd guess it by looking at the answer containing the same words as those in the texts.*
	3	*I chose the best answer relevant to the text. I often chose the answer containing the same words as those in the text.*	*I read the questions before reading the text. I chose the answer that was the most possible in terms of accuracy.*
	6	*I read each text carefully before choosing the best answer. I sometimes had to guess it because I didn't understand some difficult words.*	*I looked at the questions before reading the text. I skimmed or scanned the text to get the best answer. I sometimes used my grammatical knowledge to choose the best answer.*

Questions	Subjects	Pre-course Interview	Post-course Interview
	13	*I guessed some of the answers that I couldn't understand the questions containing unfamiliar words like "inferred, refer to".*	*I read the questions before going through the text. Then, I chose the answer that was very relevant to the text.*
	14	*I guessed most answers since I didn't understand the texts and questions.*	*I read the questions before reading the text. If I couldn't understand any questions, I'd guess the answer that was possibly correct.*
	16	*I chose the answers containing the same words as those in the texts.*	*I read the questions before going through the text. I skimmed or scanned the text to find the needed answer.*

The above responses to Questions 2, 3, and 6 reveal that before the strategy training most of the subjects in the experimental group employed a quite small number of effective reading strategies e.g. reading every word around unknown words and skipping unknown words. They often approached every text in the same way. For instance, they read each text back and forth several times to understand everything in each text regardless of whether it was relevant to the questions or not. In other words, they generally read in detail without specific purposes; they read every word in each text and did not read questions before going through the whole texts. Besides, they seemed unable to cope with unknown words which usually led them to guess a lot of answers. This made their reading ability unsatisfactory.

Interestingly, after they were trained with specific reading strategies, they attempted to utilise or apply the strategies to tackle the texts in the reading test as well as possible. Some examples of the strategies they used were skimming, scanning, underlining or marking the text while reading, understanding the title or topic before reading, identifying reference words, skipping unknown words, using context clues, reading questions before starting to read the text in detail, using vocabulary, and grammatical knowledge in helping them choose the correct answers. Apparently, most of these strategies have been scarcely used before they were trained. It is possible to assume that through the reading strategy training, these students have developed metacognitive strategies, as can be seen from their responses to the interview in regard to choices of reading strategies, which they utilised to deal with the texts in the post-test. This enables them to employ more effective reading techniques, which in turn, improves their English reading ability.

Although most of the subjects in the experimental group have a lot of changes in their English reading ability, some of them still have little success in dealing with the unknown words in the sentence and paragraph levels. Whenever the subjects could not translate an unknown word into Thai, they became rather worried about their reading comprehension. It seems hard to make them change their reading process in a relatively short period of time because they have been fossilised with a long-standing process of reading-translation instruction with the help of English-Thai dictionaries. This is in accordance with what is stated by Malinee Chandavimol (1998 : 31):

> English reading comprehension in Thailand has generally been based on the system of translating each sentence, word by word, into Thai rather than trying to read it as an English sentence, thinking about its meaning, and evaluating its relationship to other sentences."

In my opinion, this tends to make these subjects unable to become independent readers. That is, the students think that they cannot read successfully

without an English-Thai dictionary in hand. Another reason is that they may also have an insufficient repertoire of English words which inevitably obstruct the use of certain reading strategies, especially guessing word meanings from context. According to their responses to the post-course interview, some subjects reported that they had to read some texts repeatedly because of a large number of unknown words in those texts. It is quite certain that skills in guessing unknown words are still problematic and need more practice and training.

In conclusion, this study reveals that as a result of the reading strategy training, the subjects in the experimental group possess a better English reading ability, and in turn, they have many more positive changes in their attitudes towards reading in English than those in the control group. Thus, the hypotheses that the ability to read various text types of the students who were equipped with reading strategies would be greater than that of the students who were not, and that the attitudes towards reading in English of the subjects in the experimental group would change positively after the reading strategy training are both accepted ($p < 0.05$ and 0.01).

CHAPTER 5

SUMMARY, IMPLICATIONS AND RECOMMENDATIONS

This chapter summarises the study and provides readers with opportunities to consider the research findings in light of their implications for the teaching practices of EFL reading and recommendations for further research.

A Summary of the Study

Purposes of the Study

This study attempts to investigate:

1. Whether certain reading strategies enhance an ability to read in English as a foreign language.

2. The students' attitudes towards EFL reading before and after being equipped with reading strategies.

Statements of Hypotheses

The hypotheses put forward are that:

1. The ability of the students who were equipped with reading strategies to read a variety of text types would be greater than that of those who were not equipped with reading strategies.

2. The experimental group's attitudes towards EFL reading would change positively after the reading strategy training.

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Subjects

Subjects were 60 M.5 science-based students who were taking the fourth English Reading Course (ENG 025C) in the second semester of the 1998 academic year at Phromkiripittayakom School in Nakhon Si Thammarat Province. They were systematically and equally divided into the control and experimental groups based on their reading pre-test scores. That is, each subject group consisted of 10 males and 20 females.

Research Instruments

Three main types of research instruments were used in this study.

1. A test of **"the English Reading Ability"** constructed by the investigator was composed of 60 items (i.e. 40 multiple-choice questions, 10 gap-filling items and 10 modified cloze items) with only one correct answer and three other distractors in each item. The subjects were allowed to spend 90 minutes completing the test. The same test version was administered twice as the pre-test and post-test to both groups. Scores obtained were construed as the subjects' EFL reading ability. The difficulty indices of the test items ranged between 0.20 and 0.80, and the discrimination index of each item was ≥ 0.20. The reliability index of this test was 0.83.

2. A questionnaire on **"Student's Attitudes towards EFL Reading"** developed by Somchit (1987; cited in Nanta Chiramanee, 1992 : 450) was adapted and employed to investigate both groups' attitudes towards EFL reading before and after the instruction. The reliability index of this questionnaire was 0.71.

3. **An interview** was conducted with 16 subjects in the experimental group by the investigator. They were systematically selected by means of a 27% technique based on their reading pre-test scores. The main purpose of the

interview was to find out the subjects' self-reflection on their reading behaviour while taking the pre-test and post-test, as well as the change of reading strategies which were utilised both before and after the training.

Procedures

This study was conducted through the following steps:

1. A test of **"the English Reading Ability"** was constructed and modified by the investigator with the help of the thesis advisers and two other EFL instructors.

2. The test was piloted on 90 M.5 students at Kanlayanee Si Thammarat School in Nakhon Si Thammarat Province, for 90 minutes to test its validity and reliability.

3. All the items were statistically analysed to meet the needed values in terms of the item difficulty and discrimination indices. Some items with flaws were revised before being used in the main study.

