AN INVESTIGATION OF EXPLICIT STRATEGY

INSTRUCTION ON EFL READING OF

UNDERGRADUATE ENGLISH MAJORS IN THAILAND

by

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A thesis submitted to the University of Bedfordshire in partial fulfilment

of the requirements for the degree of Doctor of Philosophy

August 2012

An investigation of explicit strategy instruction on EFL reading of undergraduate English majors in Thailand

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ABSTRACT

As academic and professional knowledge is available around the world through publications in English, the ability to read in English is now widely seen as an essential basic skill for university graduates in countries, like Thailand, where English is a foreign language. However, students often fail to reach a level of reading ability that allows them to read these publications with confidence. It is important that instruction in Reading skills should be improved.

It has been claimed that instruction in the use of reading strategies is helpful in improving the reading skills of EFL learners. Research has suggested that explicit instruction can be particularly valuable. This thesis investigates the reading strategies used by Thai university students and investigates whether a short course based on explicit reading strategy instruction can be effective in encouraging the use of strategies and improving reading skills for Thai university students.

Based on a literature review on Reading strategy instruction, a framework was developed and applied in the adaptation of a set of materials for use in providing English major Thai university students with explicit instruction in the use of reading strategies. The following research questions were investigated:

What are the reading strategies that Thai undergraduate English major students employ in the EFL reading process?

Does reading strategy instruction affect students' use of reading strategies in English?

How much improvement do the students show on measures of reading performance after receiving a programme of reading strategy instruction?

In a quasi-experimental research design, one class of fifteen students, the Experimental group, was given a twelve-week course in Reading that included explicit instruction in reading strategies while a second group of thirteen students (matched for background characteristics), the Control group, was given a parallel course that did not include explicit strategy instruction.

Both quantitative and qualitative comparisons were made. Students were given reading tests and responded to questionnaires about their use of strategies at the beginning and end of their courses. They were also interviewed and performed think-aloud verbal protocols in which they reported in their use of reading strategies as they carried out reading tasks.

Participants in the Experimental group reported using a wider range of strategies than those in the Control group following instruction and generally made greater improvements in their reading test scores. The findings support the value of explicit instruction in reading strategies for Thai university students. However, concerns remain about Thai students reliance on translation and slow, careful reading even following instruction in more strategic approaches.

DECLARATION

I declare that this thesis is my own unaided work. It is being submitted for the degree of PhD at the University of Bedfordshire.

It has not been submitted before for any degree or examination in any other university.

Name of candidate: Burana Khaokaew   Signature:

Date: August 2012

ACKNOWLEDGEMENT

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CHAPTER 1   INTRODUCTION

This chapter consists of two main parts. The first part presents the context of English language teaching and learning in Thailand over the past 25 years, particularly the local context for the study: the *Reading I* course offered to English major students on the *English for International Communication* Programme (EIC) at Rajamangala University of Technology, Isan (RMUTI). 'Isan' is the north-eastern area of Thailand. The second part of this chapter presents the rationale and purpose of the study.

1.1 The Context of EFL Teaching and Learning in Thailand

1.1.1 Historical and Socio-cultural Status of the English Language in Thailand

English has long been the most widely-taught foreign language at formal educational institutions and language schools in Thailand. English is also used as a medium of instruction at bilingual schools, international schools and colleges, and on international programmes at undergraduate and graduate levels at both public and private universities.

Education in Thailand is mainly provided by the Thai government through the Ministry of Education. Government attitudes towards English and the policies resulting from these have influenced the nature of the teaching and learning of English in Thailand in particular ways.

The Thai language is used as the medium of instruction at all levels of education and training across the country. This reflects the Thai people's pride in their national language and the country's history of never having been colonized by a European power (Gonzalez 1994; Wongsothorn et al 1996; Srisa-an 1998). In the education system, English is identified as a 'first foreign language' rather than as a 'second language' and has official recognition as a language of government. English has the status of a second language in the neighbouring country of Malaysia, a former British colony. Mainly as a result of this difference, levels of English ability in Malaysia are generally higher than in Thailand.

The teaching and learning of English in Thailand began in the late nineteenth-century with the establishment of private mission schools teaching English to commoners 'beyond the palace' (Ministry of Education 1996a). Western-style primary schools, with English included on the curriculum, were gradually established around the kingdom, replacing the traditional Buddhist monastery education (Ministry of Education 1996a). In the twentieth century, Thais were encouraged to study English as the international language of science, technology, aviation, business and international relations (Ahulu, 1997).

Since the economic crisis of 1997, the Thai government has further emphasized the role of English for the economic survival of the country. There has been a higher demand for Thais to acquire English for specific purpose (ESP) language skills, particularly in the banking and financial sectors considered necessary for strengthening the economy (McMurray 1998).

The relationship between wider social and economic trends and the growth of English as a world language has been widely discussed. Graddol (1997; 2000; 2006), for example, recognizes the global position of English and forecasts the development of the role of the English language in the world in the 21st century. He claims that English is at the centre of many globalization mechanisms and that its future in Asia is likely to be closely associated with future patterns of globalization. In particular, he points to the importance of English in economic development and participation in the world economy.

Crystal (1997) emphasizes that English language achieves a truly global status when it develops a special role in every country. One way in which English can achieve this special role is when it is made a priority in a country's foreign language teaching policy. It may have no official status, but it is nonetheless the language which children are most likely to encounter when they arrive in school, and the one most available to adults in further education. This is the current situation in Thailand.

Smith (1988), Eskey (1989), and Srisa-an (1998) have predicted that the role of English in Thailand will be even greater in the 21st century, due to the rapid development of computer and communication technologies. Thais need English to read the advanced scientific and technical information that is mostly published in English. Clearly, they also need to be able to express themselves well enough in English to be able to communicate with and represent themselves effectively to the rest of the world, but reading skills are of particular importance for economic development.

Over the past 25 years, the English language has achieved a particularly high status in Thai society and its role is considered more significant than that of any other foreign language (Sukwiwat 1985; McKay 1992). In 1996, education reform programs were directed at improving the country's competitiveness in relation to its neighbours and the wider world. With this in mind, the government specified English as having the highest foreign language learning priority across the entire education system. However, for the historical reasons noted above and others noted below, the government has acknowledged that Thai graduates' proficiency in English remains far behind that of graduates from neighbouring countries such as Malaysia and Singapore. Increased proficiency in English will enable Thai graduates to be more competitive with graduates from those countries, particularly in terms of the kind of job mobility that is now expected in most fields.

In accordance with the official recognition of English as the international language for political and economic purposes (including technology transfer), both government and business organizations have funded scholarships for students to study overseas: particularly in English-speaking countries.

In terms of business, the government has a policy of encouraging a shift from local family-owned businesses to joint ventures with multi-national corporations and English is the most commonly used language in both written and spoken modes in business transactions (Wongsothorn et al 1996). The government's policy is to improve Thailand's international standing, with Thai people using English as a medium of communication, cooperation and assistance not only with people in the same region, the Association of Southeast Asian Nations (ASEAN), but also throughout the world.

1.1.2 Education and Languages in Thailand

The formal education system in Thailand is divided into two levels: Basic Education and Higher Education. Basic Education comprises three levels, namely, (a) six years of primary school (b) three years of lower secondary school and (c) a further three years of upper secondary school schooling in either an academic or vocational institution (Office of Education Council, 2004). Starting at seven years of age, the primary education level covers years 1 to 6 (seven to twelve); lower secondary years 7 to 9 (thirteen to fifteen); and upper secondary (whether academic or vocational) years 10 to 12 (sixteen to eighteen).

In accordance with the National Education Act (1999), all Thai people have an equal right to receive at least 12 years of free Basic Education provided by the State, this being compulsory up to year 9. Students who complete their lower-secondary education (year 9) may leave the school system. Alternatively, they may continue their studies by continuing into upper secondary education, choosing either the academic or technical/vocational stream. Those who complete upper secondary education may continue their studies at the Higher Education level.

In the 1996 education reform program (Ministry of Education 1995, 1996a), English was made compulsory from years 1 to 12 (i.e. for 7 to 18 year-old pupils). Time allocations for English teaching at both primary and secondary schools were set nationally as 120 minutes per week for years 1 to 4, 300 minutes per week for years 5 to 6, and 200 minutes per week for years 7 to 12. At the upper-secondary level, students were given the choice of studying one or more additional foreign languages.

Students are required to take English language tests for entry into Higher Education institutions. English is also a mandatory subject in all technical and vocational institutions (Wongsothorn et al 1996; Chayanuvat 1997). This means that, currently, by the time most Thai students enter university they should have already studied English for at least twelve years.

In 2001, the Ministry of Education announced the implementation of a *Basic Education Curriculum* to serve as the core curriculum for national education at this level (Ministry of Education, 2001). Based on 'relevant studies and monitoring as well as the evaluation of curriculum in operation during 2003-2005' (Ministry of Education 2008, p.1), this curriculum was revised and updated in 2008. The Ministry announced the implementation of the revised *Basic Education Core Curriculum (2008)* at model schools for primary education (years 1 to 6) and secondary education (year 7 and year 10) in 2009. It was implemented at primary level (years 1 to 6) and secondary level (year 7 and year 10) in 2010 and is planned to be extended to all schools in 2012. According to the Ministry of Education (2008), in this curriculum, 'emphases have been placed on morality, preference for Thai-ness, skills in analytical and creative thinking, technological know-how, capacity for teamwork and ability to live in peace and harmony in the world community' (p.2). Eight key learning areas are included: *Thai language, Mathematics, Science, Social Studies, Religion and Culture, Health and Physical Education, Arts, Occupations and Technology* and *Foreign languages*. Each area comprises '*bodies of knowledge*', '*skills* or *learning processes*' and '*desirable characteristics*', attainment of these being required of all Basic Education learners.

English is the only compulsory foreign language in the *Basic Education Core Curriculum (2008)*. The specification of *bodies of knowledge*, *significant skills* and *desirable characteristics* for English covers 4 areas: '*language for communication*', '*language for culture*', '*language and its relationship with other learning areas*', and '*language with community and the world*'. The curriculum covers the 'ability to use foreign languages in various situations in school, community and society' and 'using foreign languages as basic tools for further education, livelihood and exchange of learning with the world community' (Ministry of Education 2008, p.21).

The learning times for English at primary and secondary education level were set as 40 minutes per week for years 1 to 3, 80 minutes per week for years 4 to 6, 120 minutes per week for years 7 to 9, and 240 minutes per week for year 10 to 12). Note that, except in years 10 to 12, these figures are very much lower than intended in the 1996 education reform program. Students studying in years 6, 9 and 12 are also obliged to take the national tests, which include English (Bureau of Educational Testing, 2001).

1.1.3 Higher Education

Higher Education is provided in universities, institutes, colleges or similar institutions. Administration and control of Higher Education institutions are carried out by the Higher Education Commission, a department of the Ministry of Education, but each Higher Education institution is free to develop its own administration and management system.

Higher Education is divided into two main streams: diploma and degree. Students who complete the technical or vocational stream in upper secondary education can access diploma courses, which take two years to complete. Diploma holders then have the option of pursuing two additional years of study to attain a Bachelor's degree.

The degree stream includes undergraduate and graduate levels. The majority of undergraduate degree courses cover four years (although some programs, for example Medical Sciences, require six years to complete). The graduate level is composed of Master's and Doctoral degree programs, which take two and three years respectively.

Over the past 40 years, upper-secondary school students have been able to access Higher Education by taking the national university entrance examination. In the last decade, however, the system of admissions has been reformed because it was seen to depend too heavily on an entrance examination that evaluates students' academic performance only at one specific point. In 2001 the admission process was improved in accordance with the educational reform policy highlighted in the National Educational Act (NEA) of 1999, advocating more formative assessment modes. According to this Act, university entrance should be based on a combination of applicants' academic performance throughout upper secondary school and scores on national education tests, now administered by the National Institute of Educational Testing Service (NIETS), established in 2005.

The Council of University Presidents of Thailand (CUTP) recently announced a revised admissions system for Higher Education. The following components apply for the academic year 2011:

(1) student's grade point average (GPA) in years 10 to 12: 20 percent (this compares with 5 percent under the previous system);

(2) results of the Ordinary National Education Test (O-NET) comprising the eight core subject areas on the national curriculum for year 12: 30 percent;

(3) results of the General Aptitude Test (GAT) – 10 to 50 percent;

(4) results of the Professional and Academic Aptitude Test (PAT) – 0 to 40 percent (the balance in the weight given to the results of the GAT and PAT depends on the intended course of study).

Evidence of non-academic performance (such as records of students' participation in activities that bring about social benefits) may also be considered in selection (The National Institute of Educational Testing Service, 2011).

All applicants are required to take English as one of the core subjects in the Ordinary National Education Test (O-NET). English is also mandatory for both the GAT and PAT tests.

Once in Higher Education, the number of credits for English which students are required to achieve during their career will vary according to the importance of the language to the subject in question. For example, at RMUTI students from a four-year program in the Faculty of Engineering are required to enrol in English courses for between six and nine out of a total of 148 credits while students from the Faculty of Business Administration need between nine and twelve credits out of 134. Students majoring in English in the Department of Foreign Languages are required to earn 90 credits out of 126 (Faculty of Liberal Arts *Handbook* 2009).

Master's degree students are required to take two courses of academic English. Students must attend class regularly and complete all the required work in order to get the passing grade of 'S', otherwise they will not be able to complete their studies. In some programs, passing scores on English Tests, such as TOEFL or IELTS, are required in order for students to enrol for a Doctoral degree.

1.1.4 English Language Teaching and Learning at RMUTI.

At RMUTI, all students need to obtain at least six credits for English over the four-year undergraduate program. Students from every faculty have to enrol in foundation English courses: *English for Study Skills Development I* and *English Study Skills Development II*. The only exceptions to this rule are students from the Faculty of Liberal Arts majoring in English. These students

are instead required to take *English I* and *English II* as foundation courses. Each of these foundation courses carries three credits and students have to pass both in order to complete their degree. They also need to complete these foundation courses before they are allowed to enrol in the English elective courses required by their departments. The elective courses concerned, each bearing three credits, include *Technical English, English Conversation for Daily Life, English for Everyday Use, English for Business Communication, English Reading for Academic Purposes* and *English Writing for Daily Life*. As the RMUTI English curriculum was only developed and implemented in 2010, and there has been a shortage of English teachers, some of these English elective courses have not been widely available. Consequently students have often had to follow English elective courses chosen for them in line with their intended careers.

1.1.5 English Language Teaching in the EIC Programme

At present, the Department of Foreign Languages in the Faculty of Liberal Arts, offers English courses for students from every faculty, The students attending the greatest number of these courses are undergraduate English major students in the *English for International Communication* (EIC) Program who are required to enroll for 126 credits over eight semesters covering the four years of their program, in order to complete their degrees (see Appendix 1.2). The courses, carrying three credits each, consist of sixteen sessions, (150 minutes each week). In all, 90 credits from English courses are required

and five Reading courses are included in the syllabus: *Reading I (Introduction to Reading)*, *Academic Reading*, *Reading English Newspapers*, *Critical Reading*, and *Reading for Pleasure*.

The focus of this study is the *Reading I (Introduction to Reading)* course because it is a core course that all EIC students have to pass before enrolling in further reading courses. In addition to the sixteen 150-minute sessions, there is also an expectation that students will spend 150 minutes per week studying outside class. *Reading I* is a three-credit course offered in the second term for first-year undergraduate EIC students. It is also available as an elective course for non-English majors. The following statement of objectives is based on the description of this *Reading I (Introduction to Reading)* course syllabus taken from the 2010 *English for International Communication* Curriculum.

'The course aims at helping students learning and practice reading strategies to build up specific reading skills, including:

- identifying reading purposes;

- guessing the meaning of unknown vocabulary: word analysis, context clues, sentence structure, and using the dictionary;

- reading strategies: previewing, guessing, using background knowledge;

- paragraph reading: topic sentence, main idea, supporting details, and note taking'.

According to the syllabus, the core objective of *Reading I* is to enhance students' ability to study and practice reading strategies to build up their reading skills. Other objectives include students establishing their purposes for reading, using dictionaries, guessing the meaning of unknown vocabulary, previewing texts, interpreting texts, extracting main ideas, identifying topic sentences, identifying supporting details and note taking.

The course assessment includes four elements: a midterm examination (carrying 30 percent of the total score), a final examination (30 percent), reports and assignments (30 percent), and attendance and participation (10 percent).

1.2 Rationale for the Study

This study is an attempt to investigate the reading strategies that Thai university students employ in the EFL reading process and to determine whether the implementation of an approach to reading strategy instruction based on the language pedagogy literature can help to improve students' reading performance over the course of one semester.

As mentioned above (see Section1.2), Thai students have already studied English for at least twelve years before entering university. Furthermore, at degree level, students are required to earn a number of credits for English which varies depending on its importance in each area of study. Altogether, by the time they graduate, Thai university students should have studied

English for 13-16 years. The government, however, has acknowledged that their proficiency in English remains far behind that of graduates from neighbouring countries. In order to fill this gap, the students on the EIC programme, who are expected to have a good command of English skills for their higher education and future employment, need to be trained in each skill from the initial stage.

Regarding the first-year undergraduate English major students on the EIC programme, the majority are less proficient learners, who need to improve their reading abilities because reading is very important to access texts for academic or career purposes. However, this group of students tends to experience difficulties in reading comprehension. In secondary school in Thailand, perhaps, reading is taught in ways that encourage students to rely on careful reading at the local level; that is to say, students rely on local strategies in which they construct meaning of the text by decoding at word level and sentence level.

From studies concerning reading strategies, global strategies are claimed to help students to improve their reading performance. As the first year EIC students are taught strategies, but still seem to rely mainly on decoding, strategy instruction (discussed in Section 2.2 below) seems to offer a way to improve student effectiveness as EFL readers. Explicit instruction in global and expeditious strategies such as previewing and predicting, skimming, search reading, and summarizing

1.3 Purpose of the Study

In short, this study aims:

To investigate the reading strategies that Thai university students currently employ in the EFL reading process.

To determine whether the implementation of an approach to explicit reading strategy instruction based on the language pedagogy literature can help to improve students' reading performance over the course of one semester.

CHAPTER 2   LITERATURE REVIEW

This chapter reviews the relevant literature related to student reading strategies and strategy instruction for EFL reading. The chapter covers the following main areas: (a) reading pedagogy in Thailand, (b) models of reading, (c) the definition and classification of reading strategies, (d) major research findings on such reading strategies, (e) a framework for the teaching of reading strategies, (f) possible target reading strategies on the *Reading I* course for English major students, and (g) research questions for the present study.

2.1 Introduction

For learners of English, reading in a foreign language can be crucial for a range of purposes: education, science, professional success, and personal development (Alderson, 1984). Various studies (e.g. Ostler, 1980; Johns, 1981; Robertson, 1983) have suggested that reading is the most essential language skill needed by L2/EFL students for their academic achievement. McDonough and Shaw (1993) have highlighted the importance of reading as a skill, stating, "...in many instances round the world we may argue that

reading is the most important foreign language skill…" (p.101). The indications here and below are that EFL learners will benefit greatly from becoming skilled readers.

In English as a Second Language (L2) or Foreign Language (EFL) teaching and learning contexts, reading is considered as an important skill not only for obtaining knowledge which is not available in the first language but also for improving language proficiency in general. Krashen (1985), for instance, suggested that reading more in L2 helps students increase their vocabulary, which in turn enhances their L2/EFL language proficiency. However, in L2/EFL contexts, learners tend to be confronted with reading problems which create major obstacles to their comprehension while reading texts or performing related tasks.   One important reason for this may be that the learners concerned are not *strategic* readers. That is to say, they are not able to recognise processing difficulties or employ strategies to facilitate reading according to changing purposes and the ongoing monitoring of comprehension (Grabe and Stoller, 2002). In other words, learners do not use effective *strategies,* defined for the purposes of this study as *mental actions deliberately employed to facilitate a reading process, to enhance reading comprehension and to overcome reading difficulties in order to achieve particular reading goals*.

Researchers in the field of L2/EFL have frequently indicated that the use of reading strategies helps learners to solve their reading difficulties and enhance their comprehension (for example Hosenfeld, 1978; Carrell, 1989; Anderson, 1991; Block, 1992; Davies and Bistodeau, 1993; and Al-Melhi, 1999). The strong indication is therefore that the use of reading strategies may be an essential factor in improving L2/EFL learners' reading performance.

Changing theories of the reading process and associated reading models have affected both our understanding of reading and the ways in which reading is taught. Models used by researchers of L2/EFL reading have generally followed descriptions of L1 reading processes. Following the lead of L1 research, some studies in the field of L2/EFL reading, as exemplified in the previous paragraph, have also pointed to the importance of reading strategies to the reading process.

If teaching is to reflect current theoretical understandings of the reading process, models of reading which reflect the role of reading strategies should be taken into consideration when teaching reading to EFL students. It may therefore be important to introduce *strategy instruction* in the EFL classroom to help students to overcome their difficulties in reading (Carrel, 1989, 1998; Cotterall, 1990; Raymond, 1993; Grant, 1994).

2.2 Reading Pedagogy in Thailand

Approaches adopted in Thailand have closely followed approaches developed to teach English as a foreign language (EFL) in English speaking countries such as the UK, US and Australia. Hawkey (personal communication, March, 2009) argues that teaching reading in Thailand in the 1960s, in common with many other EFL contexts, appeared to be influenced both by behaviourist theory, and by methods that were less language-controlled. Thai learners were sometimes taught reading with the reading texts being restricted only to grammatical structures and vocabulary that they had already been taught. With controls as strong as these, the opportunities to develop reading strategies must have been limited. However, Hawkey (2007) makes the point that during the 1960s Thai learners, sometimes the same students as were learning to read under behaviourist-oriented controlled approaches, were, in their other EFL lessons, being taught reading through abridged, but not simplified, literature: in Hawkey's example Dickens' *A Tale of Two Cities*. The use of original unsimplified texts, which would probably now seem entirely inappropriate for the level of the learners, might nevertheless have encouraged the development of reading strategies during reading, if only as a survival strategy.

Additionally, the assessment approach adapted in Thai universities in past decades has significantly influenced current teaching and learning in Thailand (Kaewdaeng 1997). From the researcher's own EFL teaching and learning

experience, the assessment of learner achievement emphasises examinations at the end of each semester. Most of these summative assessments are comprised of multiple-choice questions, cloze tests and short answer questions. Learners need to read, memorise and reproduce accurately the knowledge taught in the classroom in order to pass the examinations, in which the score obtained is the primary or sole indicator of academic success.

As noted in the introduction (Section 1.1.1), a number of scholars (eg. Smith 1988, Eskey 1989; Srisa-an 1998), predicted that the role of English in Thailand will be even greater as the twenty-first century progresses. As noted above, the Thai government recognises the value of English as international *lingua franca* for political as well as for economic purposes, including technology transfer. For this reason, the Ministry of Education proposed an education reform programme, implemented from 1996 to 2007 (see Chapter 1, section 1.2). Changes occurred in four areas: school reform, teacher reform, administrative reform and particularly in the curricula, where new approaches to teaching reading and assessment have been developed. At the tertiary level, that is at college and university, there is an emphasis on reading *skills* (see section 1.2).

In the following section, I will describe different models of the reading process that have influenced EFL teaching.

2.3 Models of Reading

During the second half of the 20th century, there was a shift in reading research from focusing on the *product* of reading to the *process* of reading, with particular attention to strategies that readers use to assist comprehension in various reading contexts.

A theory of the whole reading process began to be conceptualised by researchers in the 1950s and 60s. At different periods the construction of reading models has been affected by behaviourism (see above) - in which reading processes involve working from visual information (such as letter and word recognition) given in the text, which stimulate the reader to reconstruct and deduce meanings (e.g. Gough, 1972; LaBerg and Samuel, 1974) - and by cognitivism – in which reading processes involve arriving at a general understanding of a text through information processing which takes place in the mind (e.g. Goodman, 1967; Rayner and Pollatsek, 1989; Urquhart and Weir, 1998). Reading is now commonly considered to be primarily a cognitive activity (Urquhart and Weir, 1998).

Two contrasting models that have become very well known in the field of teaching over the past few decades are the 'bottom-up' and 'top-down models' (Gough, 1972; Goodman, 1967). Gough (1972), a proponent of the bottom-up model, argues that the reading process starts at the bottom, from letters and words, ending with bigger units at the top, to generate meaning. Gough's

model suggests that the higher-level stages cannot be attained without having first obtained corresponding input from the lower stages of the process. In other words, one stage must be completed before another is started (Urquhart and Weir, 1998).

The bottom-up model was criticized by Eskey (1973), who argues that it provides an insufficient model of reading since it underestimates the reader's role and ability to use his/her knowledge of language and of how it works in order to anticipate what might follow in the text being read. Similarly, Rumelhart (1977) criticized the bottom-up model on the basis that it did not take into consideration the various other factors relating to reading comprehension. For example, the reader's background knowledge appears to play no role in the bottom-up process and the role of the reader as an active participant is not taken into account. Rumelhart states that the bottom-up model is a linear model in which the process of comprehension goes only in one direction. This linear procedure in the reading process does not allow for interaction between the lower and higher-level stages of information processing.

Goodman (1967) was a proponent of the top-down model which was developed within the structure of psycholinguistic theories. In contrast to the bottom-up model, the top-down model focuses on a higher level of reading – constructing the meaning of a text through a combination of reading strategies such as predicting, making inferences and relating information in

the text to background knowledge – and pays less attention to the decoding of letters and words. In the top-down approach, the process of reading focuses on using general world knowledge and contextual information from the text to form hypotheses about the meaning of the text. This takes into consideration the important role played by the reader in activating his/her relevant schemata – pre - existing background or world knowledge - and making use of them during the reading process.

The 'bottom-up' model was originally based on research which involved only adult L1 readers and then was extended to include L2 beginners. It influenced the teaching of L2 reading and seems to be consistent with the phonics-based method, which focuses on letter-sound correspondence at the expense of elements at a higher level. On the other hand, the advent of the 'top-down' model also had a strong influence on how researchers and teachers viewed L2 readers. This influence can be seen in methods of teaching both L1 and L2, in which learners are encouraged to make predictions, to guess and search for meaning during the process of reading (Davies, 1995; Wallace, 1992). We may now see how the approach to reading in some 1960s Thai schools noted by Hawkey above, whether based explicitly on the bottom-up and top-down models or not, may actually have represented a combined bottom-up and top-down approach to the training of reading.

Interestingly enough, in response to the criticism of the previous models, there emerged a hybrid reading model, the interactive model proposed by Rumelhart (1977, 1980), which was further developed by Kintsch (2004). This model aims to incorporate concurrently the processes of obtaining knowledge from many different sources while reading. It allows for interaction between the two directions of processing: higher-level processing and lower-level processing.

Figure 2.1:   A model of reading
Visual inpuyntactic knowledge
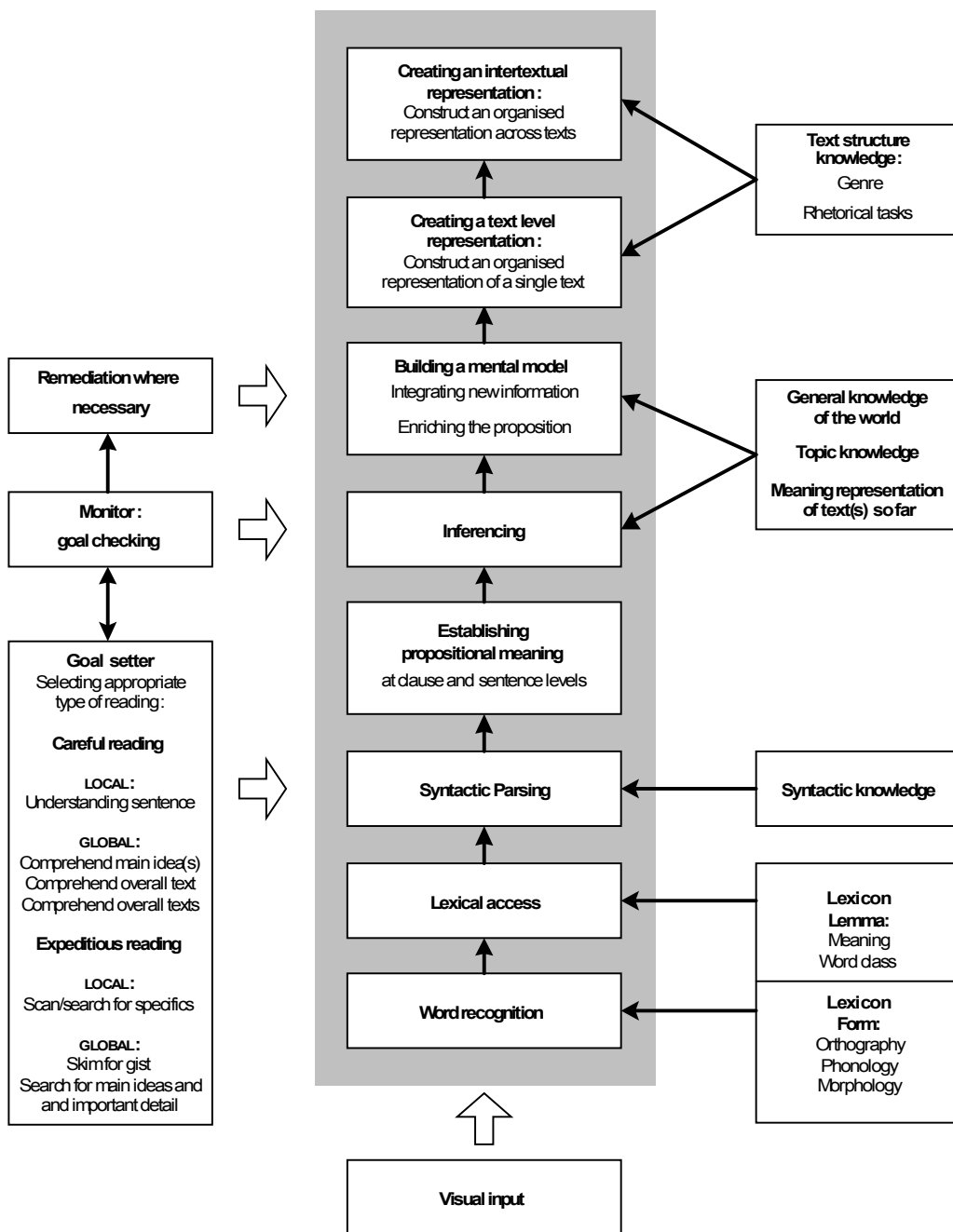
Source: Khalifa and Weir, 2009, p. 43

In Khalifa and Weir's cognitive process model of reading (2009), types of reading have been classified on two dimensions: careful and expeditious reading taking place at either the local or the global level. Careful reading involves comprehension of the contents of every part of the text whereas expeditious reading refers to strategies such as scanning, skimming and search reading which are directed at extracting information from a text quickly and efficiently. Local comprehension is defined as the understanding of propositions at the micro-structure level i.e. the word, the sentence and the clause. In Khalifa and Weir's model, the local level refers to decoding activities such as word recognition, lexical access, syntactic parsing and establishing propositional meaning at the sentence and clause level. On the other hand, global comprehension refers to the understanding of main ideas and essential details at the macro-structure level of a text. This includes inferencing, building a mental model, creating a text level representation and creating intertextual representations.

Khalifa and Weir's (2009) model describes competent reading behaviours for L1 readers and for L2 readers with sufficient proficiency in the L2. The model implies that efficient L2 readers will need to be able to draw on both expeditious and careful reading strategies and to be able to operate at both the local and the global level. This would also suggest the need for L2 learners to be provided with explicit reading strategy instruction.

2.4 Definition and Classification of Strategies

In this study, *strategies* refer to mental actions deliberately employed to facilitate a reading process, to enhance reading comprehension and to overcome reading difficulties in order to achieve particular reading goals.

In the Thai university essentially EFL context, there is an emphasis on reading skills, since the two main foci of the EFL classroom at the university level are grammar instruction and reading comprehension. In spite of this, the majority of students are still said not to develop high levels of reading competence in English (Wirotanan, 2002). In the case of English major students, particularly, the first year students are expected to read efficiently since they are required to read a large number of English academic texts and reading skills are considered to be important for their future employment. However, these students tend to encounter difficulties in comprehension, which might, perhaps, be related to the fact that they rely on careful reading at the local level.

Researchers of reading strategies suggest that when readers encounter difficulties in comprehension, they need to utilise strategies to overcome their difficulties (Johnston 1983; Paris, Lipson, and Wixson, 1983; Wolf, 1987; Kern, 1989; Kletzien, 1991). Harvey and Goudvis (2000) posit that in order to achieve a high level of comprehension, readers need to know what strategies to use, when to use them, and how to use them. In order to help

undergraduate English majors to achieve a general understanding of texts, global reading strategy instruction is considered to be a valuable tool.