4. Before the beginning of the instruction, the test was administered as the pre-test by the investigator to all 60 subjects with a total of 90 minutes. Scores obtained were recorded for each individual and as a group. Their pre-test scores were also used as a criterion to put the subjects into either the control or experimental group.

5. A questionnaire on **"Student's Attitudes towards EFL Reading"** was administered to assess the attitudes of the subjects in both groups before the commencement of this study by the investigator. The data were recorded for each individual and as a group.

6. Sixteen subjects in the experimental group were interviewed about their reading behaviour while taking the pre-test by the investigator. The data were recorded for each individual.

7. Both subject groups were taught differently by the investigator for a semester, a total time of 32 periods (50 minutes each) for each group. That is, the experimental group was equipped with reading strategies, while the control group was taught through reading procedures without the strategy training.

8. At the end of the semester, both groups' reading ability and attitudes towards EFL reading were re-assessed by means of the same test and questionnaire as the ones used before the commencement of the study by the investigator. The data were recorded in the same ways as the results obtained before the instruction.

9. The same 16 subjects in the experimental group were interviewed again about their reading behaviour while taking the post-test, as well as the changes of reading strategies used in dealing with the post-test after the training. The data were recorded in the same way as the pre-course interview.

10. Finally, all the data derived from the test of reading ability and questionnaires on students' attitudes towards EFL reading were statistically analysed through the application of arithmetic means, standard deviations and t-tests; the information obtained from the interview was qualitatively analysed.

Findings

In all cases, the findings are consistent with the hypotheses of this study and with the findings of previous researchers whose work has been mentioned and reviewed in earlier chapters. The findings of this study can be summarised as follows:

1. The English reading ability of both subject groups was significantly different after the use of two different teaching methods ($p < 0.05$). That is, the ability of the subjects who were equipped with reading strategies was greater

than that of the subjects who were taught through reading procedures without the reading strategy training.

2. The attitudes towards EFL reading of the subjects in the experimental group have changed positively after the strategy training. The dramatic changes in their attitudes before and after the strategy training were significantly different ($p < 0.01$).

3. Both groups' attitudes towards EFL reading have changed positively after the use of two different teaching methods. However, the experimental group had more positive attitudes towards EFL reading than the control group. The changes of their attitudes towards EFL reading made a statistical difference ($p < 0.01$).

4. There have been considerable changes in the experimental group's responses to the interview before and after the reading strategy training. That is, after the training the experimental group has learnt how to apply more effective reading strategies to deal with texts in the post-test, while this was not the case in the pre-course interview. They have also recognised the importance and benefits of the reading strategy training.

Implications for EFL Reading Instruction

There are four major implications which can be drawn from the findings of this study. They are as follows:

1. It is essential for EFL teachers to always realise that reading strategies can be taught to students, at least to those in the upper secondary school level as shown in this study.

2. It is beneficial to students being equipped with reading strategies, which enable them to become more efficient readers.

3. A variety of text types and reading activities, as well as the strategy training can enhance better reading ability, which in turn lead to positive attitudes towards EFL reading, or vice versa. Thus, EFL teachers should provide students with reading strategies through various text types from different sources and activities in the reading class.

4. The reading strategy training can be one of the key tools to prepare students to deal with different reading texts in English.

Recommendations for Further Research

Based on the findings of this study, some recommendations for further research are proposed as follows:

1. Since this study was conducted with one group of upper secondary students at a particular teaching and learning context by only one EFL teacher for a semester, one way of confirming the results of this study would be to replicate the experiment with EFL teachers and groups of students who are in different educational levels or fields of studies in Thailand.

2. Since this study was chiefly aimed at investigating whether the reading strategy training enhances students' EFL reading ability, further study should find out what reading strategies in each reading phase are the most effective ones for most Thai students.

3. According to the interview results, it can be assumed that guessing the meaning of unknown words from the context is still problematic for many Thai students. Therefore, students should have more training in this particular strategy.

4. To get more in-depth information about the students' EFL reading process, other data collection methods e.g. protocols, journal writing, and thinking aloud should be utilised for further research.

5. Because of time constraint, some intervening variables e.g. gender, age, language aptitude, learning styles, and socio-economic factors were not taken into account in this study. Further research should include these variables to see whether they will affect the EFL reading ability.

6. Since there was only one test version administered as the pre-test and post-test in this study, a parallel test should be employed as a post-test in a further study to avoid students' recognition which may affect the result of the post-test.

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APPENDIX A

TEST OF ENGLISH READING ABILITY

Level: M.5 secondary school students (science-based students)

Time: 90 minutes

Total score: 60 marks

Directions: Read the following texts, and then choose the best answer to each question by marking (X) on the number of your choice (1, 2, 3, or 4) on your answer sheet.

Text 1

> **WATCH YOUR STEP!**

1. What is the main purpose of this notice?

    1. To warn someone to be careful

    2. To give information to someone

    3. To report something to someone

    4. To ask someone to do something

2. Where is this notice often found?

    1. In a lift

    2. At a car park

    3. In a bathroom

    4. At the foot of the stairs

Text 2

```
EMERGENCY NUMBERS
Police
F.B.I. ............................................ PE7-1001
Foxcroft Police ............................... 224-3600
Fire
Foxcroft Fire Dept. ..........................224-7100
Ross County Fire Co..........................279-1212
Emergency Services
Central Medical Centre .................... PE7-7070
Foxcroft Hospital .............................224-9000
Foxcroft Rescue Squad .....................229-4317
Poison Information ...........................229-6504
Telephone
Business office (weekdays) ...............PE7-1234
Emergency repair .............................PE7-7000
```

3. If one of your roommates ate a bowl of noodles and he or she was allergic
   to them, what number would you call?

   1. 224 - 3600

   2. 224 - 7100

   3. 229 - 6504

   4. PE7 –7000

4. If you were in Foxcroft, what number would you call to report that your
   house was broken into?

   1. 224 - 3600

   2. 224 - 7100

   3. 229 - 4317

   4. PE7 - 7000

Text 3

Contents

Monday August 17, 1998

Open a New World of English with Student Weekly

5. On what page would you find the news headed "**School to Close for the Asian Games**"?

   1. Page 4

   2. Page 5

   3. Page 6

   4. Page 25

6. If you want to communicate with an overseas friend by letter, on what page would you find his/her address?

    1. Page 7

    2. Page 9

    3. Page 13

    4. Page 19

7. If you want to know a forecast of events that will happen to you in a week, on what page would you read it?

    1. Page 6

    2. Page 9

    3. Page 11

    4. Page 12

8. According to **Text 3**, which of the following may *NOT* be true?

    1. The column "**Quiz Time'** may appear on page 25.

    2. The column "**Songs and Fun**" is likely to appear on page 23.

    3. The information about "**Conditions, application, prizes, etc.**" is likely to appear on page 19.

    4. A few pieces of writing on different topics showing the writers' opinions may appear on page 8.

Text 4

<table>
<tr>
<td colspan="3" align="center">GOING OUT OF BUSINESS
BARGAINS! BARGAINS! THE SHOE BOX FINAL CLEARANCE</td>
</tr>
<tr>
<td><u>ALL WOMEN'S SHOES</u>

           Now
Reg. to 10.00 $6.00
10.00 to 17.99   8.00
18.00 up   12.00</td>
<td>LAST 10 DAYS

SALE HOURS DAILY

9:30 A.M. TILL 9 P.M.