In connection with improving reading instruction, there has been a growing interest in the classification of reading strategies employed by L1, L2 and EFL readers with a view to the development of more effective methodologies and materials for their teaching and learning. This is part of an ongoing change of focus in reading research from examination of the products of reading to examination of the process and strategies of comprehension. Despite this growing interest, it seems that strategy classification is problematic for researchers as indicated by the lack of agreement between them on a unified classification. Since the definition of a strategy differs between researchers, their reading strategy lists are not the same. These lists also differ in their broad classification of strategies. For example, researchers use different criteria, and, therefore classify strategies into two, three, four, or five broad categories (Olshavsky 1976, 1977; Hosenfled, 1984; O'Malley et al, 1985; Block, 1986; Sarig, 1987; Carrell, 1989; O'Malley and Chamot, 1990; Davies, 1995; Urquhart and Weir, 1998; Koda, 2005). Two categorizations that have been particularly influential have been those of O'Malley, O'Malley and Chamot (1985) and those of Carrell (1989).

O'Malley *et al* (1985), based on Brown and Palinesar (1982), proposed a classification scheme which categorizes strategies into "*metacognitive*" and "*cognitive*". O'Malley et al added a third category and labeled it "*social*

mediation". The metacognitive strategies, as described by Brown et al (1983), refer to a higher order of executive skills (cited in O'Malley *et al*). These skills involve planning, monitoring or evaluating the success of a learning activity. A cognitive strategy is defined as "one that involves mental manipulation or transformation of materials or tasks and is intended to enhance comprehension, acquisition, or retention" (O'Malley and Chamot, 1990: 229). The third category, *social/affective strategies*, "represents a broad grouping that involves either interaction with another person or ideational control over affect. Generally, they are considered applicable to a wide variety of tasks".

Carrell (1989) uses the terms *local strategies* and *global strategies* to refer to broad categories of reading strategies. *Local strategies* are "those having to do with sound-letter, word meaning, sentence syntax, and text details" (p.126). *Global strategies*, on the other hand, are "those having to do with background knowledge, text gist, and textual organization".

The O'Malley *et al* (1985) classification of strategies is further elaborated in Khalifa and Weir's reading process model (2009). The metacognitive strategies, which involve planning, monitoring or evaluating the success of a learning process, are represented in the components of goal setter, monitor, and remediation in Khalifa and Weir's model.

The goal setter determines the selection of appropriate types of reading such as careful reading or expeditious reading. The monitor is activated according to the goal setter to check whether the type of reading selected is appropriate. Readers might even change their type of reading when they consider that they might have adopted the wrong one. The monitor may occur at different levels of the reading process such as decoding, establishing propositional meaning at sentence and clause level, and building meaning at the text level.

In Khalifa and Weir's (2009) reading process model, after the selection of the appropriate type of reading – careful reading or expeditious reading — the reader activates the appropriate cognitive strategies to cope with the relevant reading purpose so as to achieve the appropriate level of comprehension. Social/affective strategies are involved in the reading process model through inferencing and building a mental model. At this stage, topic knowledge and general knowledge of the world are activated in order to get the meaning of the text. Text structure knowledge such as knowledge of genre and rhetorical tasks is also activated to create a text level representation and an intertextual representation (Khalifa and Weir, 2009 p. 53)

Carrell's (1989) distinction between "local strategies" and "global strategies" is retained in Khalifa and Weir's (2009) classification of reading types. At the local level, reading focuses on levels of decoding such as word recognition, lexical access, syntactic knowledge and text details, whereas reading at the global level involves higher level processing such as schema, text gist, and

textual organization. The model and the classification of strategies would seem to suggest the need for the teaching of reading strategies where efficient L2/EFL learners could be provided with instruction on global level strategies as they need to draw on both expeditious and careful reading. In the case of inefficient L2/EFL learners who tend to rely on reading at the local level and focus on careful reading, global and local reading strategy instruction should be beneficial in assisting participants to comprehend texts at both levels and so improve their reading performance.

The classification of strategies proposed by Carrell, 1989: *local strategies* and *global strategies* will be used in this study because these types of reading strategies together with Kalifa and Weir's (2009) reading types: expeditious reading and careful reading at a global and local levels, can be conceptualized to construct a framework for reading strategy instruction. However, the study will mainly focus on *global strategies* which are strategies used by the reader to construct meaning by focusing on the text, using higher level processing. Global strategies include summarizing, previewing & predicting, skimming, and search reading. Local strategies include scanning and search reading.

In Thailand, in secondary school students are taught in ways that encourage them to rely on local strategies. Therefore, global strategies are of importance in this study because the students may tend already to over-rely on local strategies in which they construct meaning of the text at local level. Thus, if

they are provided with strategies instruction, they may be able to use a combination of both local and global strategies to construct the meaning of the text using higher level processing such as inferencing, background knowledge, predicting and contextual guessing to facilitate the reading process.

2.5 Major Findings of Empirical Research on Reading Strategies

Hosenfeld (1978), Carrell (1989), Anderson (1991), Block (1992), Davies and Bistodeau (1993), and Al-Melhi (1999) all agree that good L2 readers employ different strategies compared with poor L2 readers. Carrell discovered that good L2 readers outperformed poor readers in their use of global strategies. Anderson carried out research to investigate the individual differences in strategy use by adult second language learners while performing two reading tasks: taking a standardized reading comprehension test and reading academic texts. His study revealed that good L2 readers employed strategies more frequently than poor readers, although not necessarily different strategies. High scoring students appeared to be applying strategies more effectively and appropriately. Block investigated the reading process of first and second language readers of English. Her study found that the more proficient L2 readers tended to apply more meaning-based strategies (global strategies), whereas the less proficient readers preferred word-based processing strategies (local strategies). Davies and Bistodeau found that their subjects used bottom-up strategies more than top-down strategies in their L2

reading. Al-Melhi, similarly to Carrell, found that successful L2 readers used more global strategies than the less successful readers. He also found successful L2 readers surpassed the less successful readers in utilising effective strategies such as comprehension monitoring. Carrell's study also showed that some global reading strategies had a positive correlation with reading performance of subjects at slightly higher levels of language proficiency in L2. In addition, she found that good L2 readers outperformed poor readers in their use of global strategies. Upton (1997) found that the academic students at a high level of language proficiency focused equally on top-down and bottom-up strategies (interactive processing).

It can be seen from the major findings of empirical research on reading strategies that learners' language proficiency affects the strategies they use (Hosenfeld, 1978; Carrell, 1989; Anderson, 1991; Block, 1992; Davies and Bistodeau, 1993; and Al-Melhi, 1999). The more proficient L2/EFL learners tend to use strategies more frequently than the less proficient. They also utilse different strategies in L2 reading (Anderson, 1991). Proficient learners tend to rely more on global strategies (Block, 1992). Additionally, the findings reveal that some global reading strategies have a positive correlation with reading performance of learners at slightly higher levels of language proficiency in L2 (Carrell,1989).This implies that the global strategies used by the more proficient learners help them improve their reading performance. In the case of the less proficient learners, they tend to rely on careful reading at

the local level, perhaps because they do not know how to use other strategies to facilitate a reading process and enhance comprehension (Block, 1992).

A few studies on reading strategies have been conducted with university level L2/EFL learners in Thailand. Nitsaisook (2002), for example, investigated the relationships between the reading strategies and language background of 30 Thai university science students in performing English for Academic Purposes summary tests. The results apparently revealed that, following instruction in strategy use, readers who had reported using more strategies at course entry did not score significantly higher on summary tasks than those who had reported using fewer strategies. This is taken to imply that the reading strategies taught in the EAP class might have benefited the less-skilled readers in improving their text comprehension. However, it is not clear from the report that there had been any difference in scores between the two groups of students at the beginning of the course so the findings cannot be regarded as conclusive.

Phakiti (2008), examined the relationship between test-takers' long-term strategic knowledge (trait strategies) and actual strategy use (state strategies) and second language reading test performance over time. Five hundred and sixty-one Thai university test-takers answered a trait strategy use questionnaire prior to the mid-term and final reading achievement tests and immediately after completing each test. The study indicated that trait metacognitive strategy use (MSU) directly and strongly affects trait cognitive

strategy use (CSU), but that trait CSU does not greatly affect state CSU. Trait MSU directly affects state MSU in a specific context, which in turn directly affects state CSU, and state CSU directly affects language test performance to a varying degree. This study suggests that state and trait metacognitive strategies exert an executive function over cognitive strategy use. State CSU in turn is directly related to specific test performance. This suggests that training in metacognitive strategies might well improve performance on reading tests. In this study, students who have benefited from strategy instruction should as a result perform better on the tests.

The research findings so far demonstrate that reading strategies help readers increase their comprehension. Reading researchers, however agree that reading strategies alone cannot help the readers to build up their comprehension. For example, Paris et al. (1983) posit that in order to achieve a high level of comprehension, readers need to know what strategies to use, when to use them and how to use them. Anderson's research study (1991) on reading strategies revealed that strategic reading which leads to comprehension is not a matter of knowing what strategy to use but knowing how to use a strategy successfully. This suggests the need for strategy instruction for both the more proficient and less proficient L2/EFL learners.

2.6 Framework for Reading Strategies Instruction

In this study, students will be given explicit training in the use of reading strategies focusing on global strategies because they have been identified as an area of difficulty for Thai university students. To inform the process of instruction, the researcher has developed a framework for the categorization of reading strategies. This framework is described below.

Table 2.1 below summarises a framework for reading strategies used in the reading course developed for this study.

TABLE 2.1: Framework for Reading Strategies Instruction

	Global Strategies	**Local Strategies**
Careful reading	- Summarizing	-
Expeditious reading	- Previewing & Predicting - Skimming - Search reading	- Scanning - Search reading

This framework, following Khalifa and Weir (2009), brings together their reading types with Carrell's (1989) types of reading strategies (global strategies and local strategies). The framework (Table 2.1) involves careful reading and expeditious reading (see Section 2.4).

As may be inferred from the review of the relevant reading types and strategies literature above (section 2.4), careful reading and expeditious reading can take place both at a local and a global level. *Careful local reading*

involves understanding a text at the sentence level whereas *careful global reading* involves comprehending main ideas or an overall text. *Expeditious local reading* includes scanning for specific details which involves reading selectively, to achieve more specific reading goals, e.g. looking for specific words/phrases, figures/percentages, names, dates of particular events or specific items in an index, at the local and word level, while *expeditious global reading* involves skimming for gist, general impression and/or superordinate main idea of a text (Urquhart and Weir, 1998, Weir, 2005).

2.7 Possible Target Reading Strategies on the *Reading I* Course for English Major Students

The purpose of this research is to find out whether reading strategy instruction affects Thai university students' use of reading strategies in English and, if so, how much improvement they show on measures of reading performance after such instruction.

The selected strategies include: *previewing and predicting, skimming, scanning, search reading* and *summarizing*. The strategy labels *previewing, predicting* and *summarizing* are self-explanatory. *Scanning, skimming* and *search reading* are all similar in some ways. Scanning is reading quickly to pick out a specific word or phrase, the classic example being reading a timetable to find the time of a particular train. The reader knows in advance the words that he or she is looking for. Skimming involves reading quickly to

extract the gist of a text: to get an idea of what the text as a whole is about. The information is not known in advance. Search reading is similar to scanning in that the reader is looking for specific information, but in search reading the reader does not have specific *words* in mind, instead, he or she is looking for parts of the text that are relevant to a topic. As a student, for example, s/he might read quickly through a chapter about second language reading to find the section that concerns reading strategies. Often search reading is followed by careful reading of the relevant section of the text. Search reading can therefore be either a local strategy - locating specific information – or a global strategy – if it is necessary to bring together information from different parts of a text to fulfill the reader's purposes.

In the training and application of the global strategies *previewing* and *predicting* (see Table 1), students preview the text to gain a general idea of its topic and content. When previewing, students quickly look at the title, subtitles (headings and sub-headings), first and last paragraphs, the first sentence of every paragraph, and at any pictures or illustrations which accompany the text to get a general idea of what a passage is about. At this stage, the teachers may encourage the students to activate prior knowledge to anticipate the content of the text by trying to answer the questions: "What do I already know about the topic?" and "What information might the writer present?" After the students have read any headings and sub-headings, the teacher may invite the students to ask themselves such questions as: "How

does one heading relate to another?". Then the teachers may encourage the students to write down key words from the headings that might provide connections between them.

This strategy is an example of training students to use titles to get an idea of what a passage is about and use pictures and prior knowledge to anticipate the content of the text. Previewing and predicting take place before careful reading of the text. The aim is to comprehend more fully when doing careful reading.

Skimming is generally defined as reading expeditiously to obtain the gist, general impression and/or superordinate main idea of a text (Munby,1978; Urquhart and Weir, 1998; Weir 2005). In teaching skimming strategies, the teacher may impose a time limit and ask the students to identify main points and important information. Skimming can help students quickly understand what the text as a whole is about. Khalifa and Weir (2009) define *scanning* as reading selectively to achieve very specific reading goals. When scanning, students scan the text to locate a specific piece of information, e.g. looking for specific words/phrases, figures/percentages, names, dates of particular events or specific items in an index (Urquhart and Weir, 1998; Weir, 2005).

Search reading involves locating information on predetermined topics (Urquhart and Weir, 1998). When engaging in search reading, students seek to establish only the relevant information necessary, for example, to answer the set questions on a text in a test. They do not have to create an overall representation of the whole of the text as in skimming. Searching reading

signifies a shift from generalized attention to more focused attention. For example, the students look for related vocabulary in the semantic field indicated by the task/item. Search reading should help students locate important or difficult items quickly.

Summarising is a valuable strategy for students in terms of building their understanding both of the propositional content and of the structure of a text. It demands full understanding of the text, for instance, the ability to distinguish between main points and examples and the ability to perceive the relationships between the various parts of the argument (Nuttall, 2005). In summarising training tasks, students may be required to shift through units of text and then differentiate important from unimportant ideas before synthesizing those ideas and creating a new coherent text.

The strategies described above can be seen to play complementary roles in a reading process. Readers generally begin by using a top-down approach in which expeditious global reading is involved. They firstly preview the text material quickly through the title and sub-titles and then make predictions and guesses of what the text is about. During this step, readers may make use of the title, the first and last paragraphs, the first sentence of every paragraph, the pictures/illustrations and their prior knowledge to anticipate the contents of the text. Prediction seems to be important because it activates *schemata,* that is, it calls to mind any experiences and associated knowledge that readers already have about the topic of the text.

After the steps of previewing and predicting, readers make a decision about the types of reading to use: careful or expeditious and local or global reading. If they are looking for the main ideas of a text, an expeditious global reading strategy such as skimming is required. Readers can skim for main ideas by reading the introduction and conclusion of the text or they may skim for main ideas in each paragraph of the text. Expeditious local reading (scanning or search reading) is also called for when readers are searching for specific information such as words/phrases, figures/percentages, names, and dates of particular events, at the local word or phrase level. After the reading process, summarizing seems to benefit readers in building an overall representation of the text. In this way learners can use strategies at a number of points to assist them in understanding the texts they read.

Careful reading refers to reading slowly in order to extract complete meanings from presented material. On the other hand, expeditious reading or speed reading involves quick, selective and efficient reading to access desired information in a text (Khalifa and Weir, 2009).

The reading strategies which may be used in the reading course developed for this study include: *previewing* & *predicting*, *skimming*, *scanning*, *search reading*, and *summarising* (see Chapter 3 below).

2.8 Procedures for teaching reading strategies

Winograd and Hare (1988) have identified five elements that teachers should incorporate for successful strategy instruction:

a) describe the strategy the students are going to learn;

b) explain why the strategy is important and remind the students about the benefits of strategy use;

c) demonstrate how to use the strategy effectively;

d) point out to the students when and where a strategy should be used; and

e) teach students how they can evaluate their successful or unsuccessful use of the strategy.

With regard to the five strategy instruction recommendations mentioned above, Duffy, Roehler, and Herrmann (1988) provide a *mental modelling* technique in which the teacher thinks aloud about the processes occurring in his/ her mind while negotiating for meaning through the text. This technique allows students to imitate the process and then be able to do the think-aloud by themselves. Grant (1994) proposed five components of strategy instruction:

a) informed training in order for students to see the value of strategy use;

b) modelling and scaffolding to inform students about what actually happens during the reading process;

c) self-monitoring and evaluation to empower students and to help them to transfer strategy knowledge to different texts;

d) practice to gain confidence and independence in using strategies;

e) transferring the strategies to other contexts.

All of these writers place an emphasis on '*modelling*'. Winograd and Hare (1988) and Grant (1994) include an explanation of each strategy as well as suggesting where and when to apply it. Both models also share a focus on *awareness-raising* and *self-monitoring and evaluation*. However, in Grant's approach, more attention is given to encouraging students to transfer their strategies to other contexts. Because of this, Grant includes two additional steps in instruction: practice and transference. According to these two steps, practising both in small groups and independently helps students to gain confidence and independence in using strategies.

In developing procedures for strategy instruction for this study, Winograd and Hare (1988), Duffy *et al*., (1988), and Grant (1994) offer promising models because their recommended procedures in L1, L2 and EFL contexts have been widely applied (e.g. Palincsar and Brown, 1984; Bereiter and Bird, 1985; Carrell, 1989; Carrell, Pharis, and Liberto, 1989; Cotterall, 1990,1993; and Song, 1998). The studies have indicated that procedures for reading strategy instruction such as teacher explanation and modelling of the strategies followed by student practice in the form of group work/discussion benefited non-proficient L1 and L2 learners. This section synthesises procedures for explicit strategy instruction that can be applied in this study.

According to Winograd and Hare (1988), Duffy, *et al*., (1988), and Grant (1994), there should be three main steps in strategy instruction: *Orientation, Modelling, and Application*. Each of these steps is concerned with different forms of knowledge (Paris, Lipson, and Wixson, 1983). These forms include declarative knowledge (knowing what), procedural knowledge (knowing how) and conditional knowledge (knowing why). The steps in the instructional process and the associated forms of knowledge for each are explained in the following section.

2.8.1 Orientation

It is recommended by Winograd and Hare (1988) that before instruction in strategies, students should be informed about strategies. This involves both declarative knowledge and conditional knowledge (Paris, Lipson, and Wixson, 1983). For instance, the teacher might inform the students about effective extensive reading strategies (building declarative knowledge), providing a definition/description of strategies (declarative knowledge) and raising the students' awareness of the value of using a strategy and when to use it (conditional knowledge)

2.8.2 Modelling

At this stage, the students will be given the procedural knowledge to perform various actions (Paris, Lipson, and Wixson, 1983). The teacher demonstrates how to implement strategies by thinking aloud as s/he performs each step in the strategy to encourage the students to recognize what actually happens. This step also prepares all the students for demonstrating their strategy use in the following phase.

2.8.3 Application

In this step, the students have an opportunity to practice so that they will develop efficiency in executing strategies and so gain confidence as well as independence in using strategies. The students can be divided into groups of five and the students in each group will each in turn be assigned the role of

the teacher, modelling the use of strategies as they read a text. After that, students conduct a group discussion on the use of the target strategies and then practice independently.

In order to help students to reflect on what they have learnt, a whole class discussion can be carried out at the end of the session in which students will talk about possible explanations for their success or their failure. This links back to the steps of orientations described in 1 above.

CHAPTER 3   METHODOLOGY

This chapter describes the methods and procedures for investigating reading strategies employed by first-year undergraduate English major students at a Thai university. As methods used for the pilot study are similar to those used in the main study therefore they will be described once in this chapter, with the revision made following piloting being outlined in the following chapter. This chapter aims to give an overview of the research procedures, how the study was designed and the research instruments used in the study. This chapter presents: (a) the context for the study, (b) a description of the participants, (c) a description of the research procedures, and (d) the data analysis plan.

3.1 Introduction

Research on reading has a long tradition of concern with measuring the product of reading comprehension by various means, for example: multiple choice questions, cloze tasks, open-ended questions and summary writing. This focus on the measurement of product has been criticised by many researchers (e.g. 1980; 1981; 1983) who argue that the product – the

comprehension or the meaning extracted by the reader from the text – does not tell us about the processes or strategies utilised by the reader to enhance comprehension or solve reading difficulties. In response to such criticism, Alderson (1984), Cohen (1986), and Oxford (1989) advise researchers to utilise multiple research methods, including think-aloud protocols and verbal reports to identify students' reading strategies and examine the reading process in general (Anderson, 1991).

Koda (2005) asserts that the majority of current research focuses on three main issues: identifying strategies directly bearing on comprehension, comparing strategies use across different reader groups, and examining the effects of strategy instruction on reading improvement. This study mainly focuses on the third of the issues mentioned by Koda (2005) and uses multiple research methods including think-aloud protocols, questionnaires and interviews to contribute to the triangulation of results in identifying how students' reading strategies contribute to improvements in performance. In this study, measurement of product – that is the scores obtained on reading tests – will also be included to provide estimates of the participants' degree of improvement in their reading performance after receiving a programme of explicit reading strategy instruction.

3.2 Research Questions

In line with these objectives, the following research questions will be addressed in this study. The link between these questions and the methods selected to address them are given in Section 3.3 below.

1. Which reading strategies do Thai undergraduate English major students employ in the EFL reading process?

2. Does reading strategy instruction affect students' use of reading strategies in English?

3. How much improvement do the students show on measures of reading performance after receiving a programme of reading strategy instruction?

3.3 Research Questions and Relationship & Procedures

To answer the three research questions, four types of instruments will be used in this study: (a) questionnaires, (b) verbal protocols, (c) informal interviews, and (d) reading tests. The table below shows the relationship between each research question and the relevant research instruments are explained in the following section.

Table 3.1 Summary of research methods

	Questionnaires	Verbal Protocols	Tests
RQ1	**x**	**x**	
RQ2	**x**	**x**	
RQ3			**x**

RQ 1 Which reading strategies do Thai undergraduate English major students employ in the EFL reading process?

Methodology:

In the investigation of Research Question 1, both qualitative and quantitative research methods will be adopted because two types of research instruments – questionnaires and verbal protocols – will be collected. Information collected from the first part of the questionnaires (factual questions to investigate the students' background including age, gender and previous educational background) will be considered in combination with results from the pre-test in assigning the learners to Experimental and Control groups.

This combination of data will help to ensure that the two groups are equivalent in terms of their background features as well as their reading proficiency. This will allow the researcher to compare the effects of explicit strategy instruction on strategy use.

The information gathered from verbal protocols will be used to indicate the reading strategies that these Thai undergraduate English major students employ in the EFL reading process.

RQ 2 Does explicit reading strategy instruction affect students' use of reading strategies in English?

Methodology:

The procedures of explicit reading strategy instruction derived from the literature (see Section 2.8) will be provided to an Experimental group of students at Rajamangala University of Technology. The Experimental group will be given a 12-week (3 hours per week) explicit reading strategy instruction course while a Control group will follow the established "*Reading I*" curriculum (see Appendix 2.1)

To address Research Question 2, on the effects of this reading strategy instruction on learners' use of reading strategies in English, the same questionnaires will be re-administered to both Experimental and Control groups at the beginning and the end of the course.

The data obtained from the questionnaire (questions about subjective experiences related to the reading strategies that the students use in the EFL reading process) will be used to show which strategies students have used during their course. The data will be triangulated by data from verbal protocols as a corroborating source of evidence on the effects of the specific reading strategy instruction provided.

RQ 3 How much improvement do the students show on measures of reading performance after receiving a programme of explicit reading strategy instruction?

Table 3.2: Comparison of Control and Experimental courses (pilot and main study procedures)

	Pilot study		Main study	
	Con. group	**Exp. group**	**Con. group**	**Exp. group**
Number of Partici pants	13	13	13	15
Nature of training	**7 sessions:** **WK1** -administering questionnaire, pre-test and think-aloud training **WK2** previewing & predicting **WK3** skimming **WK4** scanning **WK5** search reading **WK6** summarising **WK7** administering questionnaire and post-test	**7 sessions:** **WK1** -administering questionnaire, post-test and think-aloud training **WK2** previewing & predicting **WK3** skimming **WK4** scanning **WK5** search reading **WK6** summarising **WK7** administering questionnaire and post-test	**12 sessions:** **Before the first session** -administering questionnaire, pre-test and think-aloud training **WK1** previewing &predicting **WK2** previewing & predicting -performing think-aloud **WK3** skimming **WK4** skimming -performing think-aloud **WK5** scanning **WK6** scanning -performing think-aloud	**12 sessions:** **Before the first session** -administering questionnaire, pre-test and think-aloud training **WK1** previewing &predicting **WK2** previewing & predicting -performing think-aloud **WK3** skimming **WK4** skimming -performing think-aloud **WK5** scanning **WK6** scanning -performing think-aloud

			WK7 search reading	**WK7** search reading
			WK8 search reading	**WK8** search reading
			-performing think-aloud	-performing think-aloud
			WK9 summarizing	**WK9** summarizing
			WK10 summarizing	**WK10** summarizing
			-performing think-aloud	-performing think-aloud
			WK11	**WK11**
			-administering questionnaire and post-test	-administering questionnaire and post-test
			WK12	**WK12**
			-group interview	-group interview
Duration of training	**21 hours, over 7 weeks (3 hours/week)**		**36 hours over 12 weeks (3 hours/week)**	

Methodology:

The investigation of the third research question will involve administering a pre-test and a post-test to both the Experimental group and the Control group. The scores on the pre-test (administered at the beginning of the course) will be compared with the scores on the post-test (administered at the end of the course) to investigate the extent of the students' improvement on measures of reading comprehension following the programme of reading strategy instruction. Comparisons will also be made between the two groups to

establish whether the Experimental group, who received explicit reading strategy instruction, made more improvement than the Control group following instruction.

3.4 The EIC *Reading I* Course

English majors at RMUTI have to enroll for 126 credits over the four year programme. Students are required to take 30 credits of general education courses, 90 credits of specific courses, and 6 credits of free elective courses. Specific courses include 30 credits for required major courses, 42 credits for electives, 15 credits for minor courses, and 3 credits for independent study or professional training.

Among the major courses, there are five reading courses namely: *Reading I (Introduction to Reading)*, *Academic Reading*, *Reading English Newspapers*, *Critical Reading*, and *Reading for Pleasure* included in the syllabus. Reading I or Introduction to Reading is considered the most important for the first year EIC student as it is a core course that they have to pass before enrolling in other reading courses and this course emphasises reading skills that help students build up their reading abilities more generally.

The study is specifically concerned with the core English course for English major students: *Reading I*. This course aims at helping students to learn and practice reading in English. The course materials do include exercises that are intended to familiarize students with reading strategies, including both

local reading strategies and global reading strategies, but these are not made an explicit focus of instruction, apparently being introduced only incidentally. This study focuses mainly on the *global* strategies taught in this particular context because, as noted in Chapter 2 above, these are of particular relevance to undergraduate English major students in academic reading and real life reading (e.g. Weir *et al*, 2000).

3.5 Description of the Participants

Students participating in this study were all first year undergraduate English major students on the English for International Communication Programme (EIC). The students are all of very similar age –18 to 19 years old–but are from different fields of study at upper secondary school and can vary considerably in English proficiency level. After graduation, the students on this course typically intend to use their English skills to work for a Thai or international organization such as the Ministry of foreign affairs, international schools, tourist information centres, foreign companies or hotels.

On the basis of scores on a pre-test of reading proficiency in English, the plan was to divide the 40 students into two groups of similar reading ability, forming a Control group and an Experimental group. The pre-test was to be given one week before the beginning of the first session. A mid-term test would be administered at the 8th week and a related post-test at the end of the 12-week course.

3.6 Teaching Materials

The planned programme of explicit reading strategy instruction involved one semester of a 4-year programme. The Control group was to follow the established "*Reading I*" curriculum (see Appendix 2.1). The Experimental group was to be given a 12-week (3 hours per week) strategy-based reading instruction course.

For the purpose of the experiment, new reading strategy materials were written by the researcher based on the framework described in the literature review. These reading strategy materials focus on the explicit teaching of reading strategies as predicting, previewing, skimming, scanning, search reading, and summarizing. The instructional materials were modeled on activities found in widely used international textbooks that cover these reading strategies, such as *Inside Out* (Kay and Jones, 2009), *Headway* (Soars and Soars, 1990) and *Total English* (Clare and Wilson2006), adapted by the researcher to be integrated with the three-step approach to strategy instruction based on those advocated by Winograd and Hare (1988) and others (see Section 2.8).

3.6.1 Design

The design of teaching materials for reading strategy instruction contains the kind of strategy and its definition with clearly explained steps on how to use that strategy effectively. First, the researcher informed the students what

strategy they were going to learn by providing a definition/description of the strategy. The researcher also explained why the strategy is important and reminded the students about the benefits of strategy use then demonstrated how to use the strategy effectively, and when to use the strategy. The example that follows is information given to students about scanning, the third unit in the sequence.

UNIT 3: SCANNING

Scanning is a way of reading. It is reading selectively to achieve very specific reading goals.

When you scan, you look quickly at a text to find specific information such as a fact, a name, a number, a word and phrase. Make a clear picture in your mind of the information you are looking for. Move your eyes very quickly across the text without reading every word. When you find the information, stop and read the sentence to pick up the information you are looking for. If you scan a reading to find key words or phrases closely related to your purpose, it can help you decide if you should read the text again closely.

The teaching material was designed in accordance with three basic reading instructions as follows:

3.6.1.1 Pre-reading activity

Pre-reading tasks tend to function as 'a bridge of sorts between a reader's knowledge base and the text' (Tierney and Cunningham, 1991, p.610). Pre-reading aims to get students attention and raise their interest to the reading text. This can be done by introducing the title, subtitle, text organization, previewing vocabulary, looking at pictures, maps, diagrams, or graphs and

their captions. Reading comprehension questions in advance can also help to focus attention on finding that information while reading. Again, an example is given of how these steps were operationalised in Unit 3.

In Unit 3: Scanning, the pre-reading tasks were provided as a warm-up activity. Students were asked to do this activity individually. This warm-up activity was intended to help student practice moving their eyes very quickly across the words.

Warm-Up Activity **Take 15 seconds to scan the repeated word in bold, and then underline it.**

1. **newspaper**   journal   periodical   magazine newspaper
                    review   bulletin

2. **geology**   geometry   psychology   physics   logic
                    geography   geology

3. **anarchism**   socialism   conservatism   Marxism   liberalism
                    anarchism   capitalism

4. **plumber**   carpenter   stonemason   plumber   glazier
                    welder   miller

5. **sheikh**   king   shah   emperor   prince
                    czar   sheikh

6. **astronomy**   astrology   astrophysics   cosmology
                    astronomy   astronomer   meteorologist

In activity 1, students were asked to work individually because this activity needs speed reading to scan the texts. They were assigned to scan the signs about 'Missing cats and dogs' to answer 'True' and 'False' questions.

In activity 2, students were assigned to spend only two minutes to scan the web page about the group *Enigma* and find the numbers. This activity aims at practicing scanning at local level.

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Reviews & Previews

Track-by-track review by Martyn Woolley
Long review by Joar Grimstvedt
Track-by-track review by Steven de Jong

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3.6.1.2   While-reading activity

The while-reading activity was aimed at checking comprehension of what is being read. While reading the text, students had to check whether they could comprehend the whole meaning of the text and whether they could obtain information they needed from the text to achieve their reading purposes.

Activity 3:

<div style="border:1px solid">

JUST ASK!

Before Reading

Which of these things is most important in a partner? Number them from 1 (most important) to 4 (least important).

…………. good looks   ……… an outgoing personality

….....…… a sense of humor   ……… being a good listener

</div>

Before reading the main reading text, students were provided with a pre-reading activity (Activity 3). The students were asked to rate the things that were most important to them in a partner. In this activity, the researcher assigned the students to work individually and then asked them to discuss their answers in pairs. After that, the researcher asked some students to explain to the class why they rated in the way that they had chosen.

While-reading

> **Read the statements and guess whether they are made by Jon (J) or Ms.Hope (H).   Then scan the text to check.**
>
> ……….1. I need your help.
>
> ……….2. Lots of people don't care about movie star looks.
>
> ……….3. Girls like boys who are confident and good-looking.
>
> ……….4. It's important to be a good listener.

In the while-reading activity, the students were provided with a text in the form of two letters responding to each other. Students were assigned to scan the text to check which of the statements provided were made by which correspondent [Jon (J) or Ms. Hope (H)].

In this activity, students were given an opportunity to practice using a scanning strategy at the global level in order to complete the task.

3.6.1.3   Post-reading activity

Post-reading activities give students opportunities to practice their reading and reiterates what they have learnt in the lesson. Moreover, they give students opportunities to monitor or evaluate their success.

In the post-reading activity for Unit 3, the students were given opportunities to check their comprehension by answering questions, expanding vocabulary and giving opinions.

The three steps of reading instruction were designed to encourage students to use reading strategies more appropriately and successfully. The steps were explicitly explained to the students and were also used to organise the twenty-nine closed-response questionnaire items, which were also divided according to the three categories of *before reading the text, when reading the text*, and *after reading the text'*.

3.7 Research Methods

In this section, details of the research design and the process of constructing the research instruments are described in detail.

The research design of the present study is a quasi-experimental design involving a pre-test-post-test group comparison that deals primarily with the phenomenon of cause and effect (William, 2001; Tomas, 2003). The quasi-experimental design was used because it seems particularly appropriate to the purpose of the study: investigating the effects on learners of explicit reading strategy instruction. The findings of quasi-experimental studies may be applied to other participants in different contexts, allowing for some generalizations to be made about the wider population (Tomas, 2003). In this case it is important to make generalisations about the wider population of students at RMUTI and at universities across Thailand with similar student populations.