Sunday 11 to 4</td>
<td><u>ALL CHILDREN'S
SHOES</u>

           Now
Reg. to 9.00 $5.00
9.00 to 17.00   8.00
18.00 up   12.00</td>
</tr>
<tr>
<td>ALL SANDALS Now 40% OFF | ALL SNEAKERS 40% OFF</td>
<td>ALL HANDBAGS Now 50% OFF | ALL SLIPPERS Now 50% OFF</td>
<td>MEN & WOMEN'S LEATHER SHOES 50% OFF</td>
</tr>
<tr>
<td align="center">Pi 5-7626</td>
<td align="center">Ample Free Parking</td>
<td align="center">LIC. NO. 3413</td>
</tr>
</table>

9. What is the main reason for the sale?

    1. The store is going to close its business.

    2. The store is offering big bargains of shoes.

    3. The store is clearing out old stocks of shoes.

    4. The store is providing a yearly clearance sale.

10. According to the sale, how much will a mother pay for two pairs of children's shoes that used to cost $10.00 each?

    1. $6.00

    2. $8.00

    3. $16.00

    4. $20.00

11. According to **Text 4**, which of the following is *NOT TRUE?*

    1. It is open both on weekdays and at weekend.

    2. The items on sale are different kinds of shoes only.

    3. The sale at the Shoe Box will continue for ten days only.

    4. Men & women's leather shoes are being sold half prices.

Text 5

OIL OF ULAN FOAMING FACE WASH

    Oil of Ulan Foaming Face Wash is a 100% soap-free and oil-free cleanser. It cleans thoroughly without irritating your skin like soap can. And it contains a light Ulan moisturiser to help maintain your skin's moisture balance. Your skin is left feeling clean, yet soft and youthful looking.

    TO USE: Squeeze a small amount onto your palm and lather with water. Gently massage on face, then rinse thoroughly. After cleansing, use Oil of Ulan Moisturiser to reduce fine lines for younger looking skin.

Dermatologist tested. For all skin types.

Gentle enough to use twice daily.

---

12. Which of the following is *NOT* one of the qualities of Oil of Ulan Foaming Face Wash?

    1. Feeling clean after use

    2. Balancing the skin's moisture

    3. Cleansing the face thoroughly

    4. Maintaining the oil on the face

13. What are the correct steps of using this product?

    1. Squeeze - massage - rinse - cleanse

    2. Squeeze - lather - massage - rinse

    3. Squeeze - massage - cleanse - rinse

    4. Squeeze - massage - rinse – moisturise

14. Who can use this product?

    1. Dermatologists

    2. Young people

    3. Ladies only

    4. Everyone

Text 6 (A – K)

15. Which advertisement is for anyone who is looking for a place to live?

    1. B

    2. D

    3. F

    4. I

16. Which advertisement is for anyone who really enjoys the stage performance?

    1. B

    2. E

    3. H

    4. J

17. Which of the following advertisements is *NOT* related to the heading **"PERSONNEL WANTED"**?

    1. A

    2. F

    3. G

    4. I

18. Based on **Text 6**, which of the following is *NOT CORRECT*?

    1. Wilai wants to have her own car, so she should dial **589-9252**.

    2. Mr. Wilson wants to teach English, so he should dial **233-7727-8**.

    3. Pete wants to eat out with his girlfriend, so he should dial **260-0603**.

    4. Anong wants to her son to learn English, so she should dial **258-6860**.

Text 7

> **Indications** : Expectorant and relief of coughs due to common cold or bronchitis.
>
> **Directions for use** :
>> **Adults** : 1-2 tsps every four hours.
>> **Children** Age 12-18 yrs. : 1 tsp every four hours.
>> Age   4-12 yrs. : 1/2 tsp every four hours.
>> Under 4 yrs.   : See your doctor.
>> **NO REFILL**
>>
>> **Exp. date 10/99**

19. According to this label, how often should **you** take this medicine?

    1. Four times a day

    2. Five times a day

    3. Six times a day

    4. As often as you want

20. What does the children's dosage depend on?

    1. Their ages

    2. The time of the day

    3. The doctor's prescription

    4. The number of teaspoonfuls

21. Which of the following statements is *NOT TRUE* according to the medicine label?

    1. This medication is in the form of a liquid.

    2. This medicine may be dangerous for small children.

    3. The maximum dosage that should be taken by an adult is 12 tsps a day.

    4. The maximum dosage that should be taken by an 8-year-old boy is 6 tsps a day.

22. Supposing that **you** have just taken the first dose of this medication at 09.45 a.m., at what time can **you** take the next one?

    1. At 12.15 p.m.

    2. At 01.45 p.m.

    3. At 02.10 p.m.

    4. At 03.45 p.m.

23. For whom is this medication recommended?

    1. Anyone who has a headache and a runny nose.

    2. Anyone who needs the relief of allergy to the cold weather.

    3. Anyone who has a common illness affecting the nose or throat or both.

    4. Anyone who is suffering from a fever, a sneeze, and nasal congestion.

Text 8

> Sao Paulo – At least 53 people were killed and 39 injured on Tuesday when two buses collided with a tanker truck on the Anhanguera highway near Araras, 176 km north of Sao Paulo. The buses, carrying about 100 passengers on a religious pilgrimage, collided with a tanker truck, which had lost control, sparking a fire on the highway, eyewitnesses told CBN radio. – AFP

24. What would be the best headline of the news item?

    1. Bus Accident on Highway

    2. Tanker Truck on Fire on Highway

    3. Buses Crashed into Truck, Killing 53

    4. 100 Killed and Injured in Road Accident

25. Which of the following is *NOT TRUE* about the news?

    1. The bad accident was reported to CBN radio.

    2. There were at least 92 victims suffering from the accident.

    3. The accident resulted from the collision between two buses and a tanker truck.

    4. The bus drivers could not control their buses because of the fire caused by the tanker truck.

Text 9

Dear Editor,

    I have a big problem about speaking English with foreigners. I'm so shy and nervous. Maybe it's because I'm afraid that I will say something wrong, or my grammar will be poor. Perhaps I'm afraid they will laugh at me.

    I compare myself to some foreigners who speak Thai. Their accent is funny, so I think I must have a funny accent when I speak English. In fact, I'm really shy to communicate with people, both Thais and foreigners. Do you have any suggestions?

    Pongsak Sawtongkum,

    Thatago, Nakhon Sawan.

---

26. Why did Pongsak write this letter?

    1. To ask for some advice from the editor

    2. To reveal his big problem to the readers

    3. To share his ideas about speaking English with foreigners

    4. To express his attitudes towards foreigners who can speak Thai

27. Which of the following is *NOT TRUE* about Pongsak?

    1. He feels very excited when talking to other people.

    2. His English accent is as good as foreigners' Thai accent.

    3. He is afraid of making mistakes when speaking English.

    4. He is unwilling to speak in the presence of other people.

28. What would be the most suitable title of this letter?

    1. Fun with English!

    2. Funny English Accent!

    3. A Big English Problem!

    4. English Communication!

29. What can be inferred from the letter about Pongsak?

    1. He lacks self-confidence in speaking.

    2. He often compares his English accent with foreigners'.

    3. He wants to improve his speaking skills but not other skills.

    4. He thinks the accent is the most important thing in speaking English.

30. What is the main point of this letter?

    1. Pongsak gets nervous if someone laughs at him when he talks.

    2. Pongsak has a big problem when talking to foreigners in English.

    3. Pongsak cannot speak English well because of his funny accent.

    4. Pongsak cannot communicate with foreigners because of his poor English.

Text 10

A drug is a chemical that affects the way the body works and is used to treat diseases.

There are many different kinds of drugs and they affect the body in (31) ways. Some drugs, such as vitamins, may supply chemicals the body needs to (32) properly. Some (33) work on the entire body. Some drugs work on just one part of the body, such as the central nervous system, which is made up of the (34) and the spinal column. Among the kinds of drugs that (35) the central nervous system are tranquillisers, which relax a person, stimulants, which (36) a person, and pain killers, which stop a person from feeling pain.

Some drugs do not work on the body itself. They (37) germs that enter the body and (38) diseases.

Drugs can be (39) if they are taken too often or in too large a dose. The drug (40) results from a particular drug being taken too often by a person. This kind is well known as a habit-forming drug. When that person becomes an addict, he or she will feel sick unless he or she keeps on getting this drug.

31. 1. some 2. certain 3. different 4. particular	32. 1. help 2. work 3. expand 4. develop	33. 1. drugs 2. people 3. systems 4. vitamins	34. 1. back 2. brain 3. nerves 4. tissues
35. 1. support 2. change 3. supply 4. affect	36. 1. excite 2. frighten 3. interest 4. surprise	37. 1. cure 2. take 3. make 4. fight	38. 1. influence 2. change 3. cause 4. fight
	39. 1. useful 2. harmful 3. plentiful 4. wasteful	40. 1. addiction 2. invention 3. production 4. consumption	

Text 11

| How can you avoid AIDS? |

It is fairly simple to avoid AIDS, even if some people find it hard to change their behaviour. Many people are not at risk : They do not have sex with casual acquaintances or commercial sex workers, nor do they have multiple sex partners. For someone to be as safe as possible, he or she should stay with one sexual bedfellow, who is faithful to them and not infected.

If men have more than one sexual (41), they should use condoms when they have (42). Women should make sure that their partners (43) condoms. Remember, condom use alone isn't 100% (44). A properly used condom, however, can significantly (45) your chances of HIV infection.

Also, to (46) AIDS, needles and syringes should always be (47). Any instrument that comes into contact with (48), e.g. ear piercing needles, razor blades and (49) should be made free from bacteria.

Finally, (50) e.g. alcohol, amphetamines are known to impair judgement and create situations that may put individuals at risk for HIV infection. Being aware that one's behaviour is very important. Therefore, drug use must be checked to insure safe practices. Being under the influence of a drug, especially alcohol has been known to raise risk factors towards HIV infection.

41. 1. relationship 2. practice 3. member 4. partner	42. 1. sex 2. HIV 3. need 4. love	43. 1. buy 2. wear 3. have 4. order	44. 1. clean 2. good 3. safe 4. fit
45. 1. risk 2. reduce 3. increase 4. maintain	46. 1. ban 2. stop 3. avoid 4. spread	47. 1. burned 2. sterilised 3. destroyed 4. pasteurised	48. 1. blood 2. head 3. liquid 4. alcohol
	49. 1. hairdryers 2. hairnets 3. rollers 4. scissors	50. 1. drugs 2. drinks 3. tonics 4. liquids	

Text 12

One of the most successful entertainers today is Madonna. She is one of the world's top pop singers and has sold millions of records. But who is Madonna?

Madonna Louise Veronica Ciccone was born into a large family in Michigan, U.S.A., in 1958. Even as a child she had many **talents.** At the age of eight, she acted in a friend's homemade film. She also appeared in high school plays and gradually became interested in dancing. After graduation, she went to the University of Michigan for some time.

Shortly after that, she left for New York and arrived with only $35 in her pocket. She worked with dance groups for some time and then began to get interested in pop music. She learned to play the guitar and write songs. She began to develop her own musical style, mixing the sounds and rhythms of rock'n' roll, pop, and dance music. Then, in 1983, she produced a record of her own. it was called *Madonna.*

This first album attracted the attention of disc jockeys and dance clubs. By 1984, it was known across the U.S.A. She quickly became recognised as one of the pop talents in popular music. More successful records followed, as well as national and world tours. Young people around the world loved her songs like "Vogue" and "Like a Virgin," and they bought millions of copies. Since then, Madonna has continued to record successful hit songs and videos, and she has also starred in several movies. But for many people, she is still the Queen of Pop.