In this study, students with similar background features and reading abilities were assigned to Experimental and Control groups in order to compare the improvement in their reading abilities. The participants in the Experimental group were provided with a 12-week course of explicit reading strategy instruction while the Control group received no strategy instruction, but were taught through a more traditional teaching approach, limiting instruction in strategy use to the embedded strategy instruction found in the course book.

Along with the quasi-experimental design, a mixed-method approach was adopted for this study as a means of exploiting the strengths and minimising the weaknesses of both quantitative and qualitative approaches. Gillham (2000) makes a strong case for the use of mixed methods, arguing that applying just one approach in research is rarely adequate. Based on this recommendation, this study involves an exploratory mixed-method design in which quantitative and qualitative research data, techniques and methods serve to support and validate each other.

Green *et al* (1989) highlighted five major purposes for using mixed-method designs as follows:

- Triangulation – testing the consistency of findings obtained through different instruments.
- Complementarity – clarifying and illustrating results from one method with the use of another method.

- Development – results from one method shaping subsequent methods or steps in the research process.

- Initiation – stimulating new research questions or challenging results obtained through one method.

- Expansion – adding richness and detail to the study, exploiting specific features of each method.

In this study, the key advantages of the mixed-method design can be seen in terms of triangulation and complementarity. There were four types of research instruments utilized in this study: questionnaires, think-aloud protocols, informal interviews, and tests (these are described in detail in Sections 3.7.1, 3.7.2, 3.7.3, 3.7.4). The following sections describe the ways in which these instruments were used in terms of triangulation and complementarity.

Triangulation

Using different methods in a single study, especially if the results fit together, can provide greater confidence in the findings. A quantitative approach involves numerical data based on exact measurement, readily accessible to statistical analysis: the tests and closed-questions in this research are quantitative in nature and results are reported in Chapter 5 in the form of tables and figures. The information from think-aloud protocols, interviews and open-ended questionnaire items is more qualitative and cannot be analysed statistically without interpretation and categorisation by the researcher. The

results from the qualitative instruments are reported in Chapter 5 in the form of narratives supported by quotations taken from the research material.

The quantitative data obtained from the tests will be triangulated with the qualitative data gained from the questionnaires, verbal protocols, and interviews to see whether the results from the quantitative methods are supported by the results from qualitative sources. For example, if the results from the test data show that students make a large improvement in their reading scores (implying that explicit reading strategy instruction may improve students' reading performance), these test results can be compared with the qualitative data obtained from questionnaires, think-aloud protocols and interviews. Do these methods also suggest a substantial improvement in reading performance? In this way, it can be seen whether the results obtained through the different approaches support or contradict each other.

Complementarity

In this study, it may be important to explain the findings from the quantitative research in more detail. For example, the findings from quantitative data obtained from the closed-questions in the questionnaires can be used to answer Research Question 1 on the strategies that Thai undergraduate English major students employ in the EFL reading process and Research Question 2 on the effects of the explicit reading strategy instruction provided. However, the quantitative data can provide little explanation of how or why

these findings occur. The open-ended questions, verbal protocols and informal interviews, in contrast, may provide a less clear, but more detailed picture of how and why learners use strategies when they read. The two different approaches, used in conjunction, will thus provide a fuller answer to the research questions. In short, in this study the quantitative data and results provide a general picture of the research problem and analysis based on the qualitative data is used to refine or explain this general picture (Creswell, 2002).

Ethical issues

When conducting research of this nature, it is important to obtain the cooperation of the relevant authorities and the informed consent of the participants. Before implementing the instruments: tests, questionnaires, interviews and think-aloud protocols for the pilot study, first of all, the researcher asked for permission to conduct the pilot study from the head of the English for International Communication Programme.

In the first session of the *Reading I* course, the students were firstly given the *Informed Consent Form* (see Appendix A) and this was explained to them by the researcher in Thai. They were then asked to sign their names on the *Informed Consent Form* to show that they wished to participate in the research study. The twenty-six students taking the *Reading I* course all agreed to cooperate in the pilot study.

For the main study, the same procedure was carried out as in the pilot study, but this took place one week before the first session of the course. All twenty-eight students involved in the *Reading I* course agreed to participate in the main study.

The following sections describe the development of the research instruments.

3.7.1 Questionnaires

Questionnaires seem to be very popular among educational researchers in general and ELT researchers in particular (Cohen and Manion, 1989). They are a powerful evaluation tool widely used in empirical research because they offer a flexible means of collecting both qualitative and quantitative data. Questionnaire design is based on the types of information to be gathered and kinds of data to be measured. A well designed questionnaire requires a long process to construct starting from the broad aims of what the researcher wants to find out and the clear defined objectives that will provide guidelines of questions to be asked. Clear instructions on how to answer the questions must be provided to maximise the response rate (Oppenheim, 1992).

Generally, there are two types of questions in questionnaires: closed-questions and open-ended questions. Closed-questions are questions in which the possible answers are predetermined and the respondents simply choose the appropriate answer from a given set of responses. They are often presented in the form of multiple-choice questions or rating scales (Gillham, 2000).

There are some advantages of this kind of question. Most obviously, they are easy for the respondents to answer and the researcher can get information from large numbers of people very quickly. Secondly, it is relatively easy for the researcher to analyse the data obtained using statistical analyses. Thirdly, as all respondents see the same set of questions and select from the same set of answer choices, it can reduce the chance bias resulting from differential wording. However, it is difficult to develop effective closed- questions. Poor question wording can have a major effect on the answers obtained. Moreover, closed questions limit the respondent's input to the wording that is given: it may be that respondents might wish to give an answer that is not included as one of the options provided (Oppenheim,1992; Foddy,1993 etc.).

In contrast to closed-questions, open-ended questions allow the respondents to say freely what is on their minds without being influenced by the researcher (Foddy, 1993). Gillham, (2000) argues that this type of question can lead to a greater level of discovery. These are good for obtaining subjective data and producing a variety of responses that may more truly reflect the opinions of the respondents. However, open-ended questions also require careful attention in design, administration and interpretation. Although open-ended questions can generate large amounts of data, they are more troublesome for the respondent to answer and the data can take a long time to process and analyse as the researcher needs to categorise the responses. Whatever types of questions are used in the questionnaires, they need to be clear,

succinct and unambiguous. This can be achieved through careful review and piloting of questions (Gillham, 2000).

Closed-questions and open-ended questions can be seen as complementary tools, each with strengths and weaknesses that can be partly offset by the other. Because of this, the questionnaire designed for this study contains both closed-questions and open-ended questions. The closed-questions are in the form of Likert scales (see 3.6.1.1 below).

3.7.1.1 Design of the Questionnaire Instruments

The purpose of using questionnaires in this study was firstly to obtain relevant student background information in order to contextualise the responses and to help in assigning students to equivalent groups. Secondly, to obtain data on strategies students employed prior to taking the *Reading I* course and strategies used during their course.

The questionnaire designed for this study was developed in two versions: English and Thai. The questionnaire was administered to the students in Thai because that is their first language. Using the respondents' first language is said to help to avoid misinterpretation and make students feel comfortable when completing the questionnaire (Saunders *et al*, 2009). The English version was needed both for reporting purposes and to obtain input on development from non-Thai speaking experts.

The questionnaire contains both closed-items and open-ended items because these provide different kinds of information. It consists of four main parts. It begins with a statement of purpose to inform the students why the information is being collected. This is followed by questions arranged in four parts: Part 1 - Part 4.

Part 1: Background Information

Part 1 involves factual questions to investigate student background factors such as age, gender, home and school location, and previous education. Generally, it has been suggested that these demographic questions should be placed at the end of the questionnaires because some respondents do not want to answer personal information and these types of questions can affect the response rate (Dillman, 2002). However, in this questionnaire, the demographic questions were placed in the first part of the questionnaire to make students feel at ease as these questions are simple and easy to answer. This makes it less likely that the respondents will disengage from the questionnaire. In addition, before responding to the questionnaire, students were informed that their personal information would be kept confidential. This reassurance might also have increased the students' willingness to respond.

Student's age and gender were included in this part because age and gender differences might affect learning (Ellis, 1997). Students' home and school location where they had lived or studied before they entered the university

were also included in this part because urban settings offer more opportunities to experience English than do rural areas. They also tend to provide better teaching facilities and learning resources (Spolsky, 1989). With regards to questions about students' previous educational background, the questions about grade of starting learning English, programme of study in secondary school, medium of instruction at secondary school, attending a language course at language school, and living in an English speaking country, were asked in the first part of the questionnaire. This background information was used in assigning the students to Experimental and Control groups. This helped to ensure that the two groups would be equivalent in terms of background features.

Part 2: Reading Strategies (closed questions)

Relationship to research questions and literature

Questionnaire Part 2 contains 29 closed items asking about students' more subjective experiences. The focus is on reading strategies employed in the EFL reading process. In this part, 6 point Likert scales were used as response options.

Likert scales allow respondents to specify degrees of agreement with a statement. The respondent is asked to choose only one of the response categories. McDonough (1997) explains that Likert scales are more often used to elicit opinions rather than facts. Their advantage is that shades of

opinion may be given numerical values: it might be significant if large numbers of respondents show only partial agreement with a particular statement, but strongly agree with others.

A weakness of Likert scales is that the midpoint is often difficult to interpret (respondents may choose the midpoint because the question is not relevant to them or because the respondent is not interested). It is also known that people vary in degrees of caution, and one person's tentative agreement may be another person's strong agreement (McDonough 1997). Despite such problems, the results should still be comparable at the group level. To avoid the tendency to select the midpoint, in this study a six-point scale was used, effectively forcing the respondents to select a point either above or below the midpoint.

The scale categories were assigned numeric values, from 0-5 [0 = never (0%), 1 = rarely (25%), 2 = sometimes (50%), 3 = often (75%), 4 = usually (90%), and 5 = always (100%)]. The answers obtained from the Likert scales were intended to show how often the respondents used the listed strategies when reading in English.

The 29 closed items were divided into 3 categories. The first category – *before reading the text* – contains 8 items, the second category – *when reading the text*, 18 items, and the third category – *after reading the text*, 3 items. The information from the 29 closed items were designed to indicate

what reading strategies students employed prior to taking the *Reading I* course (first questionnaire administration) and after receiving the programme of explicit strategy instruction (second questionnaire administration).

The first set of items in Part 2 concern whether students employ previewing and predicting strategies before they read a text. The eight items in this category include,

1. *'plan what to do before I start'*

2. *'have a purpose in mind'*

3. *'read the title and sub-titles before reading the rest of the text'*

4. *'focus on the key words from the title'*

5. *'think what I already know about the topic'*

6. *'think about how one sub-title relates to another sub-title'*

7. *'look at any pictures/illustrations'*

8. *'think about what information the writer might present'*

Items in the second category address the strategies that students might use while they read a text. The eighteen items, ordered by category are:

Careful, incremental reading

9. '*read every sentence slowly and carefully to understand the text*'

27. '*re-read it once or more if I do not understand it'*

Skimming

    10*. 'read the first sentence of each paragraph*'

    11*. 'read the first paragraph and last paragraph.(introduction& conclusion)*'

    16*. 'skim the text quickly to get the general ideas*'

Coping with unknown vocabulary

    12*. 'guess the meanings of unknown words or phrases*'

    13*. 'skip unknown words*'

Applying language knowledge

    14*. 'use contextual clues to help me understand the text better*'

    15*. 'use English grammar to help me understand the text*'

Scanning/search reading

    17*. 'scan the text for specific details*'

Summarizing

    18*. 'distinguish between main points and examples*'

    19*. 'differentiate important from unimportant ideas'*

    20. 'distinguish between fact and opinion'

    21*. 'understand the relationship between ideas*'

22. 'analyze what the writer meant or tried to say'

23. 'take notes while reading to help me understand what I have read'

24. 'write a summary of the main information in the text'

28. 'make notes on the main points as I remember them'

Translation

25. 'translate the text from English into Thai '

Evaluation

26. 'check if my guesses about the text are right or wrong'

29. 'evaluate my plans or goals for reading'

Part 3: Reading Strategies (open-ended questions)

Relationship to research questions and literature

Questionnaire Part 3 took the form of open-ended free text response questions. The seven open-ended items were developed to allow students freedom to express their opinions about the strategies used in the reading process. The questions are:

1. 'While reading English texts what do you do to help you understand the meaning of the text?'

2. 'What do you do to help yourself find the main idea in the passage?'

3 'What do you do to help you find the supporting details in the passage?'

4. 'What strategies do you use most often?'

5. 'What do you do if your first strategy/strategies do[es] not work?'

6. 'Do you read differently when reading Thai and English texts? How?'

7. 'Which reading strategies help you to have a better understanding of
English texts? Why?'.

Part 4: Reading Strategies (open-ended questions)

Relationship to research questions and literature

Questionnaire Part 4 allowed respondents space to comment further on their strategy use. It consisted of one opened-ended question: '*Is there anything you would like to add about your problems and strategies with reading in English?*'. The intention was to gather more in-depth information or information that students felt was important, but were not able to express in responding to other parts of the questionnaires. Furthermore, it might allow the researcher to explore ideas that would not otherwise be expressed and so might prove useful where additional insights seemed necessary.

3.7.1.2 Piloting of the Questionnaires

Piloting has always been a crucial part of questionnaire design (Dillman, 2000). The issues that need to be considered include the content and format. Piloting and evaluation of these issues is an important step for the researcher because the piloting process enables the researcher to determine whether the questions are being asked appropriately in the most effective way and whether the participants are able to answer the questions properly. The purpose of piloting the questionnaires was to ensure instrument validity. Validity in questionnaire design includes the steps taken by the researcher to ensure overall clarity and appropriate wording and ordering of the items.

Review

In order to ensure validity, the first English version of the Questionnaire was initially shown to 5 PhD students in Language and Linguistics at a UK University to comment on the clarity of items and suggest changes. Most of the comments and corrections given by the 5 PhD students were on the content of statements and wordings. An example of this kind of comment was on Part 1, question 10: '*have you been to an English speaking country such as the UK, the US, Australia, New-Zealand, Canada, Singapore or others?*'. Initially, this question was a dichotomous question that provided with a yes/no tick box. It was suggested that follow-up questions should be added for respondents who answered 'yes' to this item such as '*which*

country/countries?', '*when*?', '*for how long*?'. After receiving the comments and corrections, the Questionnaire was edited to meet their expectations in terms of wording of statements, their order, and clarity.

The Questionnaires were then given to a group of three experts at the Centre for Research in English language Learning and Assessment (CRELLA), University of Bedfordshire, to examine and evaluate the content and the format of the Questionnaire. Some comments obtained from these experts included suggested changes on Questionnaire Part 2. It was suggested that the 29 closed-items in this part should be organised into 3 sections: *before reading the text*, *when reading the text*, and *after reading the text*. Some other comments were given on the content of questions 10-26. It was recommended that there may be too many strategies in this section that are repetitive or too close to each other for the students to be able to distinguish. Furthermore, it was suggested to add open-ended question at the end of the Questionnaire to allow students freedom to write their opinions about problems and strategies with reading in English.

With regard to the experts' comments, the second part of the Questionnaire was grouped into three sections and the content of questions 10-26 was re-checked and repetition eliminated. Questionnaire Part 4 which contains one opened-ended question to allow students some freedom to express about their problems and strategies with reading in English was added in accordance with the expert's recommendation. An English version of the

Questionnaires was then finalised ready for translation and piloting (see Appendix B).

Translation

This final English Version of the Questionnaire was first translated by the researcher into Thai. It was then checked by three professors of Thai (all L1 Thai speakers). Some changes were made to the wording. The second Thai Version Questionnaires were then distributed to eight L1 Thai teachers of English. From their comments and suggestions, some further changes were made in terms of wording of statements.

The Thai Questionnaires were finally piloted with the 26 English major students taking the *Reading I* course as part of the wider pilot study. Based on their responses, unclear questions were identified. One question that seemed to mislead the students when translated into Thai was '*did you study at English medium high school*?'

When this was translated into Thai, some students misunderstood 'English Medium' to mean that the teacher used English in their English language classes, not that classes in *all* subjects were conducted in English. This question was re-written to read '*Did you study on an English Programme (EP), (the teacher uses English as the medium of instruction in the classroom at high school?*).

After correcting this question, the final Thai Questionnaires were prepared for the main study (see Appendix 3.4).

3.7.1.3 Procedure of Administering the Questionnaires

The Questionnaires were intended to be administered to 40 first-year English major students taking the *Reading I* course at EIC programme. It was initially assumed that there would be two classes of first-year English major students – a morning class and an evening class – offered in the academic year 2009. Unfortunately, only one morning class with 26 first-year English major students was offered in that academic year. Consequently, just 26 students were asked to participate in the pilot study.

The procedure of administering the Questionnaires in the pilot study took place in the lecture room in the first week of semester one. In this session, the researcher explained the procedures in Thai. First of all, the Questionnaires were given to 26 students. The purpose and benefits of the Questionnaires were explained by the researcher. Before students completed the Questionnaires, it was stated that all information collected would be kept confidentially and no individuals would be identified in the study. In addition, verbal instructions were given on how to respond to the questions in each part of the Questionnaire. This was intended to ensure that students understood the questions and would be able to provide a full response to the Questionnaire. The students were asked to return the completed

Questionnaires to the researcher when they had finished. One hour was allowed for completing the questionnaires and this proved to be adequate for all students to finish.

Based on the responses from the piloting, some changes were made in terms of improving unclear wording (see above) and the researcher considered how the Questionnaires should be administered in the main study.

For the main study the final Thai Questionnaires were administered to the whole class of 28 first-year English major students taking the *Reading I* course in academic year 2010.

The procedures of administering the Questionnaires for the main study were almost identical to the pilot study, but two minor changes were made. Firstly, unlike the piloting in which they were administered in the first session, the Questionnaires were now administered one week before the first session. This helped to ensure that the students could be divided into two groups with similar background features according to the information obtained from the Questionnaire Part 1 before the beginning of the course and the two groups would be ready for the experiment in the first week of the strategy instruction programme.

Secondly, it was noted during piloting that several answers to the open-ended questions in Parts 3 and 4 had been copied from the closed items in Part 2. A minor change was made to the administration of the Questionnaires to deal

with this problem. After the Questionnaires were translated into Thai language, the Questionnaires were divided into two booklets: Parts 1-2 and Parts 3-4. Parts 1-2 were given to the students first, and were collected in after completion. Parts 3-4 were then distributed and the students completed these. It was not therefore possible for students to copy items from Part 2 in responding to Parts 3-4. The Questionnaires were re-administered to both Experimental and Control groups at the end of the course in the same way.

3.7.2 Verbal Protocols

According to Green (1998) a '*verbal protocol' is 'a special label used to describe the data gathered from an individual under special conditions, where the person is asked to either "talk aloud" or "think aloud"* as the task is carried out' (p.1). Think-aloud protocols, which are one form of verbal protocol, involve participants expressing their thoughts while (concurrent) or just after (retrospective) performing a set of specified tasks. Think-aloud protocols and other related verbal report formats were first developed by Newel and Simon (1972) in the US. They were used to examine the problem solving activities that an individual goes through to answer math problems. These techniques were used because they provide a means for investigating invisible cognitive and mental processes (Ericsson & Simon, 1984; Afflerback & Johnston, 1984).

Verbal protocol analysis is claimed to be a rigorous methodology for eliciting valid data on thought sequences (Ericsson, 2002). In other words, it is commonly assumed that verbal protocol data reflects what is available in working memory, accessible to consciousness and codable in language (Ericsson & Simon, 1984; 1987). For this reason, think-aloud protocols have often been adopted as a tool in research on reading strategies since they reveal the kinds of strategies readers use in accomplishing tasks, and the kinds of knowledge sources they call upon (Olson, Duffy, & Mack, 1984). Think-aloud protocols are believed to provide an accurate picture of processing during the reading process and research involving college students suggests that students' think-aloud provide access to what students do when they face difficulties in text (Leslie & Caldwell, 2001).

To minimise the impact on performance, Devine (1987) recommends that think aloud procedures should be performed in the readers' first language. She points out that the limited oral language proficiency of many L2 readers may make the think aloud protocols less reliable. Likewise, Anderson (1989) found that EFL readers provided much more information about their cognitive processes in reading if they were asked to provide the protocols in their first language.

In this study, verbal protocols were employed to investigate the participants' reading strategies during their EFL reading. Verbal protocols may be gathered in different ways. However, the researcher used concurrent think-

aloud protocols where the participants produce verbal reports of their thoughts as they are performing a task. Concurrent think-aloud was employed because it seemed most suitable for students to report their strategies during the reading process rather than trying to recall what they had done at a later stage (Green, 1998).

The information obtained from the think-aloud protocols was intended to provide answers to RQ1 and RQ 2 which involve the reading strategies that Thai undergraduate English major students employ in the EFL reading process and the effects of reading strategy instruction on learners' use of reading strategies in English.

3.7.2.1   Procedures of Think-aloud Training

For the piloting, it was intended that a *think-aloud Protocol* would be carried out immediately after the students had completed the second session taught on each strategy as this represented the completion of each instructional cycle. Unfortunately, changes to the student's timetables meant that the students had to attend another class after the '*Reading I* 'class had finished, so that the *think-aloud Protocols* could not be completed immediately after the class, but had to be carried out on other days instead.

Based on the difficulty experienced in piloting (involving an undesirable delay between strategy instruction and the think aloud activity) the timing of the think-aloud procedures for the main study was agreed in advance. The

teaching timetable for the *Reading I course* was revised again so that the students would be able to participate in the *think-aloud Protocols* in the language laboratory immediately following the second session of each strategy instructed.

3.7.2.1.1 Think-aloud Training for the Whole Class

Prior to the start of the course in the main study, the 28 first-year English major students were asked to attend one week before the first session of the *Reading I* course. The students were gathered in the lecture room to do the *Tests*, *Questionnaires*, and *Think Aloud* training. This took 3 hours in total. In the last hour of this session, the whole class of 28 students were trained on how to carry out the *think-aloud* by following the '*Instructions on the Think Aloud Procedure*' which was written in Thai (see Appendix D). The researcher's explanation was in Thai while she demonstrated the think-aloud process in a combination of English and Thai. The steps for training in *think-aloud* to the whole class were as follows:

- Firstly, each student was given the '*Instructions on the Think Aloud Procedure*' (see Appendix 3.2) and asked to read it.

- The researcher explained in detail what was written in the '*Instructions on the Think Aloud Procedure*' to the whole class, responding to any student questions.

- The students were given an example reading text and referred to this while the researcher demonstrated the *think-aloud* on the first paragraph of the text.

- The students, working individually, practiced the *think-aloud* with the rest of the reading text and monitored by the researcher.

3.7.2.1.2 Think-aloud Training for the Control and Experimental Groups

The participants in the Experimental group were instructed with the *Previewing* & *Predicting* strategies and trained to do the *think-aloud* again in the first session. The steps of the think-aloud Protocols training for the Experimental Group are described below.

- The whole class of students in the Experimental Group were instructed in *Previewing* & *Predicting*.

- The researcher demonstrated how to implement the instructed strategy by thinking aloud as she performed each step in the strategy to encourage the students to recognize the thought processes involved.

- Before the students practiced thinking-aloud, they were told that they were allowed to perform the *think-aloud* in the language with which they felt most comfortable - English, the combination of English and Thai, or Thai - during their reading process.

- Students were divided into groups of five and the students in each group were each in turn assigned the role of the researcher, modelling the use of strategies as they read a text.

- Students conducted a group discussion on the use of the target strategies and then practiced independently.

- Finally, a whole class discussion was carried out at the end of the session in which students talked about possible explanations for their success or failure. This helped students to reflect on what they had learnt.

3.7.2.2   Procedures of Think-aloud Data Collection

In the second session addressing each strategy instructed, the participants in the Experimental Group performed the *think-aloud* in the way set out above (see Section 3.7.2.1.2). The procedure for collecting *think-aloud* data was as follows:

- After the class session, the researcher asked for one volunteer in each group to perform the *think-aloud* while using the strategies just instructed.

- Following this brief demonstration, reading materials with clear instructions were provided to individuals so that they were aware of what was required and what to avoid (see example in Appendix 3.1).

- Prior to performing the *think-aloud*, the researcher told individuals that a combination of L1 and L2 was allowed while they verbalised their thoughts and read the text. Individuals were asked to verbalise whatever they were thinking and to try to explain why they were thinking such thoughts during the process of their L2/EFL reading.

- Individuals' *think-alouds* were audio recorded. Participants were allowed to pause the tape recorder whenever they chose and no time limit was imposed during each student's think-aloud recording.

Think-aloud protocols were employed in this study as a tool to investigate the learners' reading strategies when they read a text in English. The data obtained from this instrument should provide more in-depth information on how and why learners use such strategies during the EFL reading process, adding to the evidence from questionnaires and interviews.

The information obtained from the *think-aloud* will provide answers to RQ1: *Which reading strategies do Thai undergraduate English major students employ in the EFL reading process?* and RQ 2: *Does reading strategy instruction affect students' use of reading strategies in English?*

While reading the text and performing tasks, students' think-aloud reports indicated what reading strategies they employed before and after instruction. In addition, the differences in the frequency of use of strategies between Time 1 and Time 2 showed whether reading strategy instruction has affected students' use of reading strategies in English.

To answer RQ 1 and RQ 2, the qualitative data obtained from the think-aloud protocols were triangulated with the questionnaire data results: quantitative data from closed-items and qualitative data from open-ended items. The data from these two different approaches was used to indicate whether the results from the qualitative approaches (think-aloud) are supported by the results from the quantitative and qualitative questionnaire data.

3.7.2.3   Analysis of Think-aloud Data

To analyse the qualitative data obtained from think-aloud protocols, first of all, the tape-recorded think-aloud protocols were transcribed by the researcher. The transcriptions were translated into English. The English transcriptions were then coded in relation to the strategy framework derived from the literature review. Any strategies that were mentioned by students, but not included in the strategy framework, were also reported.

3.7.3   Interviews

The interview is a research technique which serves different purposes in the wider context of life as evaluating or assessing a person in some respect (Cohen & Manion, 1994). The purpose of all research interviews is to obtain information of certain kinds. This information may be in the form of factual replies to factual questions, or responses to attitude scale items, or ideas and feelings, or percepts and expectations, attitudes and so forth (Openheim, 1992).

Interviews as a specific research tool can range from the formal interview through less formal interviews. In a formal interview set questions are asked and the answers recorded on a standardized schedule whereas in a less formal interview, the interviewer is free to modify the sequence of questions, change the wording, explain them or add to them. In a very informal interview, the interviewer may have a number of key issues which he or she raises in conversational style instead of having a predetermined set of questions (Cohen & Manion, 1994).

Cohen & Manion (1994), interviews that are used specifically as research tools into four types: the structured interview; the unstructured interview; the non-directive interview; and the focused interview.

Cohen & Manion (1994) point out that the structured interview is one of the most frequently used methods of eliciting information in social and education research and it is also widely used in research on language learning, for example in data collection on attitudes or proficiency (McDonough, 1997). In the structured interview, the content and procedures are organized in advance. That is the sequence and wording of the questions are determined by means of a schedule and the interviewer is left little freedom to make modification. It is therefore characterized by being a closed situation. The three main types of item are set out and used in this kind of interview: fixed alternative; open-ended; and scale: usually degrees of agreement-disagreement (Cohen & Manion, 1989). Structured interviews have some

advantages in terms of allowing the interviewer to seek clarification in limited ways, and to disambiguate questions if necessary, and they normally yield a better response rate than other types.

In contrast to the structured interview, the unstructured interview is an open situation which allows the interviewer far greater flexibility and freedom to make modification such as changing the order of questions and allows for more extensive follow-up of responses (Cohen & Manion, 1994, McDonough, 1997). In the unstructured interview, a rough checklist is formulated in outline. The direction of the interview intentionally follows interviewee responses, with some of the characteristics of natural conversation.

The non-directive interview is a research technique in which the interviewer exerts minimal direction or control and the respondent is given the freedom to express his or her subjective feelings as fully and as spontaneously as he or she chooses or is able. In this type of interview, the interviewer takes on a subordinate role.

The focused interview focuses on a respondent's subjective responses to a known situation in which she has been involved and which has been analysed by the interviewer prior to the interview. She is thereby able to use the data from the interview to substantiate or reject hypotheses based on the data already collected (Cohen & Manion, 1994).

Chamot & El-Dinary (1999), point out that the interview one of the most common methods of data collection in language learning strategies research. In this context, focussed and semi-structured interviews are often used to provide retrospective information on students' recollections of the strategies they have used for particular tasks. Several researchers used the interview as a tool to gain in-depth information about language reading strategies because information can be collected from a reasonably large number of participants, and analysis is straightforward (e.g., Cohen, 1998; Nyikos & Oxford 1993; O'Malley & Chamot, 1990; Oxford, 1990, 1996; Oxford & Burry-Stock, 1995; Jimenez et al., 1996; and Calero-Breckheimer & Goetz, 1993).

Unlike the use of interviews in other strategy research, the interviews in this study were used primarily to follow up issues raised through other methods and to obtain a broad picture of learners' beliefs and attitudes towards learning reading skills in English. To serve these purposes, an informal focus group interview approach was used to provide the researcher with a means of following up results and to go deeper into the motivations of respondents and their reasons for responding as they did.

The group interview gives some advantages in terms of providing a wider range of information. This may be because the participants feel more comfortable to answer in a group with similar interests and response from some participants may encourage others to provide more data. Many ideas may arise during the discussion. The group interview also provides flexibility

to the interviewer to alter the planned outline and develop new questions according to the emerging situation.

3.7.3.1 Procedures of Conducting Information Interviews

Informal interviews were conducted for the Control and Experimental groups on separate occasions. They took place in the lecture room during the last session of the course. First of all, the researcher told each class of students that she would like to conduct informal group interviews in Thai and record what the students thought in general about their experiences on the *Reading I* course. The students were asked to gather in groups of three. Each group was invited in turn to talk to the researcher for around fifteen to twenty minutes. Each group was asked to express themselves freely and informally, giving their opinions about the class. The researcher intervened to ask a few preplanned questions including the following examples, but mostly the students engaged in conversation between themselves.

Example questions for the focus group discussion:

> *'What do you think of the role of English in Thailand nowadays?'*

> *'How do you think you will have to use reading in English in your live?'*

> *'What methods do you think will be suitable for teaching reading?'*

Although some questions were preplanned, while the participants were talking the researcher also asked follow up questions, depending on the direction of each conversation. For the Experimental group, the follow up questions focussed on the reading strategies taught during the course, for the Control group, the questions were more general as the conversation did not focus on taught strategies.

3.7.3.2 Analysis of Interview Data

To analyse the qualitative data obtained from informal interviews, first of all, the tape recorded interview protocols were transcribed in Thai and these transcriptions were translated into English. The learners' responses to the three key interview questions (see Section 3.7.3.1) are reported narratively in Chapter 5.

Follow up interview questions were put to the participants in the Experimental group. These focussed on the reading strategies taught during the course. Based on the data obtained from these follow up interview questions, the reading strategies reported were grouped into different categories in relation to the strategy framework derived from the literature review and employed in the questionnaire study.

The interview data results were triangulated with the questionnaire data results: the quantitative data from the closed-items and the qualitative data from the open-ended items. Findings from both the questionnaires and the

interviews were then compared with the findings from the qualitative data from the think-aloud data to establish how far these supported each other.

3.7.4 Tests

The same reading tests (see Appendix E) were administered to both the Experimental and the Control group at the beginning and end of the *Reading I* course. The purpose of the pre-test was firstly to investigate the participants' reading proficiency in English. The scores obtained were used, together with background information from the questionnaire, in assigning the participants to the Control and Experimental groups. This helped to ensure that the two groups would be equivalent in terms of reading proficiency as well as key background variables such as sex and home/ school location. Comparisons between the scores obtained on the pre-test and scores obtained on the post-test were used to provide answers to RQ3: to estimate participants' improvement in reading performance after receiving a programme of explicit reading strategy instruction.

The test employed had been developed collaboratively by a team at the University of Bedfordshire headed by Professor Weir as part of the development of the British Council *International Language Assessment* (ILA). It had been piloted on over 1,000 learners at a range of proficiency levels and found to provide reliable results: consistently giving reliability coefficients (alpha) of 0.9 or more (personal communication).

The test is intended to address the different levels of the Common European Framework of Reference for Languages: Learning, Teaching, and Assessment (CEFR) (Council of Europe 2001) on the basis of level descriptions contained in illustrative scales (see for example the scale for 'Overall Reading Comprehension' on p.69 given below). As the test is designed to address different types of reading according to the Khalifa and Weir (2009) model and covers different levels of proficiency, it was felt to be appropriate as a measure both of the range of aspects of reading ability described by Khalifa and Weir (2009) and the possible range of ability among the test taking students.

To address different aspects of reading ability, the test was divided into six parts with different types of test questions targeting different aspects of reading ability appropriate to learners at different levels of ability in each. Based on the CEFR, learners can be classified into three broad divisions (A, B and C) which can be further divided into six reference levels A1, A2, B1, B2, C1, and C2 as follows:

A: Basic

A1 Breakthrough or beginner

Can understand very short, simple texts a single phrase at a time, picking up familiar names, words and basic phrases and rereading as required.

A2 Waystage or elementary

Can understand short, simple texts containing the highest frequency vocabulary, including a proportion of shared international vocabulary items.

B: Independent

B1 Threshold or pre-intermediate

Can read straightforward factual texts on subjects related to his/her field and interest with a satisfactory level of comprehension. Can understand short, simple texts on familiar matters of a concrete type which consist of high frequency everyday or job-related language.

B2 Vantage or intermediate

Can read with a large degree of independence, adapting style and speed of reading to different texts and purposes, and using appropriate reference sources selectively. Has a broad active reading vocabulary, but may experience some difficulty with low frequency idioms.

C: Proficient

C1 Effective Operational Proficiency or upper intermediate

Can understand in detail lengthy, complex texts, whether or not they relate to his/her own area of speciality, provided he/she can reread difficult sections.

C2 Mastery or advanced

Can understand a wide range of long and complex texts, appreciating subtle distinctions of style and implicit as well as explicit meaning. Can understand and interpret critically virtually all forms of the written language including abstract, structurally complex, or highly colloquial literary and non-literary writings.

(Council of Europe 2001, p.69)

The six levels above describe what a student is supposed to be able to do in reading. The test developed for this study on the basis of the Council of Europe descriptions is outlined in Table 3.3, presenting the rationale for each section given by the test developers.

Table 3.3: Test design

Part	CEFR level	Task Format and Rationale
1	A1	At A1, to address reading a "single phrase at a time, picking up familiar names, words and basic phrases and rereading as required" (CEFR: 69), a very simple message in postcard format was chosen (also reflecting the CEFR descriptor "can understand short, simple messages on postcards" (CEFR: 69)). The six three-option multiple choice questions (the first being an example) were all targeted at the sentence level and involved decoding skills.
2	A2	At the A2 level, where the intention was to establish that test takers might be able to process "simple everyday material" (CEFR: 26), a very basic narrative is presented. Test takers were required to sequence a series of seven sentences (the first being given as an example) to reconstruct a coherent text. This was intended to reflect a level of propositional comprehension adequate to support understanding of texts such as "short newspaper articles describing events" (CEFR: 69). To reconstruct the narrative, the test taker would need to be able to recover the relationships between the events in the story.
3	B1	At B1, the CEFR suggests that learners should be able to "read straightforward factual texts on subjects related to his/her field and interest with a satisfactory level of comprehension" (CEFR: 69). To address this, the task at this level involved test takers filling seven gaps in a short passage on a concrete topic of general interest from a selection of 16 words provided in a box below the passage. The focus here was on features of coherence such as referencing and the relationships between propositions at the local paragraph level. Again, as at all levels, the first answer was given as an example.

4	**B2**	The B2 task was designed to test reading comprehension at sentence level. It was intended that a successful test taker at B2 level would need to search read in order to locate relevant ideas, but would not, in finding the correct responses, need to comprehend the text as a whole by relating these ideas to each other. B2 items were designed such that each question could be linked with information explicitly presented in the text and appearing within a sentence. The test taker was asked to match seven of eight "subtitles" with the seven paragraphs in the text (the one additional subtitle served as a distractor). The topic sentences of each paragraph were explicit enough to enable direct matching using lexical cues (synonymy at the word or phrase level).
5	**C1**	The C1 task was designed to require the reader to process the whole text and to form a macrostructure of the main ideas. The test taker should not be able to complete the task simply by integrating a few isolated propositions from the text. The task involved test takers selecting summary statements based on parts of the text at the paragraph or multi-paragraph level. The summary statements were presented in random order and there were two additional statements to serve as distractors. The task required test takers first to identify the six correct statements and then to order them as the information appeared in the text. As the first one was given as an example, there were five summary statements to be chosen and ordered. Care was taken to avoid the use of direct word or phrase matching through synonymy.
6	**C2**	The C2 task finally selected for inclusion in the test involved reading and understanding one main text and a number of mini-texts or short (60 to 120- word) extracts from texts on related topics. Test takers were required to decide, out of the seven paragraphs in the passage, which best related to each of the six mini-texts. As one answer was given as an example, test takers would need to match five minitexts with five related paragraphs from the six remaining in the main text. Thus one of the main text paragraphs served as a distractor, being unrelated to any of the mini-texts. The intention was to operationalise the combination of information across texts in line with the CEFR performance description "can understand a wide range of long and complex texts" (CEFR: 69) and Khalifa and Weir's (2009) observation that learners at the highest level are able to take information from multiple sources to build an integrated structure.

3.7.4.1   Procedure of Administering the Tests

The procedure of administering the tests took place in the English Department lecture room, in the academic year 2009 (pilot study) and 2010 (main study). The seats were arranged so that each student would not be able to copy the answers from other students.   The time allocation for completing the test was one hour. Before taking the tests, the researcher explained the purpose of the test and asked students to read the instructions for each part as they consist of different types of test questions. They were allowed to ask questions if the instructions were unclear to them.

For the pilot study, the test was first administered as a pre-test to the 26 first-year English major students in the first session of the 7-week course in the pilot study. Based on the recommendation by Brown (2005) that for research purposes it is appropriate to administer the same test after a period of at least three weeks, the same test was administered as a post-test at the end of the course. Based on analysis of the test results and feedback from the pilot study, the test was then refined for the main study (see Chapter 5, Section 5.2.2).

In the Main Study, the refined version of the test was administered to 28 first-year English major students one week before the first session of the 12-week course. The same test was re-administered to the 28 students at the end of the course as a post-test.

3.7.4.2   Analysis of Test Results

In analysing the test scores, two comparisons were made: first, within group comparisons of scores across the two test occasions; second comparisons across groups to find differences in score gains between the Experimental and Control groups.

The results obtained from the pre-test and post-tests for the Control group and the Experimental group were compared by tabulating results and through analysis of variance through the Statistical Package for the Social Sciences (SPSS). The results from each group were analysed separately to see whether differences in the results occurred before and after receiving the programme of reading strategy instruction. In order to examine whether the programme of reading strategy instruction has an effect on the subjects' reading performance, Analysis of Variance (ANOVA) using SPSS was used to test whether the differences between the mean scores in the pre-test and post-test were significantly greater for the Experimental group than for the Control group.

CHAPTER 4   PILOT STUDY

This chapter presents the results obtained from the pilot study and describes how key issues arising from the piloting were addressed in the revision of procedures and instruments for the main study.

4.1 Introduction

As set out in Chapter 3, the pilot study was conducted at RMUTI within a particular core English course required of all English major students, known as *Reading I (Introduction to Reading)* – see Section 1.1.4.

As explained in Chapters 2 and 3, the study focused mainly on explicit instruction in global and expeditious reading strategies because a) explicit instruction has been found to be more effective than embedded instruction at developing student reading abilities (Duffy et al. 1987; Chamot, 1990) and b) global and expeditious strategies are said to be of particular relevance to undergraduate students for academic reading in real life settings (Weir et al, 2010).

The key purpose of the pilot study was to trial the research methods, to investigate the value of the overall methodology used and to establish how effective this might be in answering the research questions. The data obtained from the piloting helped to improve and refine the methodology for the main study.

The pilot study revealed both advantages and drawbacks for the researcher to take into consideration. It helped her to review the research methodology section and the pilot data obtained informed revisions to the research design, including decisions on participants, materials, research instruments, research procedures, data collection and data analysis for the main study.

4.2 Methodology

4.2.1 Subjects and Procedures

The pilot experiment was carried out with 26 undergraduate English major students taking the *Reading I course*. On the basis of scores on a pre-test of reading proficiency in English, the 26 students were divided into two groups of similar reading ability: a Control group and an Experimental group. The pre-test was given one week before the beginning of the first session. A similar post-test was given at the end of the course.

The methodology broadly followed the procedures set out in Chapter 3. The programme of reading strategy instruction was implemented for 7 weeks. The Control group followed the established *Reading I* curriculum (see Appendix 2.1), which includes an element of embedded strategy instruction, while the

Experimental group was given a 7-week (3 hours per week) reading instruction course that included more explicit global strategy instruction. Reading strategy materials for explicit instruction were adapted by the researcher based on the framework described in the literature review. These materials focused on expeditious global strategies such as predicting, previewing and skimming; careful global reading – summarizing; and expeditious local reading strategies such as scanning and search reading.

4.2.2 Research Instruments

The research instruments used in this pilot study consist of reading strategy instruction materials, reading tests, questionnaires and think-aloud protocols.

4.2.2.1 Reading Strategy Materials

The pilot study materials used for the Control group were an established *Reading I* curriculum with limited embedded instruction provided in reading strategies. The teaching of strategies on this course was based on units from the *Reading I* course book. Strategies addressed did include predicting, previewing, skimming, scanning, search reading, and summarizing.

However, summarizing strategies are not emphasised in this book. Because summarizing strategies are considered to be beneficial for learners in helping them to build an overall representation of the text, they were included in the planned programme of strategy instruction.

4.2.2.2 Reading Tests

The pre-test and post-test of reading proficiency in English have been used in different types of reading. The test was divided into six main parts with different types of test questions designed to target the different levels of the Common European Framework for Languages (CEFR) (Council of Europe, 2001) as given in Table 3.3.

4.2.2.3 Questionnaires

The questionnaires were administered to find out the students' background and explore what reading strategies they employ prior to taking the *Reading I* course. The questionnaires consist of two parts: factual questions to investigate the students' background characteristics such as age, gender and previous educational experience, and questions about subjective experiences which focus on reading strategies that the students use in the EFL reading process.

The first part of the questionnaires were used to collect information on student age, gender, home locations (rural or urban), and educational background, especially previous English language background. This information was used in assigning the learners to Experimental and Control groups. This helped to ensure that the two groups were equivalent in terms of these features.

The second part of the questionnaires contains both closed and open-ended items. The closed items focus on strategies students employ while reading and the open ended items allow students freedom to give their opinions about the strategies used.

4.2.2.4 Verbal Protocols

As mentioned above (Section 3.7.2.1) the administration of the verbal protocols did not prove successful in the pilot study and so the use of the think-aloud method will not be reported in any detail here. Improvements were made to the procedures for the Main study and these are described below.

4.2.3 Testing Reading Performance

Tests of reading comprehension were administered to both groups at the beginning and end of the EIC course. Measurement of the product of reading comprehension does not tell us about the process/strategies utilised by the reader to enhance comprehension or solve any reading difficulties. The researcher thus utilised multiple research methods to identify students' reading strategies and examine the reading process.

The methodology used in the pilot study is summarised in Table 4.1 below:

Table 4.1 Summary of pilot study methods

Research method	Reading strategy materials	Questionnaires	Tests	Verbal protocols	Statistical analysis
RQ1	x	x		x	x
RQ2	x	x		x	x
RQ3	x		x		x

The main input for the study is the reading strategy materials. Types of data collection include questionnaires, tests, and think-aloud verbal protocols. The test data and quantitative questionnaire responses were analyzed statistically while the open-ended questionnaire items and verbal protocol data were analysed qualitatively.

4.3 Procedures

4.3.1 Research Question 1) What are the reading strategies that Thai undergraduate English major students employ in the EFL reading process?

Methodology:

In the investigation of Research Question 1, both qualitative and quantitative research methods were adopted. The questionnaires were administered to find out the students' background and explore what reading strategies they employ prior to taking the *Reading I* course. The questionnaires consisted of two parts: factual questions to investigate the students' background such as

age, gender and previous educational background, and questions about subjective experiences which focus on reading strategies that the students use in the EFL reading process.

The first part of the questionnaires was used to collect information on student age, gender, home locations (rural or urban), and educational background, especially previous English language background. This information was used in assigning the learners to Experimental and Control groups. This helped to ensure that the two groups are equivalent in terms of these features.

The second part of the questionnaires contains both closed and open-ended items. The closed items focus on strategies students employ while reading and the open ended items allow students freedom to give their opinions about the strategies used.

4.3.2 Research Question 2) Does reading strategy instruction affect students' use of reading strategies in English?

Methodology:

To address Research Question 2, which involves the effects of reading strategy instruction on learners' use of reading strategies in English, the same questionnaires were re-administered to both Experimental and Control groups at the end of the course to examine what strategies students have used during their course and the effects of the specific reading strategy instruction provided.

4.3.3 Research Question 3) How much improvement do the students show on measures of reading performance after receiving a programme of reading strategy instruction?

Methodology:

The investigation of the third research question involves a pre-test and a post-test. The pre-test scores were compared with the post-test scores to examine the improvement of the students show on measures of reading performance after the programme of reading strategy instruction.

4.4 Data Analysis

Upon the completion of data collection, the researcher performed data analysis for each instrument as follows:

4.4.1 The Pre-test and Post-test

Two comparisons were made, first within group comparisons of scores across every occasion, second comparisons across groups to find differences in score gains between the Experimental and Control groups.

The results obtained from the pre-test and post-tests for the Control group and the Experimental group were statistically compared using analysis of variance through the Statistical Package for the Social Sciences (SPSS). The results from each group were analysed separately to see whether differences in the results occurred before and after receiving the programme of reading strategy instruction. In order to examine whether the programme of reading

strategy instruction has an effect on the subjects' reading performance, Analysis of Variance (ANOVA) using SPSS was used to test if the difference between the mean scores in the pre-test and post-test is significantly greater for the Experimental group than for the Control group.

4.4.2 The Questionnaires

The closed questions were scored on the ranked scales. Descriptive statistics and mean scores were then computed. The open questions were grouped into a small set of broad categories and then coded. These were analysed qualitatively to reveal inter-group differences in strategy use. Again, analysis of variance was used to compare the results at the beginning and the end of the course and between groups.

4.5 Pilot Study Results and Discussion

Analysis of Variance (ANOVA) through the Statistical Package for the Social Sciences (SPSS) was used to compare the results obtained from the pre-tests and post-tests for the Control group and the Experimental group. The means ($\bar{x}$) and standard deviations (SD) of the two groups were computed. A t-test was used to determine whether the differences between the two groups were significant. The significance level was set at the $p < .05$ (Pallant, 2007).

4.5.1 Data from Pre-tests and Post-tests

Twenty-six students participated in this study, 13 in the Control group and 13 in the Experimental group. Descriptive statistics for the whole test are given in Table 4.2.

Table 4.2 Descriptive statistics for tests given at the beginning (Time 1) and end (Time 2) of the EIC course

	Time 1 (full score 38)	Time 2 (full score 38)
N	26	26
Mean	15.88	16.58
St. Dev.	4.12	4.96
Min.	10	10
Max.	24	30
Range	14	20
Alpha	.696	.773

Table 4.3: Reading test item statistics (pre-test and post-test results combined)

Test items	Mean	Std. Deviation	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
A1_1	0.67	0.474	0.079	0.728
A1_2	0.96	0.194	-0.033	0.727
A1_3	0.50	0.505	0.378	0.708
A1_4	0.62	0.491	0.268	0.716
A1_5	0.81	0.398	0.352	0.711
A2_1	0.71	0.457	0.477	0.702
A2_2	0.65	0.480	0.501	0.700
A2_3	0.56	0.502	0.264	0.716
A2_4	0.38	0.491	0.679	0.686
A2_5	0.40	0.495	0.699	0.684
A2_6	0.71	0.457	0.530	0.698
B1_1	0.31	0.466	0.271	0.715
B1_2	0.21	0.412	0.126	0.724
B1_3	0.42	0.499	0.180	0.722
B1_4	0.23	0.425	0.135	0.724
B1_5	0.25	0.437	0.279	0.715
B1_6	0.17	0.382	0.214	0.719
B1_7	0.13	0.345	0.502	0.705
B2_1	0.98	0.139	0.165	0.722
B2_2	0.29	0.457	0.027	0.731
B2_3	0.44	0.502	0.258	0.716
B2_4	0.98	0.139	0.165	0.722
B2_5	0.15	0.364	0.174	0.721
B2_6	0.06	0.235	-0.010	0.727
B2_7	0.44	0.502	0.295	0.714
C1_2	0.27	0.448	0.064	0.728
C1_3	0.17	0.382	0.051	0.727
C1_4	0.58	0.499	-0.083	0.739
C1_5	0.04	0.194	0.423	0.715
C1_6	0.21	0.412	-0.138	0.738
C1_7	0.17	0.382	0.262	0.716
C2_2	0.06	0.235	0.214	0.720
C2_3	0.17	0.382	0.086	0.726
C2_4	0.25	0.437	-0.116	0.738
C2_5	0.21	0.412	-0.044	0.733
C2_6	0.04	0.194	0.470	0.714

Note that no statistic is provided in the software output in cases where all answers are correct or where all answers are incorrect (such as C1_1, C2_1).

As the number of test takers was limited and as the same test was used at Time 1 and Time 2, the results for both tests were combined for the purposes of item analysis (Table 4.3). The reliability of this combined data set (Cronbach's Alpha) was .728. The 38 items had a wide range of facility values from .04 (C1_5 and C2_6) to .98 (B2_1 and B2_4). The discrimination index (Corrected Item-Total Correlation) was highest for A2_5 (0.699), showing that this item discriminated the most between higher and lower scorers on the test. Items A1_2, B2_6, C1_4, C2_5, C2_4 and C1_6 were items that discriminated negatively with a corrected item-total correlation value of -.010,-.033,-.044,-.083,-.116 and -.138 respectively. If item C2_4 was deleted from the test, the Cronbach's Alpha would increase to .738 which is higher than the overall Cronbach's Alpha value of .728 (see Cronbach's Alpha if Item Deleted in Table 4.3).

In total, eighteen of the items had item-total correlations below the threshold value of .25 and made a negative contribution to the reliability of the test. Of these, no item was too easy (facility above .80) but twenty were effectively too difficult for the test takers (facility below 0.30: B1_1, B1_2, B1_4, B1_5, B1_6, B1_7, B2_2, B2_5, B2_6, B2_7, C1_2, C1_3, C1_5, C1_6, C1_7, C2_2, C2_3, C2_4, C2_5, C2_6). This indicated that steps should be taken to make the test a little easier for the Main study.

Based on the analysis of internal reliability, there were some concerns about the reliability of the two test sections targeting at the C1 level: C1 had two of seven items negatively affecting reliability and C2 had two of six items identified as negatively affecting reliability. The findings suggest that removing a few items could increase the reliability of the whole test, but removing items would also reduce the number of items available for analysis. For this reason, all items were included in the following analyses. However, changes were made to the test for the Main study.

To analyse the data from the pre-tests and post-tests, two sets of comparisons were made, first a within-group comparison between Time 1 (course entry) and Time 2 (course exit); second a comparison between groups to find differences in score gains between the Experimental and Control groups.

Note from Table 4.4, below, that average post-test scores for the Control group were lower than the average pre-test scores (at 15.62 and 15.69 respectively) whereas the average post-test scores for the Experimental group were higher than the average pre-test scores (at 17.46 and 16.23), the full-score for both test versions being 38. This is consistent with a stronger performance on the part of students in the Experimental group, but, as can be seen in Table 4.5 below, independent-samples t-tests were conducted to compare the pre-test scores and post-test scores of the Control group and the Experimental group, and there was no statistically significant difference (p<.05) on either occasion.

Table 4.4: Comparison of pre-test and post- test scores between groups (full score 38)

Test	Con. Group		Exp. Group		t	df	Significance
	Mean	**SD**	**Mean**	**SD**			
Pre-test	15.69	3.706	16.23	4.456	-.34	24	.741
Post-test	15.62	4.032	17.46	5.666	-.96	24	.348

Paired-samples t-tests were also conducted to compare the pre-test and post-test scores within the Control and Experimental groups. Again, the pre and post-test results showed no statistically significant difference (p<.05) between the scores at Time 1 and at Time 2 for either group. Table 4.5 gives the pre- and post- within group comparisons.

Table 4.5: Comparison between pre-test and post- test scores within groups

Group	Test	Mean	SD	t	df	Significance
Con.	Pre-post tests	.077	3.593	.077	12	.940
Exp.	Pre-post tests	-1.231	3.244	-1.37	12	.196

The lack of statistically significant differences in test scores may not be surprising, given the length of the courses – only 21 hours of reading instruction – and the very small numbers of participants involved – 13 in each group. It may perhaps be more meaningful to consider the number of students in each group who improved on their scores from Time 1 to Time 2. In the Control group 7 improved from T1 to Time 2, none achieved the same score on both occasions and 6 had lower scores at Time 2. In the Experimental group, seven improved, one achieved the same score and five

had lower scores at Time 2. This again suggests that the Experimental group did not substantially outperform the Control group.

Table 4.6: Pre-post test scores for the Control and Experimental group (full score 38)

Student No.	Con.Group		Student No.	Exp.Group	
	Pr-test Scores	Post-test Scores		Pre-test Scores	Post-test Scores
S1	24	23	S14	24	30
S2	20	14	S15	21	23
S3	18	14	S16	20	16
S4	17	12	S17	20	20
S5	17	19	S18	19	25
S6	16	19	S19	17	16
S7	16	18	S20	16	15
S8	15	22	S21	15	16
S9	14	12	S22	15	16
S10	13	12	S23	13	11
S11	12	13	S24	11	10
S12	11	12	S25	10	16
S13	11	13	S26	10	13
Average Scores	15.69	15.62	Average scores	16.23	17.46

4.5.2 Data from the Questionnaires

4.5.2.1 Data Obtained from Questionnaire - Part 1:

A) Age, Gender, Home & School Location

Participants' Age and Gender:

There were fewer male students than female students enrolled on the English for International Communication Programme (EIC). The participants' ages ranged from 19 to 23 years, with a mean of 20. The same twenty-six participants, two males (7.7%) and twenty-four females (92.3%) participated in all parts of this preliminary study.

Participants' Home and School Location:

Regarding the participants' home location when they were in secondary school, seventeen participants (65.4%) were from urban and nine participants (34.6%) were from rural backgrounds. The data from the questionnaire also revealed the location of the secondary schools where the participants had studied before they entered the university: thirteen schools (50%) were located in urban and thirteen schools (50%) in rural areas.

B) Previous Educational Background:

Table 4.7: Participants' grade level when they started learning English

Grades	Number	Percentage (%)	Number of Years Learning English
Pre-school	4	15.4%	13 or more
Grade 1	8	30.8%	12
Grade 2	-	0%	-
Grade 3	3	11.5%	10
Grade 4	5	19.2%	9
Grade 5	6	23.1%	8
Grade 6	-	0%	-
Total	26	100%	-

The questionnaire data show that although all students are expected to have at least 12 years of experience of English by the time they enter university (see Chapter 1), the participants' in fact started learning English at a variety of ages, with six of them having as little as six years experience and fewer than

half having at least the expected twelve years. The data show that four participants (15.4%) started learning English in pre-school, i.e. before they were seven years old. The majority of participants started learning English in primary school, but did so at different grades. In addition to the four early starters, another eight participants (30.8%) began learning English when they were in grade 1: officially the age at which English becomes a compulsory subject. Three participants (11.5%) started in grade 3, five participants (19.2%) in grade 4, and six participants (23.1%) in grade 5. As Table 4.7 confirms, their minimum English learning experience was approximately eight years and the maximum was 13 years or more. Assuming that those who started in pre-school did so at age 6, the average number of years of English language learning was approximately 10.4 years.

The data also revealed the participants' experience in learning English at language schools (private institutions offering additional language tuition) both in Thailand and in foreign countries. In addition to their mainstream schooling, five participants (19.2%) had taken an English course at a language school in Thailand and one (3.8%) had been to an English speaking country (Australia) to attend a six-month English course.

Table 4.8: Participants' programme of study in upper secondary school

Programme of Study	Number of Participant & Percent (%)
Academic High Schools	**24**
Sciences-Maths	13 (50%)
English-Maths	4 (15.4%)
English-French	3 (11.5%)
English-Social Sciences	3 (11.5%)
English-German	1 (3.8%)
Vocational High Schools	**2**
Business computing	1 (3.8%)
Business English	1 (3.8%)

Based on the data from the questionnaire shown in Table 4.8, the participants were from different programmes of study in upper secondary school. Half of the participants (50%) were from the Sciences-Maths programme. Four participants (15.4%) were from the English-Maths programme, three (11.5%) were from the English-French programme, three (11.5%) were from the English-Social Sciences programme and one participant was from the English-German programme. Furthermore, one participant had graduated from a Business-Computing programme and one from a Business English programme at vocational school (Certificate Level). In addition, the data showed that two participants (7.7%) in this study had graduated from an English medium high school in Thailand.

4.5.2.2 Data Obtained from Questionnaire - Part 2:

The second part of the questionnaire contains 29 closed response items concerned with subjective experiences which asked the students to report on the reading strategies that they typically employed in the EFL reading process.

Table 4.9: Comparison of reading strategies used by Thai learners for the Control group and the Experimental group

Note: 0=never (0%), 1=rarely (25%), 2=sometimes (50%), 3=often (75%), 4=usually (90%), 5=always (100%)

Reading strategies Reported on	Control Group (N=13)					Experimental Group (N=13)				
	Before Instruction		After Instruction		Gain	Before Instruction		After Instruction		Gain
	M	SD	M	SD		M	SD	M	SD	
1. plan what to do before I start.	2.31	1.251	2.46	1.127	.15	2.23	1.235	1.77	1.481	-.46
2. have a purpose in mind.	2.38	1.325	2.54	1.198	.15	2.31	1.377	1.92	1.115	-.38
3. read the title and sub-titles before reading the rest of the text.	4.15	.801	3.77	1.013	-.38	3.46	1.050	4.08	1.038	.61
4. focus on the key words from the title.	3.38	.961	3.62	.870	.23	3.38	.650	3.15	1.214	-.23
5. think what I already know about the topic.	3.23	1.013	3.00	.707	-.23	3.23	1.092	3.00	.707	-.23
6. think about how one sub- title relates to another sub- title.	3.00	.816	3.08	.641	.08	2.85	.899	3.08	1.038	.23
7. look at any pictures/ illustrations.	4.00	.707	3.62	.870	-.38	3.92	1.115	4.00	1.000	.08
8. think about what information the writer might present.	3.08	.760	3.23	.927	-.15	2.75	.622	2.69	1.316	.00
9. read every sentence slowly and carefully to understand the text.	3.46	1.127	2.92	1.038	.15	2.54	1.330	2.38	1.325	-.15
10. read the first sentence of each paragraph.	1.85	.801	2.15	.801	.30	1.62	1.044	2.46	.877	.84
11. read the first paragraph and last paragraph (introduction& conclusion)	1.77	.927	2.31	1.032	.54	1.83	1.030	2.77	1.013	1.00
12. guess the meanings of unknown words or phrases.	3.62	1.044	3.31	1.032	-.30	3.54	1.266	3.00	1.414	-.54
13. skip unknown words.	3.00	1.472	3.23	1.013	.23	3.08	1.382	3.31	1.548	.23
14. use contextual clues to	3.46	1.266	3.31	.855	-.15	3.33	.985	3.15	1.281	.00

Reading strategies Reported on	Control Group (N=13)					Experimental Group (N=13)				
	Before Instruction		After Instruction		Gain	Before Instruction		After Instruction		Gain
	M	SD	M	SD		M	SD	M	SD	
help me understand the text better.										
15. use English grammar to help me understand the text.	2.85	1.214	2.92	.641	**.07**	2.69	1.251	2.77	1.092	**.08**
16. skim the text quickly to get the general idea.	2.08	1.256	2.92	.862	**.84**	2.38	1.044	3.00	1.291	**.61**
17. scan the text for specific details.	2.23	1.166	3.00	.816	**.77**	2.00	.707	2.85	1.214	**.85**
18. distinguish between main points and examples.	2.23	.599	3.00	.913	**.77**	1.77	.725	2.46	1.266	**.69**
19. differentiate important from unimportant ideas.	2.54	.877	2.85	.689	**.31**	1.85	.689	2.23	1.092	**.38**
20. distinguish between fact and opinion.	2.62	1.261	2.62	.768	**.00**	1.85	.899	2.46	1.198	**.61**
21. understand the elationship between ideas.	3.00	.816	3.08	.641	**.77**	2.00	.816	2.85	1.068	**.85**
22. analyze what the writer meant or tried to say.	2.69	.947	2.92	.862	**.23**	1.92	.862	2.85	1.144	**.92**
23. take notes while reading to help me understand what I have read.	1.62	1.325	2.15	.899	**.53**	1.54	.877	1.85	1.214	**.31**
24. write a summary of the main information in the text.	1.62	1.387	2.00	.913	**.38**	1.77	1.092	1.69	.855	**-.08**
25. translate the text from English into Thai	3.08	1.256	3.46	.967	**.38**	2.69	1.377	3.23	1.589	**.54**
26. check if my guesses about the text are right or wrong.	2.77	1.235	3.38	1.044	**.61**	2.23	.927	3.08	1.115	**.85**
27. re-read it once or more if I do not understand it.	3.62	1.325	3.69	.751	**.77**	3.00	1.155	3.31	1.032	**.31**
28. make notes on the main points as I remember them.	2.08	1.115	2.38	.961	**.30**	1.54	.776	1.69	.855	**.15**
29. evaluate my plans or goals for reading.	1.69	1.032	2.69	1.109	**1.00**	1.77	.599	1.77	1.092	**.00**

Table 4.9 above shows the data obtained from the closed-response ranked scale items relating to the twenty-six participants' experiences with reading strategies used in the EFL reading process: thirteen participants in the Control group and thirteen participants in the Experimental group.

The data from the Control group show that their four most frequently claimed reading strategies prior to taking the *Reading I* course included: *'read the title and sub-titles before reading the rest of the text'* (Mean = 4.15), *'look at any pictures/illustrations'* (Mean = 4.00), *'guess the meanings of unknown words or phrases'*, and *'re-read the text once or more if I do not understand it'* (both Mean = 3.62). Their four least frequent strategies used were: *'take notes while reading to help me understand what I have read'* and *'write a summary of the main information in the text'* (both Mean = 1.62), *'evaluate my plans or goals for reading'* (Mean = 1.69), and *'read the first paragraph and last paragraph (introduction & conclusion)'* (Mean = 1.77).

The data also reveal that for this group, the most frequently used reading strategy was the same after taking *Reading I*: *'read the title and sub-titles before reading the rest of the text'* (Mean = 3.77) and a further two of the four most popular strategies at Time 1 remained among the most popular at Time 2, after the course: *'focus on the key words from the* title' and '*re-read it once or more if I do not understand it*' (Mean = 3.69) and *'look at any pictures/illustrations'* (Mean = 3.62). However, one of the four most popular strategies at Time 2: *'focus on the key words from the title'* (Mean = 3.62) had been ranked seventh at Time 1.

The four strategies least used by the participants after taking the *Reading I* course were: *'write a summary of the main information in the text'* (Mean = 2.00), *'read the first sentence of each paragraph', 'take notes while reading to help me understand what I have read'* (both Mean =2.15), and *'read the first paragraph and last paragraph (introduction & conclusion)* (Mean = 2.31). Again, this was very similar to the position before the course, with only one item – *'evaluate my plans or goals for reading'* (Mean = 2.69) – that had appeared among the least popular four items at Time 1 improving in rank to 21st of 29 at Time 2, increasing its rating by a full point on the five point scale.

For the Experimental group, the participants' three most frequent strategies before receiving strategy instruction were the same as for the Control group (although ranked differently): *'look at any pictures/illustrations'* (Mean = 3.92), *'guess the meanings of unknown words or phrases'* (Mean = 3.54), *'read the title and sub-titles before reading the rest of the text'* (Mean = 3.46) while the fourth, '*focus on the key words from the title'* (Mean = 3.38) was ranked seventh by the Control group at Time 1 and third at Time 2. The strategies reportedly used least by these participants before instruction included *'take notes while reading to help me understand what I have read'* and *'make notes on the main points as I remember them'* (Mean = 1.54)*, 'read the first sentence of each paragraph'* (Mean = 1.62), and *'distinguish between main points and examples, 'write a summary of the main information in the text'*, and *'evaluate my plans or goals for reading'* (Mean = 1.77).

After receiving instruction, the top four strategies employed again included *'read the title and sub-titles before reading the rest of the text'* (Mean = 4.08) and *'look at any pictures/illustrations'* (Mean = 4.00). However, two items ranked seventh and eighth at Time 1 were ranked third and fourth at Time 2 *'skip unknown words'* (Mean = 3.31) and *'re-read it once or more if I do not understand it'* (Mean = 3.31). The strategies they reported using least at time 2 again included *'write a summary of the main information in the text,* (Mean = 1.69), *'make notes on the main points as I remember them'* (Mean = 1.69), *'evaluate my plans or goals for reading'* (Mean = 1.77) and *'take notes while reading to help me understand what I have read'* (Mean = 1.85). However, *'plan what to do before I start',* (Mean = 1.77), ranking twenty-sixth at Time 2, had been ranked seventeenth at Time 1 with a Mean of 2.23.

Interestingly, the ratings for the three strategies given the highest mean scores by the participants in the Control group at Time 1 all decreased at Time 2. The two highest rated at Time 1: *'read the title and sub-titles before reading the rest of the text'* and *'look at any pictures/illustrations'*, both fell by .38. The third highest rated strategy at Time 1, '*guess the meanings of unknown words or phrases'* declined by .30. On the other hand, the three *least* popular strategies reported by the participants in the same group all increased from Time 1 to Time 2. It is also notable that the strategy with the greatest increase in mean rating – *'evaluate my plans or goals for reading'* – was among the three strategies rated lowest by the participants in the Control group at Time 1. The gain here was 1.00.