51. What is the main idea of this text?

    1. Why Madonna has sung pop songs until now.

    2. How Madonna entered the world of entertainment.

    3. How Madonna has been very successful in her life.

    4. Why Madonna's records have been sold everywhere in the world.

52. Which of the following is *NOT* one of Madonna's **talents**?

    1. She starred in several movies.

    2. She performed high school plays.

    3. She performed dancing in her music videos.

    4. She studied at the University of Michigan for a while.

53. Which of the following **four** events happened to Madonna in the **second** order?

    1. She created her own musical style.

    2. She performed on the stage worldwide.

    3. She became a university student for a period of time.

    4. She produced a record of her own called *Madonna.*

54. What would be the best title for this text?

    1. A Hot Dancer!

    2. A Successful Girl!

    3. A Talented Musician!

    4. A Popular Movie Star!

55. What would be the author's main purpose of this text?

    1. To describe Madonna's talents

    2. To promote Madonna's albums

    3. To reveal Madonna's real history

    4. To interest disc jockeys and dance clubs

56. What is the author's attitude towards Madonna?

    1. Critical

    2. Admiring

    3. Humorous

    4. Indifferent

Text 13

1   We say the water evaporates. But what does this mean? Evaporation is the process by which a liquid that is exposed to air gradually becomes a gas or vapour. Many liquids evaporate quite quickly, much quicker than water. This is true of alcohol, petrol and ammonia. Some liquids, such as

5   mercury, evaporate very slowly.

What causes evaporation? To understand this, we must know something about the nature of matter. As we know, every substance is made up of molecules. Two forces are at work on these molecules. One is cohesion, which draws **them** together. The other is the heat motion of the individual

10   molecules, which makes them fly apart.

When the force of cohesion is stronger, the substance is a solid. When the heat motion is so strong that it overcomes cohesion, the substance is a gas. When the two forces are balanced fairly evenly, we have a liquid.

Water, of course, is a liquid. But on the surface of the liquid, there are

15   molecules that are moving so quickly that they fly into space and escape the force of cohesion. This process of escaping molecules is evaporation.

Why does water evaporate more quickly in sunshine or when heat is applied? The greater the heat, the more heat motion there is in the liquid. This means more molecules will have enough speed to escape. When the

20   fastest molecules escape, the average speed of those left behind is lowered. So the remaining liquid is cooled by evaporation.

57. What would be the author's main purpose?

1. To give facts about molecules of some liquids

2. To give examples of the molecules of some liquids

3. To explain the evaporation of some liquids, especially water

4. To compare the speed of evaporation of some liquids, including water

58. What does the word " **them** " (line 9) refer to?

1. Two forces

2. The liquids

3. The substances

4. The molecules

59. What can be inferred from the text about water?

1. Evaporation does not occur if there is no water.

2. The water evaporation usually happens when the weather is rather hot.

3. When water dries up, it has become a gas or vapour and part of the air.

4. Different kinds of water turn into vapour at different levels of speed.

60. In what kind of fundamental textbooks would this text most likely be found?

1. Physics

2. Biology

3. Ecology

4. Chemistry

%%%%%%%%%%%%%%%%%%

END OF THE TEST

APPENDIX B

THE TWO GROUPS' PRE-TEST AND POST-TEST SCORES

The Control Group			The Experimental Group		
Testee No.	Total Score = 60 marks		Testee No.	Total Score = 60 marks	
	Pre-test	Post-test		Pre-test	Post-test
1.	30	37	1.	30	47
2.	28	30	2.	27	38
3.	27	27	3.	27	40
4.	25	18	4.	26	28
5.	24	21	5.	25	41
6.	24	22	6.	23	42
7.	22	27	7.	22	36
8.	21	32	8.	20	35
9.	18	22	9.	19	24
10.	18	17	10.	18	29
11.	17	23	11.	17	21
12.	17	18	12.	17	37
13.	17	19	13.	16	22
14.	16	22	14.	16	29
15.	16	35	15.	16	19
16.	15	33	16.	15	27
17.	15	25	17.	14	15
18.	14	20	18.	14	22
19.	14	34	19.	14	22
20.	14	26	20.	14	15
21.	14	21	21.	14	18
22.	14	18	22.	14	25
23.	14	21	23.	14	18
24.	13	13	24.	13	31
25.	13	13	25.	13	17
26.	13	18	26.	13	27
27.	12	21	27.	13	28
28.	11	28	28.	11	24
29.	10	17	29.	11	16
30.	9	18	30.	8	23
Total	515	696	Total	514	816

APPENDIX C

THE ENGLISH READING ABILITY OF THE SUBJECTS
IN THE CONTROL AND EXPERIMENTAL GROUPS
BEFORE THE INSTRUCTION

Subjects	No. of Subjects	The Pre-test				df	t
		No. of Items	Highest Possible Score	Mean	S.D.		
The Control Group	30	60	60	17.17	5.51		
The Experimental Group	30	60	60	17.13	5.45	58	-.027[NS]

[NS] Non-significant

APPENDIX D

A QUESTIONNAIRE ON ATTITUDES TOWARDS
EFL READING FOR M.5 SCIENCE-BASED STUDENTS

Objective : This questionnaire is designed to get information about M.5 students' attitudes towards EFL reading. Please give as much information as you can. All the information will be kept confidential and would have no effect on your English grade at all.

Directions : Read the following items carefully and put a tick (√) under the level of agreement where is appropriate and relevant to what you feel about reading in English.

Levels of Agreement

5 = Strongly agree

4 = Agree

3 = Neutral

2 = Disagree

1 = Strongly disagree

Nos.	Statements	5	4	3	2	1
1.	The time allocated for the reading class should be increased.					
2.	Thai students do **not** need to learn how to read in English.					
3.	I am glad when there is **no** English reading class.					
4.	If I have free time, I like to read English texts.					
5.	Activities in reading classes reduce my self-confidence.					

Nos.	Statements	5	4	3	2	1
6.	I always look forward to the English reading class.					
7.	It is difficult to learn how to read in English.					
8.	English reading skills make me knowledgeable.					
9.	Activities in the English reading class lead to cooperation in solving problems and difficulties.					
10.	In my future study, I will **no longer** take the English reading course as my subject choice.					
11.	English reading skills enable me to do better in other subjects.					
12.	Educated people are **not** necessarily those with high English reading ability.					
13.	Learning to read in English is a waste of time.					
14.	English reading skills will be helpful in my higher studies.					
15.	English reading skills are **not** a necessity in getting a good job.					
16.	English reading skills help me understand more about the way of life of English-speaking people.					
17.	After attending the English reading class, I feel that there is more and more to learn about the world.					
18.	Better reading skills do **not** help me improve in my education.					
19.	Reading English texts makes me sleepy.					
20.	Activities in the English reading class make students more confident in expressing their ideas.					