Regarding the Experimental group, only one of the four highest rated strategies at Time 1 saw a decline in Mean rating at Time 2: *'guess the meanings of unknown words or phrases'* (-.54). Again, the lowest ranked strategies at Time 1 tended to increase their mean ratings at Time 2. The greatest increase among the four lowest rated items at Time 1 was for *'read the first sentence of each paragraph'* (+.84). However, the strategy making the greatest gain in ratings between Time 1 and Time 2 was *'read the first paragraph and last paragraph (introduction & conclusion)'* (+1.00).

Comparing the Control and Experimental groups in terms of the strategies displaying the greatest difference in gains between the two groups may provide further insights (Table 4.10). The comparison suggests that the original *Reading I* course appears to have been more likely to promote planning and preview strategies – '*plan what to do before I start,*' '*evaluate my plans or goals for reading*' – while the Experimental course seems to have promoted more text-analytic strategies: '*distinguish fact from opinion*', '*analyze what the writer meant or tried to say*', '*understand the relationship between ideas*'.

Table 4.10: Comparison of changes in mean ratings between Time 1 and Time 2 for reading strategies used by the Control group and the Experimental group

Strategy	Change in mean rating between Time 1 and Time 2		Diff.
Higher for Control group	Con. group	Exp. group	
29. evaluate my plans or goals for reading.	1.00	0.00	1.00
1. plan what to do before I start.	0.15	-0.46	0.61
2. have a purpose in mind.	0.16	-0.39	0.55
4. focus on the key words from the title.	0.24	-0.23	0.47
Higher for Experimental group			
10. read the first sentence of each paragraph	0.30	0.84	-0.54
20. distinguish between fact and opinion	0.00	0.61	-0.61
22. analyze what the writer meant or tried to say.	0.23	0.93	-0.7
21. understand the relationship between ideas.	0.08	0.85	-0.77
2.read the title and sub-titles before reading the rest of the text.	-0.38	0.62	-1.00

4.5.2.3 Data from Questionnaire - Part 3: Open Ended Questions

This part of the questionnaire allowed the participants to express their ideas freely by answering seven open-ended questions related to the reading strategies they employed. However, in practice, the students tended to select items from Part 2 to complete this Part of the questionnaire. As the intention was not to cue a restricted set of responses from the students, the ordering of open-ended and closed response items was reconsidered for the main study. In the following section, the responses to this Part are briefly summarized.

Table 4.11: Summary of the results obtained from Questionnaire - Part 3

	Pre-instruction		Post-instruction	
	Con. Group N = 13	Exp.Group N = 13	Con.Group N = 13	Exp.Group N = 13
Q1. While reading English texts what do you do to help you understand the meaning of the text?				
• translate the text from English into Thai	5	4	2	4
• read the title and sub-titles before reading the rest of the text	3	5	4	5
• look at the pictures/illustrations	2	2	3	4
• read every sentence slowly and carefully to understand the text	-	2	2	3
• use a dictionary	1	4	2	4
• guess the meaning of unknown words or phrases.	2	4	-	4
Q2. What do you do to help yourself find the main idea in the passage?				
• read the title and sub-titles	4	5	4	3
• focus on the keywords from the title	3	3	4	-
• use context clues	2	-	2	-
• scan the text to find the main idea in the passage	2	-	-	2
• read the first paragraph and last paragraph to find the main idea	-	3	3	4
• re-read the text in order to find the main idea	-	-	2	-
• translate the text from English into Thai	-	2	-	-
• read every sentence slowly and carefully to understand the text	-	2	-	1
Q3. What do you do to help you find the supporting details in the passage?				
• use contextual clues	6	-	6	3
• use dictionary	3	1	1	1
• skip unknown word or phrases	1	-	-	1
• translate the text from English into Thai	1	-	1	1
• read the first sentence of each paragraph.	-	-	2	1
• differentiate important from unimportant ideas	-	1	2	-
• read every sentence slowly and carefully to understand the text	-	1	-	3
Q4. What strategies do you use most often?				
• skim the text quickly to get the general idea	3	4	2	1
• use contextual clues	2	-	-	3
• read the title and sub-titles	2	3	1	1
• translate the text from English into Thai	1	2	3	1

	Pre-instruction		Post-instruction	
	Con. Group N = 13	Exp.Group N = 13	Con.Group N = 13	Exp.Group N = 13
• skip unknown word or phrases	1	-	-	-
• look at the pictures/illustrations	-	2	2	-
• guess the meaning of unknown words or phrases.	-	-	2	-
• take notes while reading	-	-	2	-
• re-read the text in order to find the main idea	-	-	2	-
• use dictionary	-	1	1	-
• read every sentence slowly and carefully to understand the text	-	3	-	2
Q5. What do you do if your first strategy / strategies do[does] not work?				
• re-read the text in order to find the main idea	6	8	8	4
• skim the text quickly to get the general idea	-	-	3	2
• guess the meaning of unknown words or phrases.	3	-	1	2
• differentiate important from unimportant ideas	1	-	1	-
• use dictionary	1	2	3	1
• change the strategies	-	1	3	3
• ask teacher or friends	3	-	1	-
• translate the text from English into Thai	-	4	-	2
• read every sentence slowly and carefully to understand the text	-	3	-	1
• skip unknown word or phrases	-	-	-	1
• use contextual clues	-	-	-	1
Q6. Do you read differently when reading Thai and English texts? How?	4 (the same) 9 (different)	6 (the same) 7 different)	6 (the same) 7 (different)	4 (the same) 9 (different)
Q7. Which reading strategies help you to have a better understanding of English texts? Why?				
• skim the text quickly to get the general idea	6	5	2	3
• read the title and sub-titles	2	2	1	2
• read every sentence slowly and carefully to understand the text	2	1	3	3
• write a summary of the main information in the text	2	1	3	-
• translate the text from English into Thai	1	-	3	-
• re-read the text in order to find the main idea	-	-	2	2
• check if my guess about the text is right or wrong	-	2	-	-

Summary of the results obtained from the questionnaire - Part 3.

Question One: While reading English texts what do you do to help you understand the meaning of the text?

The results show that at least some of the participants in both the Control and the Experimental groups employed a translation strategy both before and after instruction. At Time 1, five participants in the Control group and four participants in the Experimental group reported translating from English into Thai to help them understand the meaning of the text. However, after receiving instruction the numbers reporting this strategy decreased from five to two for the Control group but remained the same for the Experimental group (4). Again, there was no change in the numbers at Time 1 and Time 2 for the two strategies '*use the dictionary*' (4) and '*guess the meaning of unknown words or phrases*' (4) for the Experimental group. Interestingly, there was an increase in the numbers in both groups reporting using the strategy '*read the title and sub-titles of the text'* for both the Control group (2 to 3) and the Experimental group (2 to 4).

Question Two: What do you do to help yourself find the main idea in the passage?

The strategy most frequently reported by the participants for the Control and the Experimental group before instruction was '*read the title and sub-titles before reading the rest of the text'* (4 and 5). The numbers using this strategy

remained the same at Time 2 (4 participants) in the Control group, but decreased from 5 to 3 in the Experimental group. The strategy '*focus on the keywords from the title'* and '*read the first paragraph and last paragraph of the text*' were also reported by participants in both groups. However, one strategy that was not reported by participants in the Experimental group before instruction, but increased to 2 after instruction was *'scan the text to find the main idea in the passage'.* Mean ratings also increased for the related item in Part 2 of the Questionnaire by 0.85 between Time 1 and Time 2.

Question Three: What do you do to help you find the supporting details in the passage?

Before instruction, the same numbers of participants (6) in both the Control and the Experimental groups reported employing contextual clues to help them to find the supporting details in the passage. However, at Time 2, no participants in the Control group reported using this strategy and the numbers decreased from 6 to 3 for the Experimental group. In Part 2, both courses registered a modest fall (of 0.15 – cont. – and 0.18 – exp.) in the mean ratings for the item 'use contextual clues to help me understand the text better.'

Question Four: What strategies do you use most often?

As can be seen from Table 4.11, '*skim the text quickly to get the general idea*' was the one most often reported by participants in both groups at Time 1, before instruction (3 and 4). However, participants also reported employing other strategies such as '*use contextual clues*', '*read the title and sub-titles before reading the rest of the text* ' and '*translate the text from English into Thai*'. In both groups, a wider range of strategies was reported at Time 2 than at Time 1.

Question Five: What do you do if your first strategy/[-ies] does/[do] not work?

The results reveal that the six participants in the Control group and eight participants in the Experimental group reported *re-reading the text* when their first strategy did not work. The numbers reporting use of this strategy increased from 6 to 8 for the Control group but declined from 8 to 4 for the Experimental group at Time 2, following instruction. The use of the strategy '*skim the text quickly to get the general idea*' was not utilized by the participants in either group before instruction, but it was reported by three participants in the Control group and two participants in the Experimental group at Time 2, after instruction. Additionally, after instruction three participants in each group answered that they changed their strategies if their first strategies did not work.

Question Six: Do you read differently when reading Thai and English texts? How?

The findings indicate that four participants in the Control group reported reading in the same way when reading Thai and English text and nine participants reported reading differently when reading Thai and English texts. According to the data obtained at Time 1 before instruction, the participants who read in the same way when reading Thai and English texts answered that both Thai and English texts have the same text structures that show how the information in the text is organized. They also mentioned that each text includes a title, subtitles, introduction paragraphs and conclusion or pictures or illustrations accompanying the text. Three participants who reported that they read differently stated that they could get the meaning of Thai texts as soon as they finished reading them, but that they had to read several times to get the meaning of English texts. Two participants answered that they had to translate when reading English texts in order to get at the meaning.

At Time 2, following instruction, six participants in the Control group reported reading in the same way when reading Thai and English texts. However, seven participants reported reading differently when reading English and Thai texts. These participants reported that they had been better able to apply *skimming or scanning* strategies when reading Thai texts because they understood the meanings of all words and phrases.

Regarding the Experimental group, before instruction the data show that six participants reported reading in the same way when reading English and Thai texts. Some students claimed that both Thai and English texts had the same text structures. When reading, previewing and predicting and skimming strategies were required to get the main idea of the text being read. Re-reading the text was also needed when the participants did not understand the meaning of the text the first time. However, seven participants did report reading English and Thai texts differently. Four participants answered that they could understand the meaning of the Thai text once they read it since Thai is their mother tongue. By contrast, when reading English texts, translation was required because of vocabulary difficulty.

After instruction, four participants answered that they read in the same way when reading Thai and English texts because they needed to find the main ideas of the text they read. Nine participants, however, reported reading differently when reading Thai and English texts. Three participants claimed that more reading strategies were required when reading English texts. They also pointed out that careful reading, translation, grammatical knowledge as well as vocabulary knowledge were needed in order to understand the meaning of English texts. On the other hand, since all words and phrases in the Thai texts were understandable so that skimming and scanning strategies were required for reading those texts.

Question Seven: Which reading strategies help you to have a better understanding of English texts? Why?

Before instruction, six participants in the Control group and five participants in the Experimental group answered that the skimming strategy assisted them to have a better understanding of English texts. However, the numbers declined between Time 1 and Time 2 from 6 to 2 in the Control group and 5 to 3 in the Experimental group. Additionally, two participants in the Experimental group reported using a previewing and predicting strategy both before and after instruction. At Time 2, two participants in each group reported re-reading texts to help them to have a better understanding of English texts, but none of them reported using this strategy at Time 1.

4.5.2.4 Data from Questionnaire - Part 4: Open-ended Questions

This part of the questionnaire consists of one question concerning participants' problems and strategies when reading in English.

Question: Is there anything you would like to add about your problems and strategies with reading in English?

Table 4.12: Summary of the results obtained from the questionnaire - Part 4.

Question /Group	Before Instruction	After Instruction
Con.	Thirteen participants (100%) insisted that vocabulary difficulties were a major problem for them when reading in English. Two participants mentioned the necessity of reading strategies and two of them answered that they were not able to find the main ideas and supporting details of the text. There was also one participant who mentioned that s/he was unable to interpret what the writer wanted to present.	Eleven participants were confronted with unknown words and phrases which were the major obstacles to understanding the English texts. One participant mentioned grammatical difficulty and replied that previewing & predicting, skimming & scanning strategies seemed to help them with reading in English. One participant mentioned that if they did not understand the meaning of the English text once they read it, they would not want to read it anymore.
Exp.	Thirteen participants (100%) mentioned that vocabulary difficulty was the major problem for understanding the meaning of English texts so that a dictionary was required in order to find the meaning of unknown words or phrases. They also added that reading strategies seemed to be useful for them when reading in English.	Eight participants (61.5%) answered that vocabulary difficulty was a problem for them with reading in English. Two of the participants mentioned that structure complexity could mislead them when reading English texts. One participant mentioned that when reading English texts, previewing & predicting or skimming (eg: look at the pictures or illustrations, read the title and sub-titles, read the introduction and conclusion), were needed. One participant mentioned that English was fun when the text being read was understandable.

4.6 Implications Concerning the Test and the Questionnaires Results:

The data obtained from the second (strategy-focused) section of the Questionnaires again suggested that the participants in the Experimental group had increased their use of strategies after they had received explicit strategy instruction. In Part 2, the strategy associated with the greatest increase in Mean ratings was *'read the first paragraph and last paragraph (introduction & conclusion)'*. Other strategies whose ratings increased notably were '*scan the text for specific details'*, '*read the title and sub-titles before reading the rest of the text'* ,'*read the first sentence of each paragraph'*, '*look at any pictures/illustrations'*, '*read the title and sub-titles before reading the rest of the* text' and '*skim the text quickly to get the general idea'*. This is consistent with explicit strategy instruction having a positive effect on the use of reading strategies in English. However, the limited numbers involved in the experiment, the short time span and the relatively small (non-significant) differences observed in the ratings between the Experimental and Control groups all suggest a need to be cautious about interpreting these results. In short, although the data suggest that explicit strategy instruction probably led to increased strategy use, there is a need for fuller evidence to support such a conclusion.

The test results showed that students in the Experimental group tended to improve their reading test scores more than those in the Control group. However, the differences were again non-significant. It may be that the lack of

a significant result is due to the brevity of the course and to the specific teaching and testing materials and procedures adopted. Equally, small sample sizes tend not to yield significant results and so it would clearly be desirable to include more participants. : Refinements are suggested for the Main Study in these and other areas in the following section.

4.7 The Pilot Study: Implications for the Main Study

Table 4.13: Summary of changes made to the main study on the basis of piloting

	Pilot Study	**Main Study**
Adaptations to the teaching procedures	- taught through a more traditional teaching approach following the lesson plans given in the course book.	- taught with explicit reading strategy instruction - adapting the course book using the researchers' lesson plans.
Adaptations to the teaching materials	- the materials were mainly based around units from the coursebook used with the *Reading I* course. - summarizing as a strategy was not emphasised in the course book.	- the materials were adapted to better reflect the six target strategies. Definitions and steps of how to use each strategy were clearly explained. - materials for teaching sumarizing were added in the main study - a greater variety of tasks involving both careful

	Pilot Study	**Main Study**
Adaptations to the teaching materials		reading and expeditious reading was provided to scaffold the students' in their use of each of the strategies instructed. - new activities were developed to deal with each strategy. They were designed in accordance with three steps: 1) pre-reading 2) while-reading, and 3) post-reading.

A number of changes to the materials and procedures were suggested by the piloting process.

The questionnaire results in the pilot study generally showed positive effects for strategy instruction on reading strategies in English, but it is notable that contrary to the intended effect, the scores for use of the strategy actually decreased for '*write a summary of the main information in the text*'. Again, this may have resulted from the nature of the procedures and teaching materials employed and again suggests that these will have to be adapted for the main study.

It was apparent from the pilot study that the teaching materials and procedures on summarizing strategies may not have been sufficiently effective. In particular, in teaching summarizing strategies, students need to be taught to build their understanding both the propositional content and the structure of a text. It demands full understanding of the text. Therefore, in summarising training tasks, students may be required to shift through units of text and then differentiate important from unimportant ideas before synthesizing those ideas and creating a new coherent text (Nuttall, 2005).

The pilot materials used for teaching strategies were mainly based around units from the coursebook used with the *Reading I* course. However, summarizing strategies are not emphasised in this book. Because summarizing strategies are considered to be beneficial for learners in helping them to build an overall representation of the text, they were included in the planned programme of strategy instruction. Therefore new activities had to be developed to deal with summarising strategies in the Experimental course.

In the summarizing training task designed for the pilot study, students were simply given a text, were provided with instruction on summary writing in the form of a short lecture and were then asked to write a summary of a previously unseen text. However, perhaps because of a lack of support, the teaching materials and procedures on summarizing strategies did not seem to be reflected in the strategies actually employed by the students.

For the main study, the procedures for teaching summarizing strategies were adapted to provide a more supported form of training for the students. The materials were again taken from the course book units, however a greater variety of tasks was provided to scaffold the students' in their use of summarising strategies. These additional tasks involve both careful reading and expeditious reading and require students to combine the five strategies they will have been taught in earlier units.

In addition to the lecture on summarising, the students would be given a series of tasks to revise the strategies they have been taught and to help them apply these to summarising. First, students would be asked to select the best summary of a text from a selection of three. This should help to indicate how summaries are used to provide a full representation of the text and model the process for the students. Next, students would be asked to identify the main ideas in each paragraph and then to combine these into a coherent text that represents the original. Finally, they would be given a previously unseen text and asked to produce a summary. The supporting activities should help them to apply successfully the strategies they have learnt in carrying out this summarising task.

In the pilot study, the comparison was between a Control group which followed the course book provided and an Experimental group which was given explicit strategy instruction. However, the course book used with the Control group did include a limited number of activities that involved strategy

instruction as operationalised in this study. The contrast between the two groups was therefore not between one group provided with strategy instruction and another with no strategy instruction, but between groups given different amounts and kinds of strategy instruction. In the main study, the courses would be more clearly differentiated. The participants in the Control group would follow the course book provided, but would not be given any of the tasks in this book that involve strategy instruction. The contrast will therefore be between one group with and another without instruction in strategies. This is more likely to reveal any impact of strategy instruction on performance.

For the participants in the Experimental group, the same course book was adapted to reflect the target strategies. Regarding the teaching procedures, the participants in the Control group were taught through a more traditional teaching approach by following the more traditional aspects of the lessons given in the course book. They were taught using a more *audio-lingual*, behaviourist methodology in which reading processes involve working from visual information given in the text (such as letter and word recognition) which stimulate the reader to reconstruct and deduce meanings (e.g. Gough, 1972; LaBerg and Samuel, 1974, Rivers, 1968, 32-55). The participants in the Experimental group, on the other hand, were instructed with explicit reading strategy instruction by following the course book adapted with the researcher's lesson plans.

Regarding the questionnaires, they would need to be refined by separating the closed question part from the open-ended question part and they were administered and re-administered separately. The pilot study questionnaires raised the researcher's awareness that the closed and open-ended items must be administered separately so that the participants will not be able to provide the answers to the open-ended questions by copying them from the items in the closed-question part.

As mentioned above, the think-aloud procedures were not administered successfully during the pilot study. This was perhaps because the training given to students proved to be inadequate so that students found it difficult to verablise their strategies and more seriously, because timetabling issues meant that there was a delay between the reading activities in class and the opportunity for verbal protocol data collection.

For the Main study, it was decided that additional training in verbal protocol methods should be given by the researcher in the first class session. All students in the class were trained how to verbalise their cognitive processes while reading a text. Students in the Experimental group were divided into 4 groups of 5 students per group. Each strategy was taught for 2 sessions (3 hours/session). The first session was taught with the whole class and students practiced the strategy in groups in the second session.

After the second session on each strategy, a group of students was asked to volunteer to carry out a think-aloud. Individuals participated in the think aloud concurrently while undertaking reading exercises in the language laboratory so that there was no delay between engaging in the task and the opportunity to reflect on strategy use.

Reading materials with clear instructions were provided to individuals so that they would be aware of what was required. In order to provide information on the cognitive processes in the EFL context where students' oral proficiency in English is limited, and to make students feel more at ease, a combination of L1 and L2 was allowed so that learners could verbalise their thoughts as they read the text. The students' think-alouds were recorded on five occasions, reflecting five strategies that they had been taught and were then transcribed. Reflecting the recordings, the transcriptions included both L1 and L2.

The Reading test (pre-tests and post-tests) were also adapted. As an analysis of the Reading test showed that the C2 level of the test had a very low reliability shown by low means for these items and was too difficult for the test takers, a new test section was used to replace it. This was a task taken from the Cambridge PET test, which targets CEFR level B1. This B1 test section (referred to as B1b) also involves making connections between tests and so has important similarities with the original C2 test. This test section can be found in Appendix 5.1.

CHAPTER 5   RESULTS AND DISCUSSION - MAIN STUDY

This chapter deals first with the procedures and instruments used for the main study. Results obtained from the tests, questionnaires, think aloud protocols, and interviews are presented in the latter part of the chapter. They are accompanied by discussion of outcomes and the influence of the teaching and learning context.

5.1 Introduction

The purpose of the study is to investigate the reading strategies that Thai university students currently employ in the EFL reading process and to determine whether the implementation of an approach to explicit reading strategy instruction based on the language pedagogy literature can help to improve students' reading performance over the course of one semester.

Procedures and instrumentals for the main study were revised in line with the issues arising from the pilot study. These revisions included decisions on materials, research instruments, research procedures, data collection and data analysis for the main study (see Chapter 4, Section 4.7).

The main study was conducted in the same context as the pilot study. However, the duration of the data gathering was twelve weeks rather than seven weeks because it was considered that a longer period between tests should allow for greater learning gains to emerge.

5.2 Data Analysis

Quantitative and qualitative data were obtained from four types of instruments used in the main study: language tests, questionnaires, think-aloud records, and informal interviews. Each data set was analysed in accordance with the methods described in Chapter 3. The results of the analyses are given in the following sections.

5.2.1 Questionnaire Data: Part 1

5.2.1.1 Data on Learners' Backgrounds Obtained from Questionnaire - Part 1:

This section introduces the participants in the study, informing the reader about their backgrounds and language learning experiences and explaining how these were taken into account (together with test scores at entry) in assigning them to either the Experimental or the Control group.

A) Age, Gender, Home & School Location

The following tables (5.1 and 5.2) present the data obtained from Questionnaire - part 1 (see Chapter 3, Section 3.7.1.1). This covered the participants' backgrounds with questions on matters age, gender, home location before entering university and upper secondary school location. These data were used to place students into the Control and Experimental groups, ensuring that both groups would contain learners with a similar range of backgrounds.

Table 5.1 below reports the total number and percentage figures for age and gender for the participants in the Control and Experimental groups.

Table 5.1: Participant age and gender

Group	Age				Gender			
	Age	frequency	Percentage	mean	Frequency		Percentage	
					Male	Female	Male	Female
Con.	17	1	7.7	18.38	3	10	23.1	76.9
	18	6	46.2					
	19	6	46.2					
Total		**13**	**100**		**13**		**100**	
Exp.	17	1	6.7	18.87	3	12	20.0	80.0
	18	6	40.0					
	19	5	33.3					
	20	1	6.7					
	21	1	6.7					
	22	1	6.7					
Total		**15**	**100**		**15**		**100**	

There were twenty-eight students (six males and twenty-two females) enrolled on the English for International Communication Programme (EIC), participating in the main study. The number of participants was lower than

expected since, due to a new university policy, no evening EIC class was offered in the academic year 2010.

The two groups had similar age and gender profiles. The participants' ages for both groups ranged from 17 to 22 years, with a mean of 18.64. The average ages of participants in the Control and Experimental groups were 18.38 and 18.87 respectively. However, the Experimental group included three students aged 20 or over while the Control group had none.

The same number of male students (three) participated in the Control and Experimental groups. Ten female students (76.9%) were in the Control group and twelve female students (80.0%) were in the Experimental group.

Table 5.2 below provides the participants' home location and secondary school location.

Table 5.2: Participants' home and school location

Group	Home Location				School Location			
	City		Country		City		Country	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Con.	10	76.9	3	23.1	9	69.2	4	30.8
Exp.	7	46.7	8	53.3	9	60	6	40

It can be seen from the table that ten participants (76.9%) in the control group had lived in the city and three participants (23.1%) had lived in rural areas when they were in secondary school. For the Experimental group, seven

participants (46.7%) were from the city and eight participants (53.3%) were from the country.

The data also revealed the location of the secondary schools where the participants had studied before they entered the university. From the table, it can be seen that eighteen schools (64.3%) were located in urban areas whereas ten schools were located in rural areas. The same number of participants in each group had studied at schools located in the city, nine participants (69.2%) in the Control group and nine participants (60.0%) in the Experimental group. Further, four participants (30.8%) in the Control and six participants (40.0%) in the Experimental groups had studied at schools located in rural areas.

B) Previous Educational Background:

The following tables (Tables 5.3, 5.4 and 5.5) show the information obtained from Questionnaire - part 1 questions one to ten, which involved participants' previous educational background: grade level when they started learning English; their programme of study in upper secondary school; medium of instruction; experience of attending language school courses and experience of visiting an English speaking country.

Table 5.3 below provides the data on the participants' previous educational background and grade level when they started learning English. The grade level for starting learning English ranged from pre-school (3-6 years old) to grade 5 (11 years old).

Table 5.3: Participants' grade level when they started learning English

Grade	Con. group			Exp. group		
	Frequency	Percentage	Number of years	Frequency	percentage	Number of years
Pre-school	7	53.8	13 or more	8	53.3	13 or more
Grade 1	5	38.5	12	3	20.0	12
Grade 2	-	-	11	1	6.7	11
Grade 3	1	7.7	10	1	6.7	10
Grade 4	-	-	-	-	-	-
Grade 5	-	-	8	2	13.3	8
Grade 6	-	-	-	-	-	-
Total	13	100	-	15	100	-

As shown in Table 5.3, the participants' started learning English at a variety of ages (3-11 years old) and grade levels (pre-school to grade 5). However, the majority of participants started learning English in pre-school before the age of seven. The figures show that there were fifteen, seven (53.8%) in the Control group and eight (53.3%) in the Experimental group who had started learning English at this early stage. In other words, these fifteen participants had had 13 years or more of experience of English before they entered the university.

The results also reveal that five participants (38.5%) in the Control group and three participants (20.0%) in the Experimental group began learning English when they were in grade 1: officially the age at which English becomes a compulsory subject. Therefore, eight participants in total had exactly the mandated 12 years of experience of English by the time they entered the university. Additionally, one participant (6.7%) in the Experimental group

began learning English in grade 2. The same number of participants, one (7.7%) in the Control and one (6.7%) in the Experimental group, started learning English when they were in grade 3, (i.e. having 10 years experience of English). In addition, two participants (13.3%) in the Experimental group did not start learning English until they were in grade 5. This seems unusually late for Thai students to start learning English and may not reflect the typical situation.

Overall, twenty-three out of twenty-eight participants have at least the expected twelve years of English learning experience by the time they enter university. For the participants in the Control group, their minimum and maximum of English learning experience were approximately 8 and 13 years or more, respectively. As in the Experimental group, the minimum was approximately 8 years, and the maximum was 13 years or more. The average number of years of English language learning experience across both groups was approximately 10.17 years.

Apart from the participants' experience of English gained from their mainstream schooling, the data also revealed that some of them had taken English courses at language schools (private institutions offering additional language tuition) both in Thailand and in foreign countries. As shown in Table 5.4 below, the same number of participants in each group had taken an English course at a language school: four (30.8%) in the Control group and four (26.7%) in the Experimental group. Furthermore, one participant from the

Control group had studied in an English speaking country (Australia) for two years and one participant in the Experimental group had been to an English speaking country (USA) to attend a lower-secondary school for three years.

Based on the information given above, the Control and Experimental groups had similar profiles with respect to English language learning experience.

Table 5.4: Participants' English language learning experience

English Language Learning Experience	Con. group		Exp. group	
	Yes	No	Yes	No
EP program	3 (23.1%)	10 (76.9)	1 (6.7%)	14 (93.3)
Language school course	4 (30.8)	9 (69.2)	4 (26.7)	11 (73.3)
Been to English speaking country	1 (7.7)	12 (92.3)	1 (6.7)	14 (93.3)

Table 5.5 below shows the participants' programmes of study in upper secondary school. These programmes are offered in two types of school: academic high schools and vocational high schools (see Chapter 1, Section 1.2 and 1.3).

Table 5.5: Participants' programme of study in upper secondary school

Programme of Study	Con. group		Exp. group	
	Frequency	Percentage	Frequency	Percentage
Academic high schools				
Science-Maths	5	38.5	6	40.0
Eng-Maths	5	38.5	4	26.7
Eng-French	-	-	1	6.7
Vocational high schools				
Accounting	1	7.7	1	6.7
Marketing	-	-	1	6.7
Business computing	1	7.7	1	6.7
Foreign language	1	7.7	1	6.7
Total	**13**	**100**	**15**	**100**

As seen from the data given in Table 5.5, the participants included students who had graduated from both types of upper secondary school: academic high schools and vocational high schools (Certificate level). The former offered three programmes of study: Science-Maths; English-Maths; English-French. The latter offered four programmes: Accounting; Marketing; Business computing; Foreign language.

As can be seen from the table, twenty-one participants had graduated from academic high schools and seven participants had graduated from vocational high schools. The data showed that eleven participants were from the Sciences-Maths programme, five (38.5%) in the Control group and six (40.0%) in the Experimental group. Nine participants were from the English-Maths programme, five (38.5%) and four (26.7%) in the Control and Experimental group respectively. There was one participant (6.7%) in the Experimental group who had graduated from the English-French programme.

The seven remaining participants had graduated from vocational high schools: two participants were from the Accounting programme (one in each group), and one participant was from the Marketing programme. In addition, two participants had graduated from the Business computing programme (one in each group) and two participants had graduated from the Foreign language programme (one in each group). In addition, the data showed that four participants in this study had graduated from an English medium high school in Thailand (see Table 5.4).

Table 5.6: Pre-test scores for the Control and Experimental group (full score 36)

Student No.	Con.Group	Student No.	Exp.Group
	Pre-test scores		Pre-test scores
S1	21	S14	27
S2	18	S15	18
S3	18	S16	18
S4	18	S17	16
S5	15	S18	15
S6	15	S19	14
S7	14	S20	13
S8	12	S21	10
S9	10	S22	8
S10	10	S23	8
S11	7	S24	8
S12	6	S25	7
S13	4	S26	6
		S27	6
		S28	5
Average scores	12.92	Average scores	11.93

Table 5.6 shows the participants' pre-test scores and how these were used in assigning them to groups with similar ability profiles.

To sum up, the information obtained from Questionnaire - part 1 (section A: participants' age; gender; home & school locations and section B: participant's previous educational background) as well as the pre-test scores were used to assign the students to the two groups to ensure, as far as possible, that the students in both would have similar characteristics and backgrounds (as stated in Chapter 3 section 3.7.1.1).

5.2.2 Test Data

The test data of are presented below:

5.2.2.1 Reliability

A reliability analysis was carried out to investigate the reliability of the Reading test as a whole and to identify any items that were not performing well. As the number of students taking each test was too low for statistical analysis, responses for both the pre-test and post-tests (which employed the same test items) were analysed together so that the data set included 56 test takers responding to 36 test items. Item-total correlations were used to show whether results on any items were poorly correlated with overall test scores. Such problems might provide some explanation for discrepancies in the findings based on the responses of the students in the reading test.

As the number of items in each test section were very small (that is, 5 items in test sections A1 and B1b, 6 items in test sections A2 and C1, and 7 items in test sections B1a and B2), the analysis was not run by test sections. The following tables and figures report reliability, facility and item-total statistics for the pre-post tests. In order to check internal reliability or how well test items correlate with each other, the most commonly used indicator of internal consistency is Cronbach's alpha coefficient. According to Fulcher & Davidson (2007), ideally, the Cronbach's alpha coefficient of a scale should be above 0.7. Tests that do not achieve reliabilities of 0.7 are normally considered to be

too unreliable for use, and high-stakes tests are generally expected to have reliability estimates in excess of 0.8 or even 0.9.

Means, standard deviations, ranges and reliability (Cronbach's alpha) were calculated for the test as a whole and item-total correlations were calculated for each item. Items were identified as problematic if they displayed an item-total correlation of less than 0.25 or if they had a negative effect on the overall reliability of the test (Fulcher & Davidson, 2007).

Table 5.7 below shows that the students achieved a mean score of 17.29 on the reading test or 48% of the available total (36). Total scores ranged from 4 to 34 with a standard deviation of 7.2, suggesting that the test material was generally well-matched to the abilities of the students. Table 5.7, also reports the internal reliability for 35 test items (all 56 participants had correct responses for item A1_2): the overall Cronbach's alpha was acceptable at 0.890. Figure 5.1 shows the overall distribution of scores on the Reading test.

Table 5.7: Descriptive statistics for reading test (36 items)

Descriptives	
Test takers (N)	56
Mean	17.29 (48%)
Median	18.00 (50%)
Mode	15.00 (42%)
Std. Deviation	7.20 (20%)
Minimum	4.00 (11%)
Maximum	34.00 (11%)
Cronbach's Alpha (35 items)	0.890

Figure 5.1: Overall distribution of scores on the reading test.

Score on test
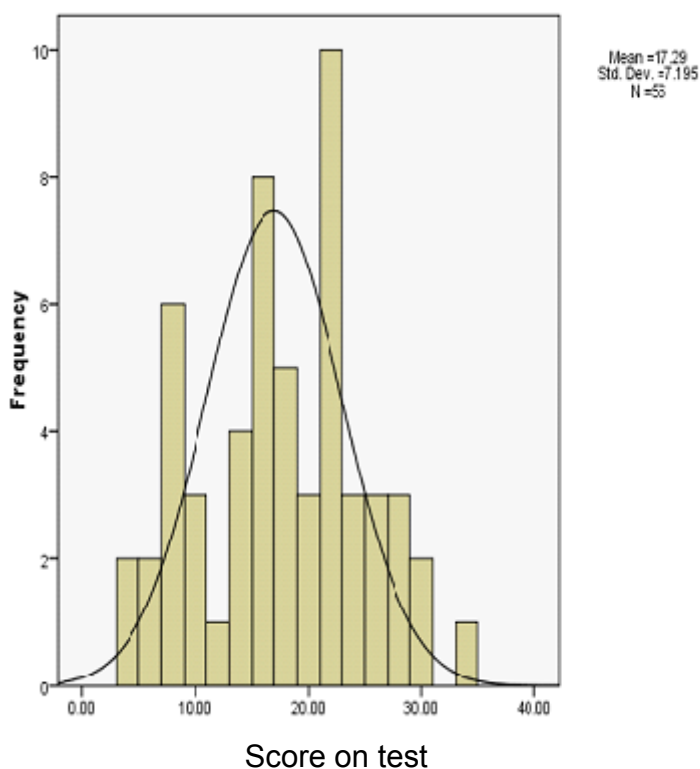
Table 5.8 below presents the facility values of each test item and item-total statistics for the test.

Table 5.8: Reading test item statistics

Test Items	Mean	Std. Deviation	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
A1_1	.80	.401	-.080	.895
A1_3	.48	.504	.399	.887
A1_4	.86	.353	.287	.889
A1_5	.88	.334	.190	.890
A2_1	.79	.414	.497	.886
A2_2	.77	.426	.647	.883
A2_3	.70	.464	.590	.884
A2_4	.70	.464	.572	.884
A2_5	.70	.464	.386	.888
A2_6	.80	.401	.415	.887
B1a_1	.50	.505	.575	.884
B1a_2	.30	.464	.162	.892
B1a_3	.45	.502	.540	.885
B1a_4	.30	.464	.440	.887
B1a_5	.25	.437	.185	.891
B1a_6	.13	.334	.206	.890
B1a_7	.14	.353	.143	.891
B2_1	.52	.504	.574	.884
B2_2	.61	.493	.594	.884
B2_3	.71	.456	.565	.884
B2_4	.38	.489	.559	.884
B2_5	.50	.505	.663	.882
B2_6	.30	.464	.504	.885
B2_7	.59	.496	.557	.884
C1_1	.20	.401	.328	.889
C1_2	.18	.386	.449	.887
C1_3	.23	.426	.548	.885
C1_4	.29	.456	.428	.887
C1_5	.14	.353	.416	.887
C1_6	.29	.456	.452	.886
B1b_1	.39	.493	.312	.889
B1b_2	.41	.496	.051	.894
B1b_3	.39	.493	.382	.888
B1b_4	.43	.499	.203	.891
B1b_5	.20	.401	.453	.887

The 36 items have a wide range of facility values from .13 (B1a_6) to 1.0 (A1_2). The discrimination index (Corrected Item-Total Correlation) is highest for B2_5 (0.663), showing that this item discriminated the most between higher and lower scorers on the test. Item A1_1 was the only item that discriminated negatively with a corrected item-total correlation value of -.080. If this item were deleted from the test, the Cronbach's Alpha would increase to .895 which is higher than the overall Cronbach's Alpha value of .890. This indicates that deleting this item would increase the reliability of the test as a whole (see Cronbach's Alpha if Item Deleted in Table 5.8).

In total, eight of the items had item-total correlations below the threshold value of .25 and made a negative contribution to the reliability of the test. Of these, four were either too easy (facility above.80: A1_1, A1_4, A1_5 and A2_6) or too difficult (facility below 0.30: B1a_5, B1a_6, B1a_7, C1_1,C1_2,C1_3,C1_4,C1_5,C1_6 and B1b_5) for the test takers and this reduces the item-total correlation. The remaining three items were all targeted at the B1 level: B1a_2, B1b_2 and B1b_4.

Based on this analysis of internal reliability, the Reading test had an acceptable internal consistency, supporting its use to test the reading abilities of the students. However, there were concerns about the reliability of the two test sections targeting the B1 level: B1a had four of seven items negatively affecting reliability and B1b had two of five items identified as negatively affecting reliability. The findings do suggest that removing a few items could

increase the reliability of the whole test, but removing items would also reduce the number of items available for analysis, especially at the B1 level. For this reason, all items were included in the following analyses, but the findings for the B1 level test sections should be treated with caution.

5.2.2.2 Group Comparisons

The test scores obtained from the pre-test and post-tests for the Control group and the Experimental group were analysed using analysis of variance (ANOVA) through the Statistical Package for the Social Sciences (SPSS). The pre-test and post-test scores are presented in Table 5.9 below.

Table 5.9: Pre-post test scores for the Control and Experimental group (full score 36)

Student No.	Con.Group		Student No.	Exp.Group	
	Pr-test scores	**Post-test scores**		**Pre-test scores**	**Post-test scores**
S1	21	27	S14	27	34
S2	18	21	S15	18	30
S3	18	19	S16	18	29
S4	18	21	S17	16	25
S5	15	22	S18	15	26
S6	15	27	S19	14	21
S7	14	25	S20	13	22
S8	12	20	S21	10	22
S9	10	16	S22	8	17
S10	10	15	S23	8	22
S11	7	23	S24	8	21
S12	6	13	S25	7	23
S13	4	16	S26	6	23
			S27	6	22
			S28	5	15
Average Scores	**12.92**	**20.38**	**Average scores**	**11.93**	**23.47**

5.2.2.3 Comparisons based on results for the whole test

The test results obtained from the Control and Experimental groups were first analysed separately. Means, Standard Deviations, Ranges and Reliabilities (Cronbach's alpha) were calculated for each test as a whole. Two comparisons were then made: first, comparisons across groups to find differences in score gains between the two groups; second, within group comparisons of scores across the two test occasions.

Table 5.10, below, shows the comparison between pre-test and post-test scores across the two groups participating in the main study: thirteen in the Control group and fifteen in the Experimental group.

Comparisons between groups at Time 1 (course entry) and Time 2 (course exit), were made to find differences in score gains between the Experimental and Control groups.

Table 5.10: Comparison of pre-test and post- test scores between groups

Test	Con.Group		Exp. Group		t	Df	Significance
	mean	SD	mean	SD			
Pre-test	12.92	5.267	11.93	6.123	.598	26	.653
Post-test	20.38	4.501	23.47	4.838	.978	26	.094

As can be seen in Table 5.10, independent-samples t-tests were conducted to compare the pre-test scores of the Control group and the Experimental group and then to compare the post-test scores for the two groups. The results of the t-tests showed no statistically significant difference (p<.05) between the groups on either occasion.

The average post-test scores for the Control group were higher than the average pre-test scores (at 20.38 and 12.92 respectively).   For the Experimental group, the average post-test scores were also higher than the average pre-test scores (at 23.47 and 11.93 respectively), the maximum possible score being 36 on both test versions.

Table 5.11 below shows the within group comparisons of scores across the two test occasions for the Control and the Experimental group to see whether there was a significance difference between the scores at Time 1 and at Time 2 for either group.

Table 5.11 Comparison between pre-test and post- test scores within groups

Group	Test	mean	SD	t	df	Significance
Con.	**Pre-post tests**	-7.462	4.274	-6.294	12	.000
Exp.	**Pre-post tests**	-11.533	3.182	-14.039	14	.000

As can be seen in Table 5.11, paired-samples t-tests were conducted to compare the pre-test and post-test scores within the Control and Experimental groups. The results showed that the differences (p<.05) between the scores at Time 1 and at Time 2 for both groups were statistically significant.

5.2.2.4 Comparisons by Test Section

Means, standard deviations and ranges of scores were calculated for each test section and comparisons were made between groups. Additionally, comparisons were made between the scores for the Control and Experimental groups on each test section at Time1 and Time 2. These comparisons show which test section (each addressing different aspects of reading ability) had the largest differences between groups (see Chapter 3, section 3.7.4).

Table 5.12 below provides the average gain for each test section for the Control group. The table also presents the mean scores on each test section which is associated with different aspects of reading ability (A1, A2, B1a, B2, C1, and B1b – see Chapter 3, Section 3.7.4) at Time 1 and Time 2.

Table 5.12: Average gains on each test section for the Control group

Test Section/ Student	A1 Postcard message	A2 Recon- structing the narrative	B1a Short passage	B2 Search reading	C1 Processing the whole text and forming a macrostructure of the main ideas	B1b Operationalising the combination information across texts	Pre- post test Scores
	5points	6points	7points	7points	6points	5points	36points
S1 – T1	5	6	4	5	0	1	21
– T2	5	6	4	5	6	1	27
S2 – T1	5	6	0	3	2	2	18
– T2	4	6	3	3	3	2	21
S3 – T1	4	2	5	4	0	3	18
– T2	3	3	4	4	1	4	19
S4 – T1	5	6	3	3	0	1	18
– T2	4	6	2	5	1	3	21
S5 – T1	5	6	0	1	0	3	15
– T2	5	6	4	3	0	4	22
S6 – T1	5	6	1	2	0	1	15
– T2	5	6	3	7	2	4	27
S7 – T1	3	6	2	2	1	0	14
– T2	3	6	4	7	2	3	25
S8 – T1	5	3	1	2	0	1	12
– T2	5	4	4	5	1	1	20
S9 – T1	3	4	0	0	1	2	10
– T2	3	6	2	3	1	1	16
S10– T1	3	2	5	0	0	0	10
– T2	5	1	1	4	3	1	15
S11– T1	4	1	0	2	0	0	7
– T2	4	6	1	7	3	2	23
S12– T1	3	1	0	1	0	1	6
–T2	4	4	1	4	0	0	13
S13– T1	4	0	0	0	0	0	4
–T2	4	4	1	5	1	1	16
Average T1	4.15	3.77	1.62	1.92	0.31	1.15	12.92
Average T2	4.15	4.92	2.62	4.77	1.85	2.08	20.38
Average gain	0.00	1.15	1.00	2.85	1.54	0.93	7.46

Table 5.12 shows the pre-test and post-test results on each test section and overall for the thirteen participants for the Control group at Time 1 (course entry) and Time 2 (course exit).

As can be seen from table 5.12, the average gains between the two test occasions, the scores on each test section show that only section A1 did not show improved scores. At Time 1 and Time 2, the average scores on this section were 4.15. The average scores show no improvement probably because this section was the simplest among the six sections. The test addressed reading a very simple message on a postcard followed by five three-option multiple choice items targeted at the sentence level for beginners. Therefore, the average scores of 4.15 out of 5 at Time 1 were considered high particularly for the participants in the Control group with no explicit strategy instruction during the 12-week course to lead to scores higher than 4.15 at Time 2.

On the other hand, the other five sections all showed gains (A2, 1.15; B1a, 1.00; B2, 2.85; C1, 1.54; and B1b 0.93). The B2 section showed the highest average gains (2.85 points out of the 7 points available). This is presumably because the participants' language proficiency was at intermediate level (or CEFR Level B2) based on their eight to thirteen years of English learning experiences. The B2 section of test was designed to test reading comprehension at sentence level and the test takers were required to comprehend the text as a whole by search reading to locate relevant ideas. In this test, the participants were asked to match seven of eight "subtitles" with the seven paragraphs in the text (the one additional subtitle served as a distractor). The topic sentences of each paragraph were explicit enough to enable direct matching using lexical cues (see Chapter 3, section 3.7.4).

Table 5.13: Average gains on each test section for the Experimental group

Test Section/ Student	A1 Postcard message 5points	A2 Recon- structing the narrative 6points	B1a Short passage 7points	B2 Search reading 7points	C1 Processing the whole text and forming a macrostructure of the main ideas 6points	B1b Operationalising the combination information across texts 5points	Pre- post test Scores 36points
S14 –T1	5	6	5	6	2	3	27
–T2	5	6	6	7	6	4	34
S15 –T1	5	4	2	5	0	2	18
–T2	5	6	3	7	4	5	30
S16 – 1	4	6	3	2	1	2	18
–T2	3	4	5	7	6	4	29
S17 –T1	5	6	1	2	1	1	16
–T2	5	6	4	5	2	3	25
S18 –T1	3	6	1	3	1	1	15
–T2	4	6	4	7	3	2	26
S19 –T1	3	6	0	3	1	1	14
–T2	4	6	2	7	1	1	21
S20 –T1	4	4	2	2	0	1	13
–T2	5	6	2	5	2	2	22
S21 –T1	3	3	0	2	0	2	10
–T2	4	6	1	4	6	1	22
S22 –T1	4	1	1	0	0	2	8
–T2	5	3	2	3	1	3	17
S23 –T1	2	3	0	1	0	2	8
–T2	4	6	2	5	2	3	22
S24 –T1	4	2	1	1	0	0	8
–T2	4	6	2	7	1	1	21
S25 –T1	4	3	0	0	0	0	7
–T2	5	6	2	7	1	2	23
S26 –T1	3	0	1	0	0	2	6
–T2	3	6	3	7	2	2	23
S27 –T1	3	0	0	1	0	2	6
–T2	4	4	2	7	1	4	22
S28 –T1	1	2	1	0	0	0	5
–T2	3	6	2	3	1	0	15
Average T1	3.53	3.47	1.20	1.87	0.40	1.40	11.93
Average T2	4.20	5.53	2.80	5.87	2.60	2.47	23.47
Average gain	0.67	2.06	1.60	4.00	2.20	1.07	11.54

Table 5.13 shows the pre-test and post-test scores for each participant in the Experimental group. The means and range of scores for each test are shown as a whole and by section. The average gains for the whole test and each test section are also presented.

As shown in Table 5.13, the pre-test and post-test were administered to the fifteen participants in the Experimental group at Time 1 and at Time 2. The table also reveals the average scores of each test section addressing different aspects of the participants' reading abilities at Time 1 and Time 2. As shown in the table, the average gains across two test occasions increased for all six sections (A1, 0.67; A2, 2.06; B1a, 1.60; B2, 4.00; C1, 2.20 and B1b, 1.07). The A1 section had the smallest increase in gains at 0.67 whereas the B2 showed the largest average gain at 4.00. The test results revealed that the participants in both groups showed the smallest and largest average gains on the same test sections (A1 and B2) but differed in the number of gains. However, the participants in the Experimental group tend to make more improvements than the Control group.

Figure 5.2 below presents the average raw scores and percentage scores at Time 1 and Time 2 for the Control and Experimental groups and Table 5.14 shows the comparison between the average gains (between the pre-test and the post-test) made by each group on each section of the test.

Figure 5.2: Average scores at Time 1 and Time 2 for Control and Experimental groups
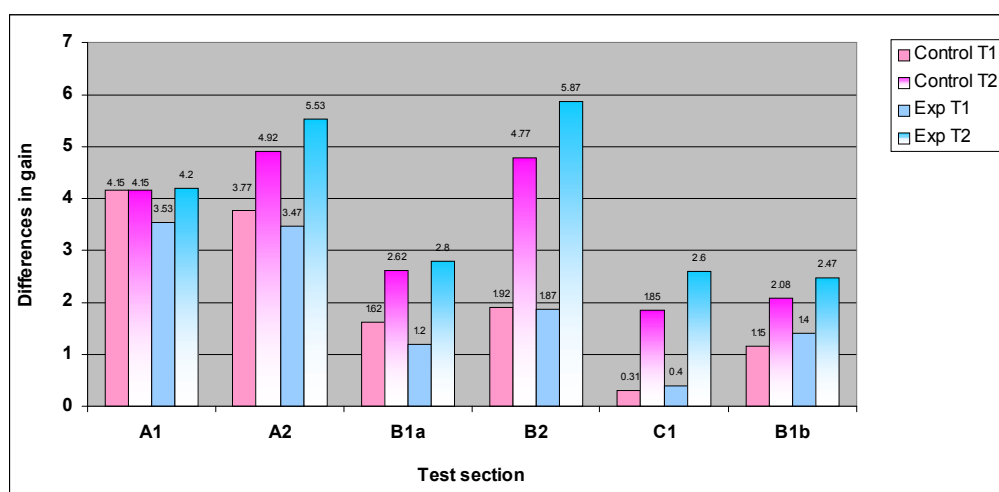
Test section/Group	A1	A2	B1a	B2	C1	B1b
Control T1	83%	63%	23%	27%	5%	23%
Control T2	83%	82%	37%	68%	31%	42%
Control gain	0%	19%	14%	41%	26%	19%
Experimental T1	71%	58%	17%	27%	7%	28%
Experimental T2	84%	92%	40%	84%	43%	49%
Experimental gain	13%	34%	23%	57%	37%	21%

Table 5.14: Comparison of average gains by test section

	Test Section /Group	A1 Postcard message 5 points	A2 Recon-structing the narrative 6 points	B1a Short passage 7 points	B2 Search reading 7 points	C1 Processing the whole text and forming a macrostructure of the main ideas 6 points	B1b Operationalising the combination information across texts 5 points	Total score gains 36 points
Raw scores	Con.	0.00	1.15	1.00	2.85	1.54	0.93	7.46
	Exp.	0.67	2.06	1.60	4.00	2.20	1.07	11.54
	Diff. in gain	0.67	0.91	0.60	1.15	0.66	0.14	4.08
Percen-tage scores	Con.	0%	19%	14%	41%	26%	19%	21%
	Exp.	13%	34%	23%	57%	37%	21%	32%
	Diff. in gain	13%	15%	9%	16%	11%	3%	11%

According to the data shown in Table 5.14, the participants in the Control group showed an improvement on all five test sections except section A1. The participants in the Experimental group made improvements on all test sections. Furthermore, the average gains on all test sections for the Experimental group were higher than for the Control group. Interestingly, the greatest gains for both groups were on section B2 (4.00 points or 57% and 2.85 points or 41% respectively). The biggest difference between the two groups in gains on any section of the test was also for B2 (1.15 points or 16%).

Each test section addresses different aspects of reading ability (A1, A2, B1a, B2, C1, and B1b – see Chapter 3, Section 3.7.4). Different types of reading strategies may therefore be required for the participants to deal with each section. Because of this the scores on each test section at Time 1 and Time 2 are likely to reflect the types of reading strategies that the participants employed the most and the least before and after instruction.

Before instruction the participants in the Control group showed the highest average scores for A1 (4.15 points or 83%) and the lowest average scores for C1 (0.31 points or 5%), (see Figure 5.2). Similar results were observed for the Experimental group (A1: 3.53 points or 71% and C1: 0.41 points or 7%), (see figure 5.2). This suggests that before instruction the participants in both groups may have employed similar reading strategies to deal with the test. The participants scored highest on A1, perhaps because their level of

language proficiency is generally higher than the A1 level. This section involved reading a very short and simple message in a postcard with items targeted at the sentence level (choosing individual words to fill in gaps). They achieved the lowest average scores on C1 level, perhaps because their language proficiency level is generally lower than C1. In the C1 task, they were required to match summaries to parts of the text, processing the whole text and to form a macrostructure of the main ideas.

After instruction, the participants in the Control group showed the highest average scores for A1 (4.15 points or 83%) and the lowest average scores for C1 (31%), (see Figure 5.2). On the other hand, the Experimental group obtained the highest average scores on A2 (92%) and the lowest average scores on B1a (40%), (see Figure 5.2). The highest and lowest average scores obtained at Time 2 indicates that reading strategies employed by the participants in both groups differed from Time 1. The participants in the Control group were able to comprehend a very short and simple passage at the sentence level (A1), but they seemed not to be as able to process the whole text and to form a macrostructure of the main ideas at C1 level. As for the Experimental group, the participants seemed to be able to process everyday material by reconstructing the narrative at A2 level, but were less able to read straightforward factual texts on subjects related to his/her field and interest with a satisfactory level of comprehension at B1 level.

However, difference in gains for each test section at Time 1 and Time 2 across groups may indicate how much improvement the participants made during the course of instruction and suggests what reading strategies they may have employed the most and the least. In the B2 test section, the students were asked to match "subtitles" with the paragraphs in the text. While reading the text, they might skim only the topic sentences of each paragraph and link the ideas of each topic sentence together before matching with each subtitle. To do this, students needed to search read to locate relevant ideas and needed to understand the text as a whole by relating ideas. The highest gains on section B2 (1.15 or 16%), (see table 5.14) suggest that '*previewing & predicting*' and '*skimming & search reading*' strategies were successfully employed by the students in the Experimental group. The difference in gains suggests that the students in the Experimental group were able to do this more successfully than those in the Control group.

The smaller differences in gains on section B1b (0.14 or 3%) suggests that the participants were less able to operationalise the combination of information across texts. In some ways this is surprising as this task would seem to be at an appropriate level (B1) and to involve reading strategies such as search reading for similar words in the texts and questions. However, even on this task, the Experimental group made greater gains than the Control group.

To sum up, as there was only a small number of participants, statistical tests could not be used and conclusions must be tentative, but it seems that strategy instruction did affect all areas of reading comprehension measured by the tests. The greater improvements made by the participants in the Experimental group suggest that the strategy instruction did bring benefits. The biggest difference in gains on the B2 section suggests that skimming and search reading strategies had a particularly strong effect.

5.2.3 Questionnaire Data: Part 2, 3 and 4

5.2.3.1 Data Obtained from Questionnaire - Part 2:

The second part of the questionnaire contains 29 closed response items concerned with questions about subjective experiences which asked the students to report on the reading strategies that they typically employed in the EFL reading process.

Table 5.15: Comparison of reading strategies used by Thai learners for the Control group and the Experimental group

Note: 0=never (0%), 1=rarely (25%), 2=sometimes (50%), 3=often (75%), 4=usually (90%), 5=always (100%)

Reading strategies	Control Group (N=13)					Experimental Group (N=15)				
	Before Instruction		After Instruction		Gain	Before Instruction		After Instruction		Gain
	M	SD	M	SD		M	SD	M	SD	
1. plan what to do before I start.	1.54	1.127	2.23	.599	**0.69**	2.07	.884	2.67	.816	**0.60**
2. have a purpose in mind.	2.46	1.050	2.54	1.050	**0.08**	2.80	1.320	2.73	.961	**-0.07**
3. read the title and sub-titles before reading the rest of the text.	4.08	.954	4.00	.913	**-0.08**	4.07	1.163	4.40	1.121	**0.33**
4. focus on the key words from the title.	3.54	.967	3.69	1.032	**0.15**	3.33	1.175	4.13	.743	**0.80**
5. think what I already know about the topic.	3.46	.967	3.62	.870	**0.16**	3.00	.845	3.53	.915	**0.53**
6. think about how one sub-title relates to another sub-title.	2.92	.760	3.31	.630	**0.39**	2.80	.862	3.60	.910	**0.80**
7. look at any pictures/ illustrations.	3.85	1.214	4.31	1.316	**0.46**	4.27	.799	4.53	.915	**0.26**
8. think about what information the writer might present.	3.23	1.363	3.08	.954	**-0.15**	3.13	1.246	3.27	.961	**0.14**
9. read every sentence slowly and carefully to understand the text.	3.15	1.281	3.38	.870	**0.23**	3.47	1.060	3.27	.884	**-0.20**
10. read the first sentence of each paragraph.	1.69	1.316	2.00	.577	**0.31**	1.27	.884	2.87	9.15	**1.60**
11. read the first paragraph and last paragraph (introduction& conclusion)	1.62	.870	2.08	1.441	**0.46**	1.40	1.242	3.53	.834	**2.13**
12. guess the meanings of unknown words or phrases.	3.54	.967	3.38	.870	**-0.16**	3.40	1.352	3.87	1.187	**0.47**
13. skip unknown words.	2.62	1.557	3.92	.954	**1.30**	2.80	1.740	3.27	1.534	**0.47**
14. use contextual clues to help me understand the text better.	3.54	1.050	3.23	1.363	**-0.31**	3.33	.976	3.47	.915	**0.14**
15. use English grammar to help me understand the text.	2.92	1.038	2.54	1.127	**-0.38**	2.87	.734	2.87	.834	**0.00**
16. skim the text quickly to get the general idea.	2.69	1.548	3.23	.927	**0.54**	2.73	1.033	3.53	1.125	**0.80**
17. scan the text for specific details.	2.31	1.316	2.92	1.320	**0.61**	2.33	1.175	3.40	.986	**1.07**

Reading strategies	Control Group (N=13)					Experimental Group (N=15)				
	Before Instruction		After Instruction		Gain	Before Instruction		After Instruction		Gain
	M	SD	M	SD		M	SD	M	SD	
18. distinguish between main points and examples.	2.38	.768	2.31	1.032	-0.07	2.80	1.373	2.80	.775	0.00
19. differentiate important from unimportant ideas.	2.23	.832	2.42	.669	0.19	2.67	1.234	3.13	.640	0.46
20. distinguish between fact and opinion.	2.38	.870	2.46	.776	0.08	2.53	.990	2.67	1.047	0.14
21. understand the relationship between ideas.	2.85	.899	2.85	.987	0.00	3.07	.961	3.40	1.056	0.33
22. analyze what the writer meant or tried to say.	3.23	1.235	3.15	.801	-0.08	3.13	1.187	3.47	1.302	0.34
23. take notes while reading to help me understand what I have read.	2.77	1.481	2.23	1.423	-0.54	2.33	1.397	2.40	.910	0.07
24. write a summary of the main information in the text.	2.62	1.502	2.08	1.256	-0.54	2.33	.976	2.47	1.125	0.14
25. translate the text from English into Thai	3.46	1.450	3.77	.927	0.31	3.57	1.356	3.73	.884	0.16
26. check if my guesses about the text are right or wrong.	3.31	1.109	3.31	.947	0.00	3.67	1.113	3.67	.900	0.00
27. re-read it once or more if I do not understand it.	3.38	1.660	3.38	1.446	0.00	3.33	1.047	3.93	.961	0.60
28. make notes on the main points as I remember them.	2.46	1.450	2.10	1.521	-0.36	2.27	.799	2.60	.910	0.33
29. evaluate my plans or goals for reading.	1.92	1.498	2.69	1.182	0.77	2.33	.976	2.60	1.183	0.27

Table 5.15 presents the data obtained from the closed-response ranked scale items relating to the twenty-six participants' experiences with reading strategies used in the EFL reading process.

The data from the Control group show that their two most frequently used reading strategies prior to taking the *Reading I* course included: *'read the title and sub-titles before reading the rest of the text'* (mean = 4.08), and *'look at any pictures/illustrations'* (mean = 3.85). Three strategies were ranked equally

in third place: *'focus on the key words from the title', 'try to guess the meanings of unknown words or phrases'*, and *'use contextual clues to help me understand the text better it'* (mean = 3.54). The Control group students' four least frequently used strategies were: *'plan what to do before I start'* (mean = 1.54), *'read the first paragraph and last paragraph (introduction & conclusion)'* (mean = 1.62), and *'read the first sentence of each paragraph'* (mean = 1.69).

The data also reveal that for this group, their three most popular strategies used after taking the *Reading I* course were *'look at any pictures/illustrations'* (mean = 4.31), *'read the title and sub-titles before reading the rest of the text'* (mean = 4.00), and *'skip unknown words'* (mean = 3.92).

Table 5.16: The three highest rated strategies before and after instruction: Control group

	Before the course	*After the course*
1	*'read the title and sub-titles before reading the rest of the text'* (mean = 4.08)	*'look at any pictures / illustrations'* (mean = 4.31)
2	*'look at any pictures/illustrations'* (mean = 3.85).	*'read the title and sub-titles before reading the rest of the text'* (mean = 4.00)
3	*'focus on the key words from the title'* (mean = 3.54) *'guess the meanings of unknown*	*'skip unknown words'* (mean = 3.92)

Before the course	After the course
words or phrases' (mean = 3.54)	
'*use contextual clues to help me understand the text better'* (mean = 3.54)	

It is notable that the two most frequently used reading strategies before and after taking the *Reading I* course (*look at any pictures/illustrations'* and *'read the title and sub-titles before reading the rest of the text*), were alternately ranked first and second by the Control group. However, the third most frequently used reading strategies before and after taking the *Reading I* course ('*use contextual clues to help me understand the text better it'* and *'skip unknown words'* respectively) were not in the three most popular strategies used by the other group.

Table 5.17: The three lowest rated strategies before and after instruction: Control group

	Before the course	After the course
1	'*plan what to do before I start*', (mean = 1.54)	*'read the first sentence of each paragraph',* (mean = 2.00).
2	'*read the first paragraph and last paragraph(introduction& conclusion)'*, (mean = 1.62).	*'read the first paragraph and last paragraph (introduction & conclusion)'* (mean = 2.08).

Before the course	After the course
3 *'read the first sentence of each paragraph',* (mean = 1.69).	*'make notes on the main points as I remember them'* (mean = 2.10).

The three strategies least used by the participants after taking the *Reading I* course were: *'read the first sentence of each paragraph',* (mean = 2.00), *'read the first paragraph and last paragraph (introduction & conclusion)* (mean = 2.08), and *'make notes on the main points as I remember them'* (mean = 2.10).

It can be seen that the least popular strategy used at Time 1 ('*plan what to do before I start*') was not in the three strategies least used at Time 2. Whereas the second least used strategy ('*read the first paragraph and last paragraph')* was in the same position at both Time 1 and Time 2. The third least used strategy at Time 1 (*'read the first sentence of each paragraph')* had appeared in the least popular used strategy at Time 2. However, the third least frequently used strategy at Time 2 (*'make notes on the main points as I remember them')* was not in the least popular three strategies at Time 1.

Table 5.18: The three highest rated strategies before and after instruction: Experimental group

	Before the course	After the course
1	*'look at any pictures/illustrations'* (mean = 4.27).	*'look at any pictures / illustration* (mean = 4.53).
2	*'read the title and sub-titles before reading the rest of the text'* (mean = 4.07)	*'read the title and sub-titles before reading the rest of the text'* (mean = 4.40)
3	'*check if my guesses about the text are right or wrong'* (mean = 3.67)	*'focus on the keywords from the title'* (mean = 4.13)

For the Experimental group, the participants' two most frequent strategies employed before receiving strategy instruction were the same as for the Control group (although first and second were reversed): *'look at any pictures/illustrations'* (mean = 4.27), and *'read the title and sub-titles before reading the rest of the text'* (mean = 4.07). The third ranked was '*check if my guesses about the text are right or wrong*' (mean 3.67).

After receiving instruction, the top two strategies most frequently employed were ranked the same as before instruction: *'look at any pictures/illustrations'* (mean = 4.53), *'read the title and sub-titles before reading the rest of the text'* (mean = 4.40). The third ranked strategy was '*focus on the key words from the title'* (mean 4.13).

Note from Table 5.18, although there is only limited evidence of improvement in strategy use between the two occasions, the frequency of use of these three highest rated strategies at Time 2 can be considered high judged by the means of 4.53, 4.40, and 4.13 out of 5).

Table 5.19: The three lowest rated strategies before and after instruction: Experimental group

	Before the course	After the course
1	*'read the first sentence of each paragraph',* (mean = 1.27).	*'take notes while reading to help me understand what I have read'* (mean = 2.40).
2	*'read the first paragraph and last paragraph(introduction& conclusion) ',* (mean = 1.40).	*'write a summary of the main information in the text'* (mean= 2.47)
3	*''plan what to do before I start'* (mean = 1.54)'.	*'make notes on the main points as I remember them'* (mean = 2.60). *'evaluate my plans or goals for reading'* (mean = 2.60).

As shown in Table 5.19, at Time 1, the strategies reported as being used least by the Experimental group were also the same as for the Control group (although ranked in a different order): *'read the first sentence of each paragraph'* (mean = 1.27), *'read the first paragraph and last paragraph (introduction & conclusion)* (mean = 1.40), and *'plan what to do before I start'*

(mean = 1.54). However, these three least used items did not appear in the three least items at Time 2, but were ranked seventh, twelfth, and fourth respectively. This suggests that the participants in the Experimental group who received the explicit strategy instruction seem to use more expeditious global reading strategies such as '*skimming*' instructed during the course than the Control group who did not receive strategy instruction. The positive results suggest that explicit strategy instruction on expeditious global strategies provided to the participants in the Experimental group affected their use of strategies.

At Time 2, the strategies reported using least included *'take notes while reading to help me understand what I have read'* (mean = 2.40), *'write a summary of the main information in the text'* (mean = 2.47), and '*make notes on the main points as I remember them*', '*evaluate my plans or goals for reading*' (both mean = 2.60).

Interestingly, the two most frequent strategies employed by the participants for the Control and Experimental groups were the same: *'read the title and sub-titles before reading the rest of the text'* and *'look at any pictures/illustrations'*, However, these two strategies were ranked differently at Time 1 and Time 2 for the Control group. This contrasts with the Experimental group, who rated them the same at Time 1 and Time 2 (4.27 and 4.53). This suggests that the explicit strategy instruction was reflected in the use of strategies by the students in the Experimental group.

With regards to the findings shown in Table 5.18, the participants in the Experimental group who received the explicit strategy instruction seem to use more expeditious global reading strategies such as skimming, scanning, and search reading, instructed during the 12-week course than the Control group who did not receive strategy instruction This suggests that participants who received explicit strategy instruction tended to employ more expeditious global reading strategies such as '*skimming*' to assist them to understand the meaning of the text.