Testee No. ❏ ❏

APPENDIX E

THE TWO GROUPS' ATTITUDES TOWARDS EFL READING

BEFORE THE INSTRUCTION

5 = Strongly agree, 4 = Agree, 3 = Neutral, 2 = Disagree, 1 = Strongly disagree

Nos.	Statements	The Control Group N = 30		The Experimental Group N = 30		df	t
		Mean	S.D.	Mean	S.D.		
1.	The time allocated for the reading class should be increased.	3.40	1.00	3.90	1.12	58	1.817*
2.	Thai students do **not** need to learn how to read in English. *	1.53	.90	1.30	.75	58	1.091^{NS}
3.	I am glad when there is **no** English reading class.*	2.97	1.00	3.30	.79	58	-1.430^{NS}
4.	If I have free time, I like to read English texts.	2.57	1.04	2.27	.83	58	-1.236^{NS}
5.	Activities in reading classes reduce my self-confidence. *	3.30	1.09	3.43	.94	58	-.509^{NS}
6.	I always look forward to the English reading class.	2.23	.82	2.20	.92	58	-.148^{NS}
7.	It is difficult to learn how to read in English. *	3.60	1.04	3.67	1.09	58	-.242^{NS}
8.	English reading skills make me knowledgeable.	4.50	.73	4.37	.93	58	-.618^{NS}
9.	Activities in the English reading class lead to cooperation in solving problems and difficulties.	3.63	.85	3.37	.67	58	-1.350^{NS}
10.	In my future study, I will **no** longer take the English reading course as my subject choice. *	2.70	.95	2.53	1.04	58	.647^{NS}

Nos.	Statements	The Control Group N = 30		The Experimental Group N = 30		df	t
		Mean	S.D.	Mean	S.D.		
11.	English reading skills enable me to do better in other subjects.	3.67	.96	3.60	.89	58	-.278 NS
12.	Educated people are **not** necessarily those with high English reading ability. *	1.67	.80	1.83	.83	58	-.789 NS
13.	Learning to read in English is a waste of time. *	1.70	.70	1.67	.88	58	.162 NS
14.	English reading skills will be helpful in my higher studies.	4.60	.81	4.60	.81	58	.000 NS
15.	English reading skills are **not** a necessity in getting a good job.*	1.57	.77	1.70	.79	58	-.659 NS
16.	English reading skills help me understand more about the way of life of English-speaking people.	4.00	.83	4.13	.68	58	.680 NS
17.	After attending the English reading class, I feel that there is more and more to learn about the world.	4.47	.57	4.13	.90	58	-1.713 NS
18.	Better reading skills do **not** help me improve in my education. *	1.67	.84	1.50	.73	58	.817 NS
19.	Reading English texts makes me sleepy. *	3.33	.88	3.17	.95	58	.703 NS
20.	Activities in English reading class make students more confident in expressing their ideas.	3.90	.96	3.60	.62	58	-1.437 NS

* Significant at 0.05 level

NS Non-significant

N.B. The asterisk (*) marks a negative attitudinal item.

APPENDIX F

COMPARISON OF MEAN SCORES ON ATTITUDES TOWARDS EFL READING ACROSS TWO GROUPS BEFORE THE INSTRUCTION

Attitude Types	No. of Items	Groups				df	t
		The Control N = 30		The Experimental N = 30			
		Mean	S.D.	Mean	S.D.		
Positives	10	36.97	3.36	36.17	3.58	58	-.892 [NS]
Negatives	10	24.03	3.68	24.10	3.59	58	-.071 [NS]

[NS] Non-significant

APPENDIX G

QUESTIONS FOR INTERVIEW BEFORE AND AFTER
THE READING STRATEGY TRAINING

1. Have you ever experienced the same text types as those in the test? If not, why?

2. How did you read the texts (both short and long) in the test?

3. Did you know the meaning of every word in each text? If not, what did you do?

4. Did your background knowledge help you deal with certain texts? How?

5. Did you understand all questions in the test? If not, why?

6. How did you get your answer to each question?

7. Do you like the texts in the test? Why or why not?

8. Did you finish your test within the time limit (90 minutes)?

9. What do you think about your test results?

10. What do you think about the reading strategy training? *

N.B. * *It was not used for the interview for the pre-test.*

APPENDIX H

QUESTIONS FOR INTERVIEW BEFORE AND AFTER
THE READING STRATEGY TRAINING
(THAI VERSION)

คำถามสำหรับการสัมภาษณ์ก่อนและหลังการฝึกกลวิธีในการอ่าน

1. คุณเคยมีประสบการณ์เกี่ยวกับบทอ่านต่างๆที่เหมือนกับบทอ่านในแบบทดสอบชุดนี้หรือไม่ ถ้าไม่เคยมี เพราะสาเหตุใด

2. คุณอ่านบทอ่าน (ทั้งขนาดสั้นและยาว)ในแบบทดสอบชุดนี้อย่างไร

3. คุณทราบความหมายของคำทุกคำในบทอ่านแต่ละบทหรือไม่ ถ้าไม่ทราบ คุณทำอย่างไร

4. ความรู้เดิมช่วยคุณในการอ่านบทอ่านบางอย่างหรือไม่ อย่างไร

5. คุณเข้าใจคำถามทุกข้อในแบบทดสอบชุดนี้หรือไม่ ถ้าไม่เข้าใจ เพราะสาเหตุใด

6. คุณได้คำตอบสำหรับคำถามของแต่ละข้ออย่างไร

7. คุณชอบบทอ่านต่างๆในแบบทดสอบชุดนี้หรือไม่ ทำไมชอบหรือทำไมไม่ชอบ

8. คุณทำแบบทดสอบชุดนี้เสร็จภายในเวลาที่กำหนด (90 นาที) หรือไม่

9. คุณคิดอย่างไรเกี่ยวกับผลการสอบของคุณ

10. คุณคิดอย่างไรเกี่ยวกับการฝึกกลวิธีในการอ่าน*

หมายเหตุ *คำถามข้อนี้ไม่ได้ใช้ในการสัมภาษณ์นักเรียนหลังจากทำแบบทดสอบก่อนเรียน

APPENDIX I

THE FORMULAE OF THE STATISTICAL ANALYSES

1. Computation of Arithmetic Mean ($\bar{x}$)

$$\bar{x} = \frac{\Sigma X}{N}$$

Where $\bar{x}$ = the mean

Σ = the sum of scores

X = the scores

N = the number of testees

2. Computation of Standard Deviation (S. D.)

$$SD = \frac{\Sigma (X - \bar{x})^2}{N - 1}$$

Where SD = standard deviation

X = the scores

$\bar{x}$ = the mean of the scores

Σ = the sum of scores

N = the number of testees

3. Computation of the Facility Value (F.V.) or Item Difficulty

$$FV = \frac{R}{N}$$

Where FV = the index of difficulty or facility value

R = the number of correct answers

N = the number of testees

4. Computation of the Discrimination Index (D. I.)

$$DI = \frac{Correct\ U - Correct\ L}{NU}$$

Where   DI = discrimination index

Correct U = the number of testees in the upper group getting the item right

Correct L = the number of testees in the lower group getting the item right

NU = the total number of the testees in the upper group

5. Computation of Reliability of the Test

$$KR_{20} \Rightarrow R_{tt} = \frac{k}{k-1}\left[1 - \frac{\Sigma pq}{S^2}\right]$$

Where R_{tt} = the KR 20 reliability index

k = the number of items in the test

S^2 = the variance of the test scores

p = the proportion of testees who pass the item

q = the proportion of testees who fail the item

Σ = the sum of

6. Test of Significance of the Difference between Two Groups' Mean Scores

Independent t-test

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\dfrac{SD^2_1}{n_1} + \dfrac{SD^2_2}{n_2}}}$$

Where $\bar{x}_1$ = the mean score of group 1

$\bar{x}_2$ = the mean score of group 2

SD^2_1 = the variance of group 1's scores

SD^2_2 = the variance of group 2's scores

n_1 = the number of subjects in group 1

n_2 = the number of subjects in group 2

7. Test of Significance of the Difference between Two Means within the Same Group

Dependent t-test

$$t = \frac{\Sigma D}{\sqrt{\dfrac{N\Sigma D^2 - (\Sigma D)^2}{N-1}}}$$

Where Σ = the sum of

D = the difference of scores between the pre-test and post-test

N = the number of subjects within the same group

APPENDIX J

A SAMPLE LESSON PLAN (For the Experimental Group)

Lesson Plan No. 5

1. **Topic**: Taking Medicine

2. **Time**: 1 period (50 minutes)

3. **Level**: M.5 science-based students

4. **Focused Language Skills**: Reading

5. **Trained Strategies**:

   5.1 Pre-reading strategies:

   - Accessing prior knowledge
   - Making predictions based on previewing
   - Reading pre-text questions before going through the text
   - Skimming for general ideas
   - Scanning for specific information

   5.2 While-reading strategies:

   - Guessing the meaning of unknown words from the context
   - Underlining words, phrases or sentences in the text
   - Identifying reference words
   - Extracting the main idea of each paragraph

   5.3 Post-reading strategies:

   - Revising pre-reading expectations
   - Reviewing notes
   - Responding to the text or criticising it

6. **Learning Objectives**: The students are able to

   6.1 give meanings of the given vocabulary.

   6.2 identify main ideas.

   6.3 give specific information.

6.4 tell details and take notes.

7. **Text type & Source**: A text adapted form Foundation English 10111 (Revised Edition), Unit 9, P. 471, by Sukhothaithammathirat Open University.

8. **Language Contents**:

Vocabulary relevant to taking medicines:

- instructions	- directions
- harmful	- dangerous
- drugstore	- pharmacy
- tablets	- pills
- effects	- results
- prescription	- cure
- physician	- over-the-counter
- reaction	- rash

9. **Assumed Knowledge**:

9.1 Compound and complex sentences

9.2 Modal auxiliary verbs: *should* and *must* used for giving advice

9.3 The general knowledge about taking medicine

10. **Materials**:

10.1 Worksheets I – II

10.2 Samples of prescription medicines and over-the-counter medicines

11. **Procedures**:

11.1 **Warm-up Activities** (5 minutes)

(Whole class)

11.1.1 The objectives of this lesson are told to the students.

11.1.2 The students are asked about the following: ⇒ *Accessing prior knowledge*

- Have you ever been to hospital? When and why?

- How did your doctor help you feel better?

- What kind of medicines did you take?

- Have you ever had any problems after taking medicine? If so, what kind of problems?

- Have you ever bought medicines yourself?

- Where did you get such medicines?, etc.

11.1.3 The samples of medicines are shown to the class. ⇒ *Accessing prior knowledge*

11.2 **Presentation** (5 minutes)

(Pair work)

11.2.1 Each pair is asked to write words which they expect to see in the text under the topic "**Taking Medicine**" on a piece of paper. ⇒ *Making predictions*

11.2.2 The reading text is distributed to each pair, and they are asked to check their predictions with those in the original text in **Activity A in Worksheet I.** ⇒ *Revising pre-reading expectations*

11.3 **Practice** (15 minutes)

(Students work in group of 3)

11.3.1 Each group is asked to preview the questions in **Activity B in Worksheet I.** ⇒ *Reading pre-text questions before going through the text*

11.3.2 Each group is asked to read paragraphs 1 & 2 in **Activity A in Worksheet I,** and underline the sentences showing the main ideas of each paragraph. ⇒ *Underlining words, phrases or sentences in the text or marking the text*

11.3.3 Each group is asked to give their answers. ⇒ *Extracting the main idea of each paragraph*

11.3.4 Each group is asked to predict what the next paragraphs should be, together with their reasons. ⇒ *Making predictions based on previewing*

11.3.5 Each group checks their predictions with the text in **Activity A in Worksheet I.** ⇒ *Revising pre-reading expectations*

11.4 **Assessment** (25 minutes)

(Students work in group of 3)

11.4.1 Each group is asked to match the vocabulary with synonyms in **Activity A in Worksheet II.** ⇒ *Guessing the meaning of unknown words from the context*

11.4.2 Each group is asked to skim and scan the text again to answer the questions in **Activity A in Worksheet I.** ⇒ *Skimming for general ideas and scanning for specific information*

11.4.3 Each group checks their answers and/or discusses them with the teacher. ⇒ *Responding to the text*

11.4.4 Each group is asked to complete the note in **Activity B** in **Worksheet II.** ⇒ *Reviewing notes*

11.4.5 Each group exchanges their notes and corrects them. ⇒ *Reviewing notes*

11.4.6 Each group is asked to criticise the reading text. ⇒ *Criticising the text*

12. Extension Activity

(Group work)

The students may be asked to make a list of prescription and over-the-counter medicines, as well as some advice for drug users. Then, their work will be exhibited on the notice boards around the school.

APPENDIX K

A SAMPLE LESSON PLAN (For the Control Group)

Lesson Plan No. 5

Topic: Taking Medicine

1. **Time**: 1 period (50 minutes)

2. **Level**: M.5 science-based students

3. **Focused Language Skills**: Reading

4. **Trained Strategies**: -

5. **Learning Objectives**: The students are able to

    6.1 give meanings of the given vocabulary.

    6.2 identify main ideas.

    6.3 give specific information.

    6.4 tell details and take notes.

6. **Text type & Source**: A text adapted form Foundation English 10111 (Revised Edition), Unit 9, P. 471, by Sukhothaithammathirat Open University.