Table 5.20: Comparison of changes in mean ratings between Time 1 and Time 2 for reading strategies used by the Control group and the Experimental group

Strategy	Change in mean rating between Time 1 and Time 2		Diff.
Higher for Control group	Con. group	Exp. group	
13. skip unknown words.	1.30	0.47	0.83
29. evaluate my plan or goals for reading	0.77	0.27	0.50
1. plan what to do before I start.	0.69	0.60	0.09
17. scan the text for specific details.	0.61	1.07	-0.46
Higher for Experimental group			
11. read the first paragraph and last paragraph (introduction & conclusion)	0.46	2.13	-1.67
10. read the first sentence of each paragraph.	0.31	1.60	-1.29
17. scan the text for specific details.	0.61	1.07	-0.46
16. skim the text quickly to get the general idea.	0.54	0.80	-0.26
6. think about how one sub-title relates to another sub-title.	0.39	0.80	-0.41
4. focus on the key words from the title.	0.15	0.80	-0.65

Table 5.20: Comparison of changes in mean ratings between Time 1 and Time 2 for reading strategies used by the Control group and the Experimental group

Strategy	Change in mean rating between Time 1 and Time 2		Diff.
Higher for Control group	Con. group	Exp. group	
13. skip unknown words.	1.30	0.47	0.83
29. evaluate my plan or goals for reading	0.77	0.27	0.50
1. plan what to do before I start.	0.69	0.60	0.09
17. scan the text for specific details.	0.61	1.07	-0.46
Higher for Experimental group			
11. read the first paragraph and last paragraph (introduction & conclusion)	0.46	2.13	-1.67
10. read the first sentence of each paragraph.	0.31	1.60	-1.29
17. scan the text for specific details.	0.61	1.07	-0.46
16. skim the text quickly to get the general idea.	0.54	0.80	-0.26
6. think about how one sub-title relates to another sub-title.	0.39	0.80	-0.41
4. focus on the key words from the title.	0.15	0.80	-0.65

For the Control group, the ratings for the strategies given the highest mean scores at Time 1, *'read the title and sub-titles before reading the rest of the text'* decreased mean rating by -.08 at Time 2. On the other hand, the second highest rated strategy at Time 1, *'look at any pictures/illustrations'* increased by 0.46 from Time 1 to Time 2. The third highest rated strategy at Time 1, *'focus on the key words from the title', 'try to guess the meanings of unknown words or phrases', and 'use contextual clues to help me understand the text better'* (all mean 3.54) increased by 0.15, and declined by -0.16 and -0.31 respectively. On the other hand, the three *least* popular strategies

reported by the participants in the same group all increased from Time 1 to Time 2. It is notable that the strategy with the greatest increase in mean rating – 'skip *unknown words'* – was among the three strategies rated highest by the participants in the Control group at Time 2. The gain here was 1.30. The strategy with second greatest increase in mean rating – *'evaluate my plans or goals for reading'* was not among the three strategies rated highest and lowest by the participants in the Control group at Time 1 and Time 2. The gain here was 0.77. Whereas the strategy with third greatest increase in means rating – *'plan what to do before I start*' – was the strategy rated lowest at Time 1 (the mean gain was 0.69).

Regarding the Experimental group, only one of the three highest rated strategies at Time 1 did not change in mean rating at Time 2: *'check if my guesses about the text are right or wrong*' (mean gain = 0.00). Interestingly, the lowest ranked strategies at Time 1 all increased their mean ratings at Time 2. The greatest increase among the three lowest rated items at Time 1 was for *'read the first paragraph and last paragraph (introduction & conclusion)'* (+2.13). This strategy also made the greatest gain in rating between Time 1 and Time 2.

The comparison of changes in mean ratings between Time 1 and Time 2 for reading strategies used by the Control group and the Experimental group suggests that the participants in the Control group appear to employ previewing and predicting strategies – '*plan what to do before I start,'*

'*evaluate my plans or goals for reading*' – while the Experimental group seem to apply skimming strategies: '*read the first paragraph and last paragraph (introduction & conclusion), 'read the first sentence of each paragraph',* and *'skim the text quickly to get the general idea'.* The participants in this group also tend to use scanning/searching reading strategies: *'scan the text for specific details'*. Furthermore, *previewing & predicting strategies: 'think about how one sub-title relates to another sub-title' and 'focus on the key words from the title'* were also promoted and seem to have been employed by the participants in this group.

The findings suggest that the questionnaire results from the Experimental group were consistent with the kinds of strategy taught in the course: *skimming*, *scanning*, *search reading and previewing & predicting.* However, less encouragingly, *summarising* did not appear among the strategies with the greatest changes in mean rating between Time 1 and Time 2.

In addition, the questionnaire results obtained from the Experimental group showed that students seemed to apply *skimming* strategies and also tended to use *scanning/search reading* strategies. This is consistent with the higher gains for the Experimental group on the B2 test targeting *search reading*.

5.2.3.2 Summary of the Results obtained from the Questionnaire - Part 3

This part of the questionnaire allowed the participants to express their ideas freely by answering six open-ended questions related to the reading strategies they employed. Following the experience of piloting (see Chapter 4, Section 4.7) and to ensure that the answers in this part would not be copied from the closed items in Part 2, this Part of the Questionnaire was administered separately from Part 2: closed-questions.

The responses to this Part of the Questionnaire are summarized in the following section.

Table 5.21: Q1. While reading English texts what do you do to help you understand the meaning of the text?

Strategies	Pre-instruction		Post-instruction	
	Con. N=13	Exp. N=15	Con. N=13	Exp. N=15
• use a dictionary	4	4	-	-
• read the first paragraph and last paragraph to find the main idea	-	-	-	4
• translate the text from English into Thai	3	8	3	2
• skim the text quickly to get the general idea	3	5	5	10
• read the title and sub-titles before reading the rest of the text	1	1	1	1
• focus on the key words from the title	1	2	1	-
• look at the pictures/illustrations	-	1	-	2
• think about what the what information the writer might present	1	-	-	-
• read the first sentence of each paragraph	-	-	-	1
• try to guess the meaning of unknown words or phrases.	-	2	-	-
• skip unknown words	-	1	3	-
• use context clues	-	1	-	-
• scan the text to find the main idea in the passage	4	-	-	1
• take notes while reading	1	-	-	-
• write a summary of the main information in the text	1	-	1	-
• re-read the text in order to find the main idea	2	-	3	2

Table 5.21 shows what the participants did to help them to understand the meaning of the text while reading. It can be seen that the participants from the Control and the Experimental group reported employing a variety of strategies both before and after receiving strategy instruction.

At Time 1, before instruction, four participants in each group reported that they would '*use the dictionary*' to help them to understand the meaning of the text. However, at Time 2, after instruction, no participant reported using this strategy.

In contrast, the strategy *'read the first paragraph and last paragraph to find the main idea'* was not reported by the participants in either group at Time 1 or by any in the Control group at Time 2, but four participants in the Experimental group reported using this strategy at Time 2.

In addition, some of the participants in both groups reported a '*translation strategy'* both before and after instruction. However, after receiving instruction the numbers reporting this strategy remained the same for the Control group (three) but decreased from eight to two for the Experimental group.

Interestingly, there was an increase in the numbers in both groups reporting using the strategy '*skim the text quickly to get the general idea*' for both the Control group (3 to 5) and the Experimental group (5 to 10).

Table 5.21 shows that '*Translation*' was the most reported strategy for the participants in the Experimental group at Time 1, but at Time 2, '*skimming*' was the most frequently reported strategy, with a very marked decline in the number reporting the use of '*Translation*'. On the other hand, the strategy '*read the first paragraph and last paragraph to find the main idea*' was not reported by any participants at Time 1 or by members of the Control group at Time 2, but this strategy was reported by four participants in the Experimental group at Time 2. This suggests that participants who received explicit strategy instruction tended to employ more expeditious global reading strategies such as '*skimming*' to assist them to understand the meaning of the text.

Table 5.22: Q2. What do you do to help yourself find the main idea in the passage?

Strategies	Pre-instruction		Post-instruction	
	Con. N=13	Exp. N=15	Con. N=13	Exp. N=15
• read the title and sub-titles before reading the rest of the text	1	1	3	3
• read every sentence slowly and carefully to understand the text	-	4	4	2
• read the first sentence of each paragraph	2	-	1	6
• read the first paragraph and last paragraph to find the main idea	3	-	-	6
• skim the text quickly to get the general idea	-	3	4	6
• translate the text from English into Thai	1	5	-	-
• re-read the text in order to find the main idea	2	5	-	-
• focus on the key words from the title	1	-	1	-
• think about what the what information the writer might present	1	-	-	1
• try to guess the meaning of unknown words or phrases	-	1	-	-
• use English grammar to help understand the text	1	-	-	-
• skip unknown words	-	2	-	-
• differentiate important from unimportant ideas	-	1	-	-
• write a summary of the main information in the text	-	3	-	-
• check if my guesses about the text are right or wrong	2	-	-	-

Table 5.22 presents what the participants reported doing to help them to find the main idea in the passage. As shown in the table, the numbers reporting the strategy *'read the title and sub-titles before reading the rest of the text'* increased at Time 2 in both groups (both rising from one to three). The strategy *'read every sentence slowly and carefully to understand the text'* was also reported by the participants in both groups. However, the numbers increased between Time 1 and Time 2 from zero to four in the Control group but decreased from four to two in the Experimental group.

Interestingly, the strategies *'read the first sentence of each paragraph'* and *'read the first paragraph and last paragraph to find the main idea'* were not reported by the participants in the Experimental group at Time 1 but they were more frequently reported by participants in this group at Time 2 (numbers reporting use of these strategies rose from zero to six in both cases), whereas the numbers reporting using these two strategies decreased (two to one and from three to zero respectively) at Time 2 for the Control group.

Another strategy that was more frequently reported by the participants in the Control and the Experimental group at Time 2 was *'skim the text quickly to get the general idea'.* The numbers reporting use of this strategy increased from one to four for the Control group and three to six for the Experimental group.

There were two strategies reported by participants at Time 1 that were not reported by participants in either group at Time 2. These included '*translate the text from English into Thai'* (reported by one in the Control and five in the Experimental group at Time 1) and '*re-read the text in order to find the main idea'* (reported by two in the Control and five in the Experimental group at Time 1).

At Time 1, the strategies '*translation'* and '*re-read the text'* were also reported as assisting the participants in both groups to find the main idea in the passage. Five participants in the Experimental group reported employing these two strategies whereas one and two participants respectively in the Control group reported using them. However, none of the participants in either group reported applying these two strategies to help them to find the main idea in the passage at Time 2.

Table 5.22 shows that the three strategies most frequently reported at Time 2 by the participants in the Experimental group to help them to find the main idea in the passage were '*read the first sentence of each paragraph'*, '*read the first paragraph and last paragraph to find the main idea'*, and '*skim the text quickly to get the general idea*. The first two of these strategies were not reported at Time 1, and the number of participants using the third strategy increased at Time 2. The results from this question imply that '*skimming*' strategies seem to have been taken up by the participants in the Experimental group, as a way of helping them to find the main idea in the passage.

Table 5.23: Q3. What do you do to help you find the supporting details in the passage?

Strategies	Pre-instruction		Post-instruction	
	Con. N=13	Exp. N=15	Con. N=13	Exp. N=15
• read the title and sub-titles before reading the rest of the text	2	-	-	-
• focus on the key words from the title	3	-	-	-
• look at the pictures/illustrations	1	-	-	-
• think about what the what information the writer might present	-	1	1	-
• read every sentence slowly and carefully to understand the text	1	4	-	1
• read the first paragraph and last paragraph to find the main idea	1	-	-	-
• guess the meaning of unknown words or phrases	-	1		2
• use contextual clues	1	3	3	3
• skim the text quickly to get the general idea	3	3	-	10
• scan the text to find the main idea in the passage	-	-	-	1
• distinguish between main points and examples	1	1	-	-
• differentiate important from unimportant ideas	1	-	-	-
• try to understand the relationship between ideas	-	-	2	-
• write a summary of the main information in the text	-	1	-	-
• translate the text from English into Thai	-	1	2	-
• re-read the text in order to find the main idea	-	-	1	1
• use a dictionary	2	3	1	-

Table 5.23 shows that the participants employed different strategies to help them to find the supporting details in the text. The strategies *'read the title and sub-titles before reading the rest of the text'* and *'focus on the key words from the title'* were employed by the participants in the Control group before

instruction (two and three). However, these strategies were not reported by the participants in this group after instruction and they were also not reported by the participants in the Experimental group either at Time 1 or Time 2.

The strategy '*read every sentence slowly and carefully to understand the text*' was also reported by the participants in both groups before instruction (one and four). However, at Time 2, no participants in the Control group reported using this strategy and the numbers decreased from four to one for the Experimental group.

In addition, before instruction one participant in the Control group and three participants in the Experimental group reported employing '*contextual clues*' to help them to find the supporting details in the text. The same numbers of participants (three) in both groups used this strategy after instruction.

Before instruction, the same numbers of participants (three) in both groups reported employing the '*skimming strategy*' to help them to find the supporting details in the passage. However, after instruction, no participants in the Control group reported using this strategy but the numbers increased from three to ten for the Experimental group.

Table 15.23 shows that *'skim the text quickly to get the general idea'* was reported the most frequently employed strategy for the Experimental group at Time 2. This strategy was not reported for the participants in the Control group at Time 2.

Table 5.24: Q4. What strategies do you use most often?

Strategies	Pre-instruction		Post-instruction	
	Con. N=13	Exp. N=15	Con. N=13	Exp. N=15
• read every sentence slowly and carefully to understand the text	1	8	5	-
• translate the text from English into Thai	3	8	3	-
• re-read the text in order to find the main idea	7	3	3	3
• skim the text quickly to get the general idea	6	1	5	10
• scan the text to find the main idea in the passage	-	-	-	7
• focus on the key words from the title	1	-	1	-
• think about how one sub-title relates to another sub-title	-	-	1	-
• read the first paragraph and last paragraph to find the main idea	-	-	1	2
• guess the meaning of unknown words or phrases	1	1	-	-
• skip unknown words	-	1	-	1
• use context clues	-	1	-	-
• take notes while reading	1	-	-	-
write a summary of the main information in the text	1	-	-	-
• use a dictionary	-	-	2	-

Table 5.24 presents the strategies the participants employed most often before and after instruction. Table 5.24 shows that for the Experimental group, '*translation*' and '*careful reading*' were most often reported by the participants at Time 1 but did not appear at Time 2. In contrast, '*skimming*' was not reported at Time 1 but was frequently reported at Time 2. Furthermore, '*scanning*' was frequently reported by the participants in this group at Time 2 but none of them reported this strategy at Time 1.

Table 5.25: Q5. What do you do if your first strategy/[-ies] does/[do] not work?

Strategies	Pre-instruction		Post-instruction	
	Con. N=13	Exp. N=15	Con. N=13	Exp. N=15
• re-read the text in order to find the main idea	7	3	4	8
• change the strategies	1	4	-	5
• skim the text quickly to get the general idea	-	-	2	1
• use dictionary	1	2	1	2
• try the same strategies again	-	-	1	2
• ask teacher or friends	2	1	1	-
• translate the text from English into Thai	2	1	2	-
• read every sentence slowly and carefully to understand the text	-	-	2	1
• read the first paragraph and last paragraph	-	-	-	2
• skip unknown word or phrases	-	-	1	-
• use contextual clues	1	-	-	1
• focus on key words	1	-	-	-

Table 15.25 reveals what the participants did if their first choice strategies did not work. The results reveal that before instruction, seven participants in the Control group and three participants in the Experimental group reported '*re-reading the text*' when their first strategy did not work. The numbers reporting use of this strategy declined from seven to four for the Control group but increased from three to eight for the Experimental group at Time 2. Additionally, before instruction one participant in the Control group and 4 participants in the Experimental group answered that they *changed their strategies* if their first strategies did not work. Following instruction this strategy was not reported by the participants in the Control group but the

numbers increased from four to five for the Experimental group. The results also showed that at Time 2, two participants in each group reported that they would '*try the same strategies*' if their first strategies did not work but this had not been reported by participants in either group at Time 1, before instruction. Table 15.25 shows that at Time 2, '*re-read the text in order to find the main idea*' was reported the most frequently strategy employed by the participants in the Experimental group. However, the numbers reported at Time 1 was less than at Time 2. In addition, at Time 2, two participants in this group answered that they would '*use the dictionary*', '*try the same strategy*', and 'read *the first paragraph and last paragraph*' if their first strategies did not work.

Table 5.26: Q6. Do you read differently when reading Thai and English texts? How?

Pre-instruction		Post-instruction	
Con. **N=13**	**Exp.** **N=15**	**Con.** **N=13**	**Exp.** **N=15**
6 (the same) 7 (different)	4 (the same) 11 (different)	3 (the same) 10 (different)	2 (the same) 13 (different)

At Time 1, before instruction, the findings indicate that six participants in the Control group reported reading in the same way when reading Thai and English text and seven participants reported reading differently when reading Thai and English texts.

The data obtained at Time 1, one participant who read in the same way when reading Thai and English texts answered that s/he had to read carefully in order to understand the text. Four participants claimed that both Thai and English texts were the same in that they contained the main ideas so that they had to read in the same way to find the main ideas in either Thai or English texts. One participant answered that s/he re-read both Thai and English texts in order to understand them.

With regard to the seven participants who reported that they read differently when reading Thai and English text, six of them mentioned unknown vocabulary. They stated that they could understand the meaning of Thai texts quickly because Thai was their first language, but they had to use a dictionary to find the meaning of unknown words in the English texts and then translated them into Thai. They also had to read several times to get the meaning of English texts. Whereas two participants stated that when reading Thai texts, they could understand the whole text, including the main ideas and supporting details. However, when reading in English texts, they only skimmed the text in order to get the main ideas and skipped unknown vocabulary or phrases.

At Time 2, following instruction, three participants in the Control group reported reading in the same way and ten participants reported reading differently when reading English and Thai texts. Three participants who reported reading in the same way mentioned that they needed to find the main ideas when reading either Thai or English texts. Four out of ten participants who reported reading differently answered that Thai texts were easy and no techniques were needed. They could read quickly from the beginning to the end and read only once to get the main ideas and understand meaning of the whole text. This contrasts to reading English texts in which they had to read slowly and re-read the texts until they could find the main ideas and understand them. One participant claimed that s/he could understand the meaning of all Thai words. S/he read Thai texts carefully because it was easy to understand and no translation was needed. However, when reading English texts, s/he was confronted with unknown words, so she had to skim and translate the words or sentence s/he knew the meaning. Four participants mentioned that they could understand Thai texts immediately while reading because Thai was their national language. In contrast, English texts were difficult, particularly unknown vocabulary. Translation was necessary for them when reading English texts. One participant stated that s/he read Thai and English texts in similar way, but translation was required when reading English texts.

For the Experimental group, the figures show that at Time 1, before instruction, four participants reported reading in the same way when reading Thai and English text and eleven participants read differently when reading Thai and English texts. One of the four participants who read the same way reported that s/he read several times for both Thai and English texts but it took more time to understand the meaning of English texts because s/he had to look for the meaning of unknown words or phrases in a dictionary. Two participants stated that they had to read carefully from the start to the end in order to get the main ideas of both Thai and English texts. Additionally, one participant claimed that both Thai and English texts have the same text structures that show how the information in the text is organized so that s/he read both texts in the same way.

At Time 2, following instruction, two participants in the Experimental group reported reading the same way when reading Thai and English texts. They answered that when reading either Thai or English texts, they had to find the main ideas by skimming the texts since the first time of reading those texts.

Thirteen participants did reported reading differently when reading Thai and English texts. Four out of the thirteen participants claimed that all words and phrases in the Thai texts were easy and understandable because Thai was their first language. Therefore, when reading Thai texts skimming and scanning strategies were required to get the meaning of the texts. This contrasts with the one participant who stated that skimming and scanning

strategies were required for reading English texts. When reading Thai texts s/he read the whole text from the beginning to the end but she read only the first and last paragraph when reading English texts.

Six participants who reported reading differently pointed out that they could read Thai texts quickly because Thai words were understandable. Whereas English texts were difficult to understand since they contained some unknown words and phrases. Because of these difficulties, they had to read English texts slowly in order to get the meaning and understand them clearly.

Three participants answered that they could understand the meaning of Thai texts by reading them carefully and only once because translation was not required for reading those texts. By contrast, when reading English texts, they had to read at least twice in order to understand them. Furthermore, translation strategy was required to assist them to understand the meaning of English texts. Moreover, two participants claimed that basic reading skills and more reading strategies were required when reading English texts.

Table 5.27: Q7. Which reading strategies help you to have a better understanding of English texts? Why?

Strategies	Pre-instruction		Post-instruction	
	Con. N=13	Exp. N=15	Con. N=13	Exp. N=15
• skim the text quickly to get the general idea	3	4	3	8
• scan the text to find the main idea in the passage	1	-	-	5
• translate the text from English into Thai	1	4	-	1
• re-read the text in order to find the main idea	3	4	-	3
• read the title and sub-titles	-	-	1	-
• look at any pictures/illustrations	-	-	-	2
• read the first sentence of each paragraph	-	1	-	1
• read the first paragraph and last paragraph	-	-	1	2
• read every sentence slowly and carefully to understand the text	1	-	4	-
• use contextual clues	-	-	1	-
• use English grammar to help understand the text	-	1	-	-
• analyze what the writer meant or tried to say	-	-	1	-
• distinguish between main points and examples	-	-	-	1
• differentiate important from unimportant ideas	-	-	-	1
• take notes while reading	1	-	-	-
• use a dictionary	1	-	2	-

Table 5.27 reports which strategies helped the participants to have a better understanding of English texts. As shown in the table, before instruction, three participants in the Control group and four participants in the Experimental group answered that the *skimming* strategy assisted them in this. The numbers increased between Time 1 and Time 2 from four to eight in the Experimental group but remained the same (three) in the Control group.

In addition, at Time 2, five participants in the Experimental group reported using *'scan the text to find the main idea in the passage'* to help them to have a better understanding of English texts. However, this strategy was not reported in the Experimental group at Time 1, or in the Control group either at Time 1 or at Time 2.

Based on the findings, other strategies such as *'translate the text from English into Thai'* and *'re-read the text in order to find the main idea'* were also reported for both groups at Time 1. For the Experimental group, the numbers reporting these two strategies declined between Time 1 and Time 2 from four to one and four to three respectively, but were not reported for the Control group*.* The strategy '*look at any pictures/illustrations*' was employed by two participants in the Experimental group at Time 2 but did not appear at Time 1 for either group. At Time 2, the strategy '*read the first paragraph and last paragraph*' was also reported by participants in both groups (one and two) but was not reported at Time 1. In contrast, the strategy '*read every sentence slowly and carefully to understand the text*' was reported by participants in both groups at Time 1 (one and four) but none of them reported using this strategy at Time 2.

Table 5.27 shows that at Time 2, after instruction the '*skimming*' strategy was reported as the strategy which helped the participants in the Experimental group to have a better understanding of English texts. The '*scanning*' strategy was also frequently reported by the participants in the Experimental

group. Additionally, the '*previewing* and *predicting'* strategies were reported applying by the participants in this group. In contrast, at Time 2, the '*careful reading*' strategy was not reported assisting the participants in this group to have a better understanding of English texts.

5.2.3.3 Data obtained from the Questionnaire - Part 4: Open Questions

This part of the questionnaire consists of one open-ended question concerning participants' problems and strategies when reading in English.

Table 5.28: Is there anything you would like to add about your problems and strategies with reading in English?

Control Group	
Before instruction	**After instruction**
S1. Unknown vocabulary affected in my reading in English. I had to use the dictionary to find the meaning of those unknown words and wrote the meanings in Thai.	**S1.** When reading in English I did not know the meaning of some words. This affected the meanings of each sentence and the whole text.
S2. Some slangs, colloquial and spoken language were obstacles to understanding the written text.	**S2.** Unknown words made me not understand the meaning of the whole text. Another problem was some idioms that I could not understand.
S3. My problem with reading in English was about word stress.	**S3.** I could not translate the text because of some unknown words as well as idioms.
S4. I did not understand the meaning of the whole text because of some unknown words. This problem was solved by reading the next sentence in order to find the meaning of some unknown words in the previous sentence. Using context clues could	**S4.** I had a short attention span. I was not able to read in a noisy place. When reading, I needed a quite place. My problem was that when confronted with unknown words, I could not translate and understand the meaning of the whole text.

Control Group	
Before instruction	**After instruction**
help to find the meaning of unknown words.	
S5. Unfamiliar vocabulary was an obstacle to reading in English. Idioms were also brought about reading problems. Some strategies did not work for reading English texts.	**S5.** My major problem when reading in English was unknown words. When I could not understand the meanings of each sentence, I was unable to find the main ideas. I sometimes guessed the word meanings wrongly. This resulted in misinterpretation of the text.
S6. I found that technical terminology was a problem in translating the text.	**S6.** Technical terminology made the text difficult.
S7. Unknown words and repeated vocabulary made me not understand the meaning of the text.	**S7.** I read the beginning of the text to find the main ideas. Repeated words or sentences made more confusion. Unknown vocabulary was also a problem for my reading.
S8. My reading problems were about spelling and pronunciations. I could not spell and pronounce the words correctly. I also could not interpret what the text was about.	**S8.** I could not pronounce and translate the words. Sometimes I could not understand what the whole passage was about.
S9. When reading English text, we had to ensure that the meaning of the text translated in Thai was the same as the original text.	**S9.** I sometimes misinterpreted the words or sentences. This brought about misinterpretation for the whole text. I solved this problem by re-read and summarize the text to ensure that my understanding was correct.
S10. A dictionary was supposed to be used to facilitate reading. Re-read the text several times could help to have more understanding.	**S10.** When looking at the text, it was boring. I had to pay more attention on reading. In order to have more understanding of the text, summarizing was supposed to be done after reading.

Control Group	
Before instruction	**After instruction**
S11. Sometimes I could not pronounce the words correctly. Although I could pronounce some words, I did not know the meaning of them. I had to practice pronunciation and find the meanings of those unknown words.	**S11.** When reading, I did not understand the meaning of some words so that I could not find the main ideas of the text.
S12. Reading English texts made me confused sometimes, particularly when repeating several times. This was because I did not know any reading strategies.	**S12.** I could not translate the meaning of words and did not have enough vocabulary knowledge. I sometimes did not understand sentence structure so that I could not understand the whole text.
S13. Some English words contained more than one meaning, and translated from back to front.	**S13.** Some problems I encountered when reading in English were unfamiliar words and phrases

Some participants in the Control group reported the same problems they encountered at Time1, and at Time 2, (see Table 5.28). For example, S1, S4, S5, and S13 responded that unknown vocabulary caused a problem when reading in English. Before reading, S1 answered that s/he used a dictionary to solve this problem while S4 used context clues to find the meaning of unknown words. However, at Time 2, S1.S4, and S13 did not mention the guessing strategy to find the meaning of unknown words. S2, S6, and S7 also reported the same problems they encountered between Time 1 and Time 2. S2 mentioned about slangs, colloquial and spoken language and idioms. S6 stated that technical terminology brought about reading problems, whereas S7 mentioned about repeated vocabulary in the text. In addition, S8

mentioned about spelling and pronunciation and S9 confronted with interpretation both before and after instruction. However, S9 suggested to re-read the text and make a summary after reading. Before instruction, S10 reported using the dictionary and re-read the text, but after instruction, s/he stated that summarizing should be done after reading.

Table 5.29: Is there anything you would like to add about your problems and strategies with reading in English?

Experimental Group	
Before instruction	**After instruction**
S14. Some unknown words, complicated sentence structure as well as slangs and colloquial made me not understand the meaning of English texts.	**S14.** When facing with unknown words or phrases, I tried to read the whole sentence and see whether there were other words related to those unknown words. I used predicting strategy to find the meaning of unknown words or the meaning of the whole texts.
S15. Unknown words were a serious problem when reading in English. Some English words have more than one meaning or function. I had to learn how those words function in each sentence or text.	**S15.** The first problem I encountered was some unknown words in the passage. Those unknown words made me not understand the text completely. This resulted in my confidence to skim the text quickly because I was afraid that I might not understand the text by skimming.
S16. My major problem when reading in English is unknown vocabulary. I had to understand the meaning of every words and sentence structure. Others problems were idioms and slangs.	**S16.** I had a few problems when reading in English because I did not have enough time to practice reading. My reading problem was about some unknown vocabulary which brought about translation problem. I sometimes had to use the dictionary to find the meaning of unknown words. However, reading strategies I learnt from the teacher were very useful. Those strategies assisted me to get the main

Experimental Group	
Before instruction	**After instruction**
	ideas of the text although those texts contained unknown words.
S17. Because of unknown words, I had to read English texts slowly and think in Thai while reading.	**S17.** The most problem I confronted when reading English text was some difficult and unfamiliar words. This made my reading unsmooth. However, after learning reading strategies, I used context clues to find the meaning of unknown words.
S18. To improve English skills, I was supposed to practice speaking, listening, reading, and writing skills very often. These techniques helped me to build up vocabulary.	**S18.** When reading in English, I skim and scan the texts. However, sometimes I accidently skipped some important words in the text. This could give me confusions about the meaning of the texts.
S19. Each English text contained new vocabulary that I was not familiar with. This made me not understand the text.	**S19.** When reading in English, I did not understand the text clearly because of some unknown words.
S20. My reading problem was about misinterpretation.	**S20.** When reading in English I confronted with too many unknown words. Therefore, reading strategy was required when reading English texts. Different readers might use different strategies in reading. Some strategies worked with some texts but not others. So some readers might not succeed when using some strategies. Reading Thai and English texts were different. I had to learn more.
S21. When reading aloud, my accent was not natural. Unknown vocabulary was also a problem when reading in English. I was supposed to write, translate, and practice spelling before going to bed.	**S21.** When I encountered unknown words, I could not understand the meaning of the texts, so I had to re-read them. Some reading strategies such as skimming was too quick for me so I could not understand and had to re-read the text.
S22. When reading in English, we sometimes did not understand the meaning of the text because of some	**S22.** My reading problem was about vocabulary difficulties. When some words were not understandable, it

Experimental Group	
Before instruction	**After instruction**
unknown words.	resulted in understanding of text meaning. Therefore, reading strategies played an important role in assisting and improving my reading.
S23. Some unknown vocabulary.	**S23.** I did not know the meaning of some words and could not remember them. I sometimes had to read slowly because I did not understand and I had to translate the text from English into Thai.
S24. I had to practice reading more because when I encountered unfamiliar words in the text I was unable to translate and continue reading them. I was getting bored when I did not understand the meaning of the text.	**S24.** I enjoyed reading in English when the text was understandable. However, I sometimes did not know the meaning of some difficult words.
S25. My problem was that I translated the text word by word, but when I put those words together, the text was not understandable.	**S25.** Mostly, my reading problem was about translation.
S26. I could not find the main ideas of the text I read because my vocabulary knowledge was not enough to understand the text.	**S26.** Most of my problem when reading in English was unknown words. This resulted in not understanding the whole text.
S27. My reading problem was that I sometimes did not understand written language even if the content was not difficult.	**S27.** Unfamiliar words brought about my reading problems. However, when those words were understandable, I could read quicker and understand the text more clearly.
S28. When I confronted with reading in English, I searched information by myself or asked someone who could explain to me.	**S28.** If I did not understand the whole text, I had to find the meaning of unknown words in the text so that I could skim what the text was about.

Note from Table 5.29 that the same participants in the Experimental group reported the same problems encountered when reading in English at Time 1, and at Time 2. However, some of these participants reported different strategies employed at Time 1 and at Time 2. For examples, at Time 1, S14, S15, S16, S17, S19, S21, S22, S23, S24, and S26 stated that unknown words or unfamiliar vocabulary caused them a problem when reading in English. There was only S17 who mentioned that s/he read the text slowly when confronted with unknown words.

However, at Time 2, S14 answered that s/he applied predicting strategy to solve this problem. S15 mentioned about skimming strategy, but s/he was not confident to use it because s/he was afraid that s/he might not understand the text by skimming. After instruction, S16 replied that s/he sometimes used the dictionary to find the meaning of unknown words. However, she stated that reading strategies were very useful in assisting to find the main ideas of the text. At Time 2, skimming strategies were mentioned by S18, S21 and S28. However, S18 claimed that skimming and scanning could sometimes cause a problem when s/he accidently skipped some important words in the text. S21 claimed that s/he could not understand the text by skimming. She had to re-read the text when confronted with unknown vocabulary. In addition, S20 who stated before instruction that his/her reading problem was about misinterpretation, but after instruction, s/he did mentioned about the necessity of using reading strategies when facing with unknown words. Furthermore, at

Time 2, S23 stated that s/he applied careful reading and translation when facing with unknown words. Apart from unknown vocabulary that caused reading problems, sentence structure, slangs, colloquial, and idioms were also reported by some participants in the Experimental group at Time 1 but not mentioned at Time 2. The strategies used to solve these reading problems were also not reported.