7. **Language Contents**:

Vocabulary relevant to taking medicines:

- instructions	- directions
- harmful	- dangerous
- drugstore	- pharmacy
- tablets	- pills
- effects	- results
- prescription	- cure
- physician	- over-the-counter
- reaction	- rash

8. **Assumed Knowledge**:

    9.1 Compound and complex sentences

9.2 Modal auxiliary verbs: *should* and *must* used for giving advice

9.3 The general knowledge about taking medicine

10. **Materials**:

    10.1 Worksheets I – II

    10.2 Samples of prescription and over-the-counter medicines

11. **Procedures**:

    11.1 **Warm-up Activities** (5 minutes)

    (Whole class)

    11.1.1 The objectives of this lesson are told to the students.

    11.1.2 The samples of medicines are shown to the class.

    11.1.3 The students are asked about the following:

    - Have you ever been to hospital? When and why?

    - How did your doctor help you feel better?

    - What kind of medicines did you take?

    - Have you ever had any problems after taking medicine? If so, what
kind of problems?

    - Have you ever bought medicines yourself?

    - Where did you get such medicines?, etc.

    11.2 **Presentation** (5 minutes)

    (Pair work)

    11.2.1 The reading text is distributed to each pair, and they are asked to do
Activity A in Worksheet I.

    11.2.2 Each pair is asked to look at the text and check the words they do not
know the meanings.

    11.2.3 The unknown words are explained to them.

    11.3 **Practice** (15 minutes)

    (Students work in group of 3)

    11.3.1 Each group is asked to read the whole text.

    11.3.2 Each paragraph is explained to students.

11.4 **Assessment** (25 minutes)

(Students work in group of 3)

11.4.1 Each group is asked to match the vocabulary with the synonyms in **Activity A** in **Worksheet II**.

11.4.2 Each group checks their answers with the teacher.

11.4.3 Each group is asked to answer the questions in **Activity B** in **Worksheet I**.

11.4.4 Each group checks their answers and/ or discusses them with the teacher.

11.4.5 Each group is asked to complete the note in **Activity B** in **Worksheet II**.

11.4.6 Each group exchanges their notes and corrects them.

12. Extension Activity

(Group work)

The students may be asked to make a list of prescription and over-the-counter medicines, as well as some advice for drug users. Then, their work will be exhibited on the notice boards around the school.

Name .... Surname .... Group ...... No. ....

Worksheet I

Activity A: Read the text below, and do as directed.

Taking Medicine

1   Medicine can be divided into two kinds – "prescription" medicines are medicines that you can buy only with a <u>prescription</u> written by a doctor. You must buy <u>them</u> in a drugstore, and the druggist must write the doctor's instructions on the bag or bottle. These <u>instructions</u> tell you how many pills to

5   take and how often to take them.

        Another kind of medicine is "<u>over-the-counter</u>" <u>medicines</u>. You can buy these directly from the drugstore. You don't need the doctor's prescription. That is, because these drugs are generally less strong than prescription drugs, and they work the same way for most people. They are

10 also usually less harmful than prescription drugs if you take too many of <u>them</u>.

        Basically, drugs are dangerous. They can produce a bad reaction in some people. They can make you sicker instead of healthier. So, you must be careful with all drugs. You should learn what to expect from the drug. You should know how quickly it will work. It should cure your sickness, and if <u>it</u>

15 doesn't, you must tell your doctor <u>at once</u>. If you have any bad <u>reaction</u>, such as pain or rash, you must see the doctor again.

        You should follow the directions when taking medicine. Take the same number of pills every day at the same time of day, before or after meals, as the directions say. You must finish the prescription. Stopping before you

20 finish the prescription, even if you feel better, may bring bad results.

Activity B: Answer the following questions.

1. According to the text, how many kinds of medicine are there?

2. What does the word "prescription" (line 2) mean?

3. What does the word "them" (line 3) refer to?

4. Which word in this text has the same meaning as the word "instructions" (line 4)?

5. How can you get prescription medicines?

6. What does "over-the-counter medicines" (line 6) mean?

7. Are prescription medicines stronger than over-the-counter ones? Why or why not?

8. What does the word "them" (line 10) refer to?

9. According to the text, what are medicines like in general?

10. What does the word "it" (line 14) refer to?

11. What does "at once" (line 15) mean?

12. What does the word "reaction" (line 15) mean?

13. What should you do if you have any problems resulting from drugs?

14. Why are the doctor's instructions very important?

15. According to the text, what will happen if you don't finish the prescription?

16. What is the writer's purpose in writing this text?

17. Who should be readers of this text?

18. Do you like this reading text? Why or why not?

Name .... Surname .... Group ..... No. ....

Worksheet II

Activity A: Match the words in Column A with their synonyms in Column B.   Write

only the letters a, b, c, etc. in the space provided.

	Column A		Column B
....	1. heal	a.	directions
....	2. doctor	b.	harmful
....	3. tablets	c.	at once
....	4. effects	d.	cure
....	5. medicine	e.	reaction
....	6. drugstore	f.	pills
....	7. dangerous	g.	results
....	8. instructions	h.	physician
....	9. immediately	i.	pharmacy
....	10. physical response	j.	drug

Activity B: Read only paragraphs 3 and 4 of the text, and then select the information

concerning advice for drug users to complete the note below.

Advice for Drug Users
A user:
1. must ....
2. should ....
3. .... if the drug does not cure the sickness.
4. .... if there are any bad reactions such as pain or rash.
5. .... when taking medicine.
6. .... the prescription.

VITAE

Name	Mr. Bunriddh Ravangvong
Date of Birth	2nd February, 1964
Place of Birth	Nakhon Si Thammarat, Thailand

Educational Attainment

Degree	Name of Institution	Year of Graduation
Bachelor of Arts in Education (English) Second Class Honours	Prince of Songkla University, Pattani, Thailand	1986
Graduate Diploma of Education in Teaching English to Speakers of Other Languages (TESOL)	University of South Australia, Adelaide, Australia	1994
Bachelor of Education (Educational Administration)	Sukhothaithammathirat Open University, Nonthaburi, Thailand	1996
Master of Arts (Applied Linguistics)	Prince of Songkla University, Songkhla, Thailand	2000

Work – Position and Address

Position	Address	Year
EFL teacher	Department of English, Janprapas-anusorn School, Yala, Thailand	1986-1990
EFL teacher	Department of English, Phromkiripittayakom School, Nakhon Si Thammarat, Thailand	1990-1997
Teaching assistant	Department of Languages and Linguistics, Faculty of Liberal Arts, Prince of Songkla University, Songkhla, Thailand	1997-2000