Table 5.30: Summary of the results from the questionnaire - Part 4

Group	Before instruction	After instruction
Con.	Most of participants in this group claimed that unknown words or unfamiliar vocabulary were a major problem for them when reading in English. When they confronted with these difficulties, they used the dictionary to solve their problems by looking for the meanings and writing down in the texts in Thai. Some participants answered that they read the next sentence when they faced with unknown words in the previous sentence. In addition, colloquial forms, idioms, and slang were mentioned by some participants that they were obstacles for reading English texts. Spellings and pronunciations were also reported by some participants. They claimed that if they could not spell or pronounce the words, they were not able to understand the texts. They had to practice more spellings and pronunciations. Technical terminologies were another problem when reading English texts.	The majority of participants in this group stated that vocabulary difficulties were major obstacles to understanding the English texts. Some of them mentioned that unknown words resulted in translation of the whole sentence and the whole text. When facing with unknown words, some participants used a dictionary to find the meanings of them and some participants read the text several times to understand the meaning of the texts. Some participants replied that when they confronted with unknown words, guessing strategy was useful for them. After guessing unknown words, they could translate the text. However, sometimes they guessed the meaning of those unknown words incorrectly. This could result in misinterpretation of the whole text. Other participants claimed that they could not find the meaning of

Group	Before instruction	After instruction
	One participants in this group stated that some English words have more than one meaning.	the text because of unknown vocabulary. To solve this reading problem, they re-read the texts until they understood them. Some of participants mentioned that sentence structure and technical terminology made the text more difficult to understand. In addition, one participant stated that summarizing should be done after reading the texts.
Exp.	Most of participants in the Experimental group reported that unknown words or unfamiliar vocabulary were a major problem for them when reading in English. Because of these problems, they could not understand the meaning of the whole text. Some of them mentioned that these problems resulted in translation and finding the main ideas of the text. Unknown words also made them read the text slowly. Some of the participants claimed that sentence structure was also resulted in reading English texts. Slangs, colloquial, and idioms were reported as one of the problems when reading in English. Some participants mentioned about language skills as well as translation that could help them to have better understanding of the text.	After instruction, again unknown words or unfamiliar vocabulary were reported as a major problem for the participants in this group. However, only one of them mentioned that s/he used the dictionary to solve these problems. Another stated that s/he re-read in order to understand the meaning of the text. However, most of the participants mentioned about reading strategies they had learnt. Some of them stated that reading strategies were useful and required to assist them to have a better understanding when reading in English. Predicting, using context clues, skimming and scanning strategies were reported employing by some participants in this group. However, some participants claimed that although some strategies such as skimming was useful, they were not confident to apply it because it was a speed reading. When skim the text, they might skip some important words and not understand the meaning of the text.

5.2.3.4 Comparisons of the results obtained from the Questionnaire Part 2, 3 and 4

This section compares the findings obtained from the Questionnaire parts 2, 3 and 4. A comparison of the three parts of the Questionnaire indicates the effects of explicit strategy instruction on strategy use.

Data from Questionnaire part 2 shows that explicit strategies taught in the *Reading I* course*, 'Previewing & Predicting, Skimming, Scanning & Search reading'* affected strategies students had used during their course. This was suggested by the comparison of changes in mean ratings between Time 1 and Time 2 for reading strategies used by the Experimental group. '*Skimming*' showed the greatest gain in mean rating between Time 1 and Time 2. '*Scanning/searching reading*' strategies also showed substantial changes in mean rating at Time 2 as well as '*Previewing & Predicting' strategies*' that was ranked third at Time 2.

Similarly, the findings obtained from Questionnaire part 3, Question 7: '*Which reading strategies help you to have a better understanding of English texts? Why?*', shows that '*Skimming*' was reported as the most used strategy and '*Scanning*' was also frequently reported by the participants in the Experimental group at Time 2. Additionally, '*Previewing and Predicting*' strategies were also frequently reported by the participants in this group.

Additionally, the results obtained from Question 4: '*What strategies do you use most often?*', indicates that '*Skimming*' and '*Scanning/search reading*' strategies were the most often reported by participants in the Experimental group at Time 2.

In addition, the findings from Question 1: '*While reading English texts what do you do to help you understand the meaning of the text?*', shows that '*Skimming*' was the most frequently reported strategy used by the participants in the Experimental group at Time 2.

Moreover, the results from Question 2: '*What do you do to help yourself find the main idea in the passage?*', shows that '*Skimming*' was the most frequently reported strategy used and '*Previewing & Predicting*' were the second frequently reported at Time 2. Again, the findings from Question 3: '*What do you do to help you find the supporting details in the passage?*', indicates that '*Skimming*' was reported the most frequently at Time 2.

Additionally, the results from the Questionnaire part 4, Question: '*Is there anything you would like to add about your problems and strategies with reading in English?*', reveals that after explicit strategy instruction, students seem to be aware of using strategies more frequently.

However, most of the participants mentioned reading strategies they had learnt. Some of them stated that reading strategies were useful and required to assist them to have a better understanding when reading in English.

Predicting, using context clues, skimming and scanning strategies were reported by some participants in this group. However, some participants claimed that although some strategies such as skimming were useful, they were not confident to apply them because they involved speed reading. When skimming the text, they felt that they might skip some important words and not understand the meaning of the text.

This suggests that participants who received explicit strategy instruction tended to employ more expeditious global reading strategies such as '*skimming*' to assist them to understand the meaning of the text.

5.2.4 Think-aloud Data

This section reports the results from the analysis of the data obtained through the verbal think-aloud protocols. The information obtained from these think-aloud protocols for both the Control group and Experimental groups was analysed qualitatively.

In order to investigate the reading strategies used by students, six English texts targeting five different strategies (*previewing & predicting, skimming, scanning, search reading, and summarizing*), were provided to three students for each strategy and each group. While they carried out the assigned tasks, these students were also asked to perform a think-aloud protocol. Different students from each group undertook the verbal protocols on each occasion so that all students in each group performed a verbal protocol on at least one

occasion. In the Experimental group each student carried out one protocol. In the Control group two students performed protocols on two occasions and the rest each performed one.

The number of words for each text and the accompanying tasks were as follows:

Target strategy	Text Length	Tasks
previewing & predicting	395 words	multiple choice questions to predict the topic of the text
skimming	405 words	multiple choice questions to choose the main idea of the text
Scanning	410 words	matching numbers with information in the text
search reading	819 words	matching headings with sections of the text
summarizing	327 words	re-arranging sentences to make a summary of the text

To analyze the results, first, the think-aloud protocols were recorded on tape and then transcribed. The transcriptions were coded in relation to 18 categories based on the strategy framework derived from the literature review and also employed in the questionnaire design (see Section 3.6.1.1). Additional strategies that were mentioned by students, but that were not accounted for in the strategy framework, were also recorded.

On reviewing the think-aloud data, the strategies reported by each student were identified. These were grouped by the researcher into the following 18 broad categories based on the questionnaire:

1   reading the title of the text

2   predicting from title

3   looking at the picture or reading the caption

4   reading the first sentence of each paragraph (before rest of text)

5   reading the first and last paragraph (before rest of text)

6   translating

7   using contextual clues

8   skipping unknown words

9   repeating words or phrases while reading

10   self-questioning

11   using prior knowledge

12   making an inference or drawing conclusions

13   referring to previous section of text

14   rereading previous section of text

15   summarizing the whole text

16   summarizing part of the text

17   applying grammar rules to understand the text

18   referring to the task connected with the text.

These strategies were then further categorised in relation to Khalifa and Weir's (2009) framework of local, global, careful and expeditious reading types (Previewing & predicting; Skimming; Scanning; Searching; Summarizing) (see Section 2.6). In this way, each strategy was identified according to both the 18 broad strategy areas and to the five reading types found in Khalifa and Weir (2009).

For example, when Student 1 said, "*the higher the pressure, the more air is absorbed into the bloodstream". "The word 'absorbed' means 'suck', so that 'is absorbed' means* 'the air is sucked or taken into the bloodstream". This was categorised as 'applying grammar rules to understand the text' on the strategy dimension and as 'summarizing' on the reading type dimension.

The results from the analysis of the data obtained from the think-aloud protocols are reported below in Tables 5.31 to 5.49.

Table 5.31 presents the reading strategies employed by participants in the Control group. The data gathered from the think-aloud protocols were grouped into 18 broad categories and five texts accompanied with tasks and each text targeting five different strategies were provided to students as described in section 5.2.4.

Table 5.31:   Think-aloud data obtained from the Control group

Strategies	Unit 1 Topic: 'An unlikely friendship' Taget trategy: Previewing & Predicting (395 words)			Unit 2 Topic: 'A team player' Taget trategy: Skimming (405 words)			Unit 3 Topic: 'The couple that loves weddings' Taget trategy: Scanning (410 words)			Unit 4 Topic: 'The first Greenlander' Taget trategy: Search Reading (819 words)			Unit 5 Topic: 'Take a deep breath out' Taget trategy: Summarizing (327 words)		
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3
1.Reading the title of the text	1	0	1	2	1	0	1	1	0	1	1	1	0	1	0
2.Predicting from title	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
3.Looking at the picture or reading the caption	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4.Reading the first sentence of each paragraph (before rest of text)	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0
5.Reading the first and last paragraph (before rest of text)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6.Translating	47	1	36	28	18	21	7	63	3	24	24	25	0	0	0
7.Using contextual clues	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.Skipping unknown words	5	0	0	4	3	0	0	1	0	0	0	0	0	0	0
9.Repeating words or phrases while reading	13	3	6	26	9	6	1	3	3	3	7	12	5	0	13
10.Self-questioning	1	0	2	7	5	12	2	2	0	0	1	2	0	0	4
11.Using prior knowledge	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.Making an inference or drawing conclusion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.Referring to previous section of text	10	0	0	0	0	1	0	0	0	0	0	0	0	0	0
14.Rereading previous section of text	0	0	0	1	0	0	0	0	0	0	0	2	2	0	5
15.Summarizing the whole text	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16.Summarizing part of the text	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0
17.Applying grammar rules to understand the text	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1
18.Referring to the task connected with the text	1	1	1	1	1	2	2	0	5	0	1	1	1	0	1

Table 5.31 shows the strategies used by the participants in the Control group. However, the total of 18 categories of strategy shown in the table was reported by 30 students for both the Control and Experimental groups.

For the Control group, 15 students participated in the think-aloud data gathering: three students for each target strategy. The data reveals that 12 strategies reported using by the participants in this group and six strategies were not reported using by this group but in the Experimental group which include: '*looking at the picture or reading the caption', 'reading the first and last paragraph (before rest of text)', 'using contextual clues', 'using prior knowledge', 'making an inference or drawing conclusion', 'summarizing the whole text'.*

As can be seen in table 5.31, among the 12 strategies, '*translation*' was the most frequently used by the students and this strategy was employed when reading English text target at *preview & predicting, skimming, scanning, search reading* except *summarizing*. The second and third most frequently use strategy were '*repeating words, phrases, and sentences*' and '*self-questioning*'.

To quantify how often the students used '*translation*', each individual word, phrase, or sentence translated into Thai was counted as 'one' instance. Thus if a student translated two individual words from separate parts of a sentence, this would count as 'two' instances of translation, but if he or she translated a phrase or an entire sentence as a unit, this would count as 'one'. As the texts

targeting five strategies were different in length and number of words, a percentage score was used to represent the frequency of strategy use. In order to compare the frequency of use of '*translation*' across texts, the number of translations made by each student were calculated as a percentage. The percentages for each student for each text were then combined and divided by the number of students performing on each text in order to get the average percentage of '*translation*' for each text. These percentages indicate the relative frequency of use of '*translation*' when reading each text as shown in Table 5.32 below.

Table 5.32: Translation of words, phrases, and sentences

Translation	Previewing & predicting (395 words)			Skimming (405 words)			Scanning (410 words)			Search reading (819 words)			Summarizing (327 words)		
Number of translation	47	1	36	28	18	21	7	63	3	24	24	25	0	0	0
Percentage	11.89	0.25	9.11	6.91	4.44	5.18	1.70	15.36	0.73	2.93	2.93	3.05	0	0	0
Average percentage	7.08%			5.51 %			5.93%			2.97 %			0%		

As shown in Table 5.32, '*translation*' was reported to be the strategy most frequently employed by the students in response to the *previewing & predicting* text (7.08%). '*Translation*' was also reported using when reading the texts targeting *scanning* and *skimming* and *search reading* strategies by the numbers of 5.93%, 5.51%, and 2.97% respectively. However, none of students used '*translation*' when reading the '*summarizing*' text and carrying out the related task.

Table 5.33 below shows examples of '*translation*' from each text.

Table 5.33: Examples of 'translation' of words, phrases, and sentences

Text	Words/ phrases/ sentences	Translation
Previewing& predicting	An unlikely friendship. He was trying to get to the beach.	เขาเป็นเพื่อนกัน เขาพยายามเอาฮิปโปกลับไปในทะเล
Skimming	I teach English as a second language.	สอนภาษาอังกฤษเป็นภาษาที่สอง
Scanning	When Maria finished high school	เมื่อไหร่ที่มาเรียเรียจบไฮสคูล
Searching	inland food taken from the sea	แผ่นดิน อาหารที่นำมาจากทะเล
Summarizing	-	-

Table 5.34 below presents the frequency and percentage of use of '*repeating'* words, phrases, and sentences when reading the texts and performing the tasks.

In counting '*repeating*' words, phrases, and sentences', when the students repeated any unit made up of a word, phrase, or sentence while reading the text, this was counted as 'one'. The number of repeating those words, phrases, and sentences were then calculated as a percentage for each student and, following the same procedure as for '*translation*', the average percentage was calculated for each text. These average percentage shows the frequency use of '*repeating'* words, phrases, and sentences as shown in Table 5.34 below.

Table 5.34: Repeating words, phrases, and sentences

Repeating words, phrases and sentences	Previewing & predicting (395 words)			Skimming (405 words)			Scanning (410 words)			Search reading (819 words)			Summarizing (327 words)		
Number of repeating	13	3	6	26	9	6	1	3	3	3	7	12	5	0	13
Percentage	3.29	0.76	1.52	6.42	2.22	1.48	0.24	0.73	0.73	0.37	0.85	1.47	1.53	0	3.98
Average percentage	1.86 %			3.37 %			0.57 %			0.90 %			1.83 %		

As shown in table 5.34, the students in the Control group employed '*repeating'* words, phrases, and sentences the most (3.37%) when reading the *skimming* text. This strategy was also often used when the students read the texts targeting *previewing & predicting* (1.86%), *summarizing* (1.83), *search reading* (0.90%) and *scanning* (0.57%).

Table 5.35 below presents examples of '*repeating'* words, phrases, and sentences, when reading the five texts and performing the related tasks.

Table 5.35: Examples of 'repeating*'* **words, phrases, and sentences**

Text	Words/ phrases/ sentences
Previewing& predicting	All except one//the hippo except one// except one
Skimming	To make my own decisions//decision//own decisions
Scanning	Unfortunately, for Antonio Maria was just a young girl only 17 years old //only 17 years old
Searching	creeping over the land// over the land มีการเปลี่ยนแปลงอะไรสักอย่างบนผืนดิน
Summarizing	*reaction reaction* to bubbles in the brain or around the *spine//spine* หรือ spin วะ

Table 5.36 below shows the frequency use of '*self-questioning*' for the participants in the Control group when they read the texts in English.

'*Self-questioning*' was found to be the third most popular strategy for the participants in the Control group. Calculation of the frequency of '*self-questioning*' involved a simple count of the number of questions that students asked themselves when struggling with word difficulty, sentence difficulty, or the questions that related to the text they were reading.

Table 5.36 below presents the numbers of instances of '*self-questioning*' reported by students reading five different texts for the Control group.

Table 5.36: Self-Questioning

Self-questioning	Previewing & predicting (395 words)			Skimming (405 words)			Scanning (410 words)			Search reading (819 words)			Summarizing (327 words)		
Number of self-questioning	1	0	2	7	5	12	2	2	0	0	1	2	0	0	4
Percentage	0.25	0	0.51	1.73	1.23	2.96	0.49	0.49	0	0	0.12	0.24	0	0	1.22
Average percentage	0.25 %			1.97 %			0.33 %			0.12 %			0.41 %		

Table 5.36 shows that '*self-questioning'* was most frequently used when reading the '*skimming*' text (1.97%). The students also reported using this strategy when reading the '*summarizing*', and '*scanning*' texts (0.41% and 0.33% respectively).

Table 5.37: Examples of '*self-questioning*'

Strategy	Questions	Questions translated into English
Previewing & predicting	at first sight they seem like they seem like an unlikely pair//ยังไง เหมือนเป็น ไม่เหมือนกันเหรอ	at first sight they seem like they seem like an unlikely pair// '*what does this mean, the same or different*'.
Skimming	expressing his or her individual individual แปลว่าอะไรน้อ individual opinion แชร์ความรู้หรือเปล่า	expressing his or her individual individual '*What does this mean*? individual opinion '*Does it mean sharing knowledge*?
Scanning	i could only stare at her ฉัน ฉัน สามารถ อะไรวะ	i could only stare at her '*I…I can…..what*?"
Searching	Trade with Scandinavia การค้าขาย กับ อะไรเนี่ย สแกนดิเนเวีย	Trade with Scandinavia…. '*What is this?*'…Scandinavia
Summarizing	the nitrogen is released อะไรวะ release เนี่ย	the nitrogen is released '*What is release*?'

Table 5.38 below reveals the 18 strategies employed by the participants reading five different texts in the Experimental group.

Table 5.38:   Think-aloud data obtained from the Experimental group

Strategies	Unit 1 Topic: 'An unlikely friendship' Taget trategy: Previewing & Predicting (395 words)			Unit 2 Topic:'A team player' Taget trategy: Skimming (405 words)			Unit 3 Topic: 'The couple that loves weddings' Taget trategy: Scanning (410words)			Unit 4 Topic: 'The first greenlander' Taget trategy: Search Reading (819 words)			Unit 5 Topic: 'Take a deep breath out' Taget trategy: Summarizing (327 words)		
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3
1.Reading the title of the text	3	1	2	1	2	1	1	1	1	1	1	1	2	3	1
2.Predicting from title	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
3.Looking at the picture or reading the caption	0	3	1	0	0	0	1	0	0	0	0	0	0	0	1
4.Reading the first sentence of each paragraph (before rest of text)	4	0	0	1	0	0	0	5	3	0	0	0	0	0	1
5.Reading the first and last paragraph (before rest of text)	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
6.Translating	50	58	55	27	12	8	29	8	9	23	12	32	30	29	18
7.Using contextual clues	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0
8.Skipping unknown words	1	2	4	2	2	4	4	1	0	0	0	1	4	14	0
9.Repeating words or phrases while reading	7	24	20	20	2	4	8	3	3	17	4	2	12	32	3
10.Self-questioning	2	8	3	7	4	3	13	4	0	9	2	7	14	15	0
11.Using prior knowledge	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
12.Making an inference or drawing conclusion	1	2	1	1	1	0	0	1	0	1	1	0	0	0	1
13.Referring to previous section of text	3	0	0	4	3	0	1	0	0	0	0	0	1	0	0
14.Rereading previous section of text	4	1	0	0	3	2	4	0	4	2	2	2	5	0	0
15.Summarizing the whole text	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
16.Summarizing part of the text	0	1	0	0	2	2	0	0	0	0	0	0	0	0	1
17.Applying grammar rules to understand the text	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0
18.Referring to the task connected with the text	1	1	2	2	3	2	1	1	1	1	1	4	2	1	1

As shown in Table 5.38, '*translation*' was found to be the strategy most frequently reported by the participants in the Experimental group. Similar to the Control group, the second and third most frequently used strategies were '*repeating*' words or phrases while reading and '*self-questioning*'. On the other hand, there were six strategies that appeared to be used by the participants in this group but were not reported by the students in the Control group. These included: '*looking at the picture or reading the caption*', '*reading the first and last paragraph (before the rest of the text)*', '*using contextual clues*', '*using prior knowledge*', '*making an inference or drawing a conclusion*', and '*summarizing the whole text*'. This suggests that strategy the participants in the Experimental group (who were provided with explicit reading strategy instruction) may have used a wider selection of strategies than those in the Control group (who did not receive explicit strategy instruction).

Table 5.39 below reports the frequency of use of '*translation*' for the Experimental group when reading the five different texts in English.

Table 5.39: Translation words, phrases, and sentences

Translation	Previewing & predicting (395 words)			Skimming (405 words)			Scanning (410 words)			Search reading (819 words)			Summarizing (327 words)		
Number of translation	50	58	55	27	12	8	29	8	9	23	12	32	30	29	18
Percentage	12.65	14.68	13.92	6.66	2.96	1.97	7.07	1.95	2.19	2.80	1.46	3.90	9.17	8.86	5.50
Average percentage	13.75%			3.86%			3.74%			2.73%			7.85%		

As can be seen in Table 5.39, the most frequent use of '*translation*' for the participants in the Experimental group was when reading the text targeting '*previewing & predicting'* (50,58 and 55 or 13.75%). When reading the '*summarizing*' text, '*translation*' also occurred (7.85%). When reading the texts targeting '*skimming*', '*scanning*', and *'search reading*', relatively few instances of '*translation*' appeared to be used by this group (3.86%, 3.74%, and 2.73% respectively).

Table 5.40: Examples of '*translation*' words, phrases, and sentences

Text	Words/ phrases/ sentences	Translation
Previewing& predicting	he had somehow become separated from his family	ตัวเขาเนี่ย ตัวฮิปโปได้พัดออกมาจากกลุ่มครอบครัว ประมาณนี้
Skimming	this team playing idea this team playing idea is very different	มันแตกต่างกัน แต่ละทีมมีไอเดียที่แตกต่างกัน
Scanning	they have another wedding and a party of their relatives and friends at the usual restaurant	คล้ายๆ กับว่าฉลองครบรอบแต่งงาน ทุกๆ
Searching	They wove clothing from wool and linen, sometimes adding the fur of the arctic hare//	ยุโรป แกะ ให้ผลิตภัณฑ์อย่างเช่น นมและชีสทุกๆ วัน น่าจะเป็นกับผลิตภัณฑ์
Summarizing	The nitrogen that remains is distributed more widely to tissues which absorb it more quickly than blood can	เกี่ยวกับเนื้อเยื่อ เลือด เลือดก็จะไหลเวียนดีขึ้นอย่างนี้ เหรอ

Table 5.41 below shows the frequency use of '*repeating*' words, phrases, and sentences when reading the texts by the Experimental group.

Table 5.41: Repeating words, phrases, and sentences

Repeating words, phrases or sentences	Previewing & predicting (395 words)			Skimming (405 words)			Scanning (410 words)			Search reading (819 words)			Summarizing (327 words)		
Number of repeating	7	24	20	20	2	4	8	3	3	17	4	2	12	32	3
Percentage	1.77	6.08	5.06	4.94	0.49	0.99	1.95	0.73	0.73	2.08	0.49	0.24	3.67	9.79	0.92
Average percentage	4.30%			2.14 %			1.14 %			0.93 %			4.79 %		

From Table 5.41, it can be seen that '*repeating*' words, phrases, and sentences was most frequently employed when reading the '*summarizing*' text (4.79%), but instances were also found for '*previewing & predicting'* (4.30%). '*Repeating*' appeared to be used least frequently when reading the '*search reading'* text (0.93%).

Table 5.42: Examples of '*repeating'* words, phrases, and sentences'

Text	Words/ phrases/ sentences
Previewing& predicting	wildlife park officials have to *consider* plans for his future// park สวน สวนสัตว์ เจ้าหน้าที่สวนสัตว์ ***consider consider*** ตัวนี้แปลว่าอะไร
Skimming	there was almost//the students whispered//for the groups ***instead instead*** of each student express individual op ***opinion opinion/// opinion*** แปลว่าอะไรวะ ***individual DUAL*** ////ส่วนตัว
Scanning	he asked his father to talk to Maria's father//he asked his father to talk to Maria's father อ๋อ เขาถามพ่อเกี่ยวกับเรื่องพ่อของมาเรียมั้ง
Searching	A thin ***green carpet // green carpet*** ไม่รู้ศัพท์เลย uninhabited// arctic ทะเลอาร์คติกเหรอ
Summarizing	the higher the pressure the more air is ***absorbed absorbed*** คือ อะไรอ่ะอ่ะ into the bloodstream อีกแล้ว จะตอบคำถามได้มั้ยเนี่ย ***bloodstream*** Of the two ***components*** of air//***components*** อ่ะ อะไร

Table 5.43 below reveals the frequency of use of '*self-questioning'* for the students from the Experimental group when reading the five texts.

Table 5.43: Self-Questioning

Self-Questioning	Previewing & predicting (395 words)			Skimming (405 words)			Scanning (410 words)			Search reading (819 words)			Summarizing (327 words)		
Number of self-questioning	2	8	3	7	4	3	13	4	0	9	2	7	14	15	0
Percentage	0.51	2.03	0.76	1.73	0.99	0.74	3.17	0.98	0	1.10	0.24	0.85	4.28	4.59	0
Average percentage	1.10 %			1.15 %			1.38 %			0.73 %			2.96 %		

As shown in Table 5.43, the participants in the Experimental group employed '*self-questioning*' most frequently when reading the '*summarizing*' text. '*Self-questioning*' was also reported when reading the texts targeting '*scanning*', '*skimming*', and '*previewing & predicting*' (1.38%, 1.15%, and 1.10% respectively). However, '*self-questioning*' was reported the least frequently when reading the '*search reading*' text (0.73%).

Table 5.44: Examples of '*self-questioning*'

Strategy	Questions	
Previewing& predicting	ocean//not far from shore// shore นี้แปลว่าอะไร ไม่แน่ใจเหมือนกัน shore ที่พักริมชายหาดหรือเปล่า ไม่แน่ใจ	ocean//not far from shore// shore ***"What does this word mean? I'm not sure. Does 'shore' mean the accommodations near the beach? I'm not sure".***
Skimming	I learned that culture culture แปลว่าอะไรวะ culture///C-L C-U-L-T-U-R-E	I learned that culture culture "***What does it mean***?" culture///C-L C-U-L-T-U-R-E
Scanning	unfortunately อันนี้อ่านว่าไรวะ un for tunate ly for antonio มันแปลว่าอะไรอ่ะ	unfortunately "***How to pronounce this word?***" un for tunate ly for antonio "***What does it mean?***"
Searching	the Vikings in Greenland ไวกิ้งคืออะไร คือเรือ คือเรือที่ เรือสำรวจหรือเปล่า	the Vikings in Greenland '***What is 'Vikings?***" "***Is it a ship or a cruiser in the navy?***"
Summarizing	paralysis is one reaction to bubbles in the brain or around the spine spine spine spineคืออะไร lung เหรอ มันจะคล้ายกันมั๊ยเนี่ย	paralysis is one reaction to bubbles in the brain or around the spin spin spin spin ***"What is this?"*** lung ***"Is it the same as 'lung'?"***

5.2.4.1 Comparison of Strategy Used for the Control and Experimental Groups

Based on the analysis of strategy use of students performing the think-aloud protocols, the three most frequently used strategies for both the Control and Experimental groups appeared to be the same: *Translation, Repeating words, phrases, and sentences* and *Self-Questioning.*

The clearest difference to emerge between the two sets of students was in the overall number types of strategies used: the Experimental Group seemed to use a wider selection of strategies than the Control Group.

Tables 5.45, 5.46 and 5.47 below compare the three most frequently used strategies employed by the two groups.

Table 5.45: Translation words, phrases, and sentences

Translation	Previewing & predicting	Skimming	Scanning	Search reading	Summarizing	Total
Con.	7.08%	5.51 %	5.93%	2.97 %	0%	21.49%
Exp.	13.75%	3.86%	3.74%	2.73%	7.85%	31.93%

Table 5.46: Repeating words, phrases, and sentences

Repeating words, phrases or sentences	Previewing & predicting	Skimming	Scanning	Search reading	Summarizing	Total
Con.	1.86 %	3.37 %	0.57 %	0.90 %	1.83 %	8.53%
Exp.	4.30%	2.14 %	1.14 %	0.93 %	4.79 %	13.30%

Table: 5.47: Self-Questioning

Self-questioning	Previewing & predicting	Skimming	Scanning	Search reading	Summarizing	Total
Con.	0.25 %	1.97 %	0.33 %	0.12 %	0.41 %	3.08
Exp.	1.10 %	1.15 %	1.38 %	0.73 %	2.96 %	7.32

The findings from think-aloud protocols show that '*translation*' was found to be the most frequently strategy used among the total of 18 strategies reported by the students (13.75%). In addition, this strategy was also reported most often for both groups when reading the text targeting '*previewing & predicting*'. It was used at a rate of 13.75% by the Experimental group and 7.08% by the Control group. Interestingly, this strategy was not used by the students in the Control group when reading the '*summarizing*' text, but it was used for this text by the students from the Experimental group (7.85%). It is also noticeable that the participants in the Control group applied '*translation*' strategy when reading the '*skimming*', '*scanning*', and '*search reading*' texts a little more often than the students in the Experimental group.

The frequent use of translation by both groups of students indicates that when reading texts in English, Thai students tend to translate the text, perhaps because of their familiarity with translating vocabulary into their first language to help them understand the meaning of English texts. Based on the protocols, it seemed that students with more vocabulary knowledge employed more '*translation*' than those with less knowledge.

With regard to '*repeating*' words, phrases, and sentences (the second most frequently reported strategy), the students from the Experimental group reported using this strategy more than those from the Control group when reading the texts targeting '*summarizing*' (4.79%) and '*previewing & predicting*' (4.30%). However, '*repeating*' occurred more often for the Control

group than for the Experimental group when reading the '*skimming*' text (3.37%). Based on the think-aloud data, '*repeating*', occurred when the students were uncertain about the meaning of words, phrases, or sentences as well as when they wanted to confirm that what they understood about the meaning of words, phrases and sentences was correct.

The findings also reveal that '*self-questioning*' was applied the most often by the students from the Experimental group when reading the '*summarizing*' text (2.96%). For the students from the Control group, this strategy was the most frequently used when reading the '*skimming*' text (1.97%). Based on the verbal report data, students asked themselves questions when they did not know or understand the meaning of words, phrases, and sentences or when they were unsure what part of the text or the whole text was about. '*Self-questioning*' was probably employed more frequently by the Experimental group when reading the '*summarizing'* text because a thorough understanding of the text is needed. '*Self-questioning*' was used as a way of checking and confirming understanding before attempting a summary.

Apart from the three most frequently use strategies; there were 15 strategies that were found to be employed by a number of students. However, as the frequency of use shown was not high when compared with those three most frequently use strategies ('*translation*', '*repeating*' and '*self-questioning*', the numbers of use for each strategy employed when reading the five different texts were combined and counted to see the differences of use between the two groups as shown in Table 5.48 below.

Table: 5.48: Strategies reported using by the Control and Experimental Groups

Strategy	Con. (n=15)	Exp. (n=15)
1.Reading the title of the text	11	22
2.Predicting from title	1	3
3.Looking at the picture or reading the caption	0	6
4.Reading the first sentence of each paragraph (before rest of text)	6	14
5.Reading the first and last paragraph (before rest of text)	0	2
6.Using contextual clues	0	3
7.Skipping unknown words	13	39
8.Using prior knowledge	0	2
9.Making an inference or drawing conclusion	0	10
10.Referring to previous section of text	11	12
11.Rereading previous section of text	10	29
12.Summarizing the whole text	0	2
13.Summarizing part of the text	2	6
14.Applying grammar rules to understand the text	3	3
15.Referring to the task connected with the text	18	24

Table: 5.49: Numbers of 15 strategies reported using from high to low

Strategy	Con. (n=15)	Strategy	Exp. (n=15)
1.Referring to the task connected with the text	18	1.Skipping unknown words	39
2.Skipping unknown words	13	2.Rereading previous section of text	29
3.Reading the title of the text	11	3.Referring to the task connected with the text	24
4.Referring to previous section of text	11	4.Reading the title of the text	22
5.Rereading previous section of text	10	5.Reading the first sentence of each paragraph (before rest of text)	14
6.Reading the first sentence of each paragraph (before rest of text)	6	6.Referring to previous section of text	12
7.Applying grammar rules to understand the text	3	7.Making an inference or drawing conclusion	10
8.Summarizing part of the text	2	8.Looking at the picture or reading the caption	6
9.Predicting from title	1	9.Summarizing part of the text	6
10.Making an inference or drawing conclusion	0	10.Predicting from title	3
11.Looking at the picture or reading the caption	0	11.Applying grammar rules to understand the text	3
12.Using contextual clues	0	12.Using contextual clues	3
13.Reading the first and last paragraph (before rest of text)	0	13.Reading the first and last paragraph (before rest of text)	2
14.Using prior knowledge	0	14.Using prior knowledge	2
15.Summarizing the whole text	0	15.Summarizing the whole text	2

Table 5.48 and 5.49 show the differences use of strategies between the two groups. Considering the strategies applied, the Experimental group employed six more strategies than the Control group which include: *'looking at the picture or reading the caption'* (6 and 0), *'reading the first and last paragraph (before rest of text)'* (2 and 0), *'using contextual clues'* (3 and 0), *'using prior knowledge'* (2 and 0), *'making an inference or drawing conclusion'* (10 and 0), and *'summarizing the whole text'* (2 and 0). In addition, the numbers of use for the nine strategies were higher for the Experimental group than the Control group except the strategy '*applying grammar rules to understand the text*' in which the numbers of use appeared to be the same (3 and 3) (see Table 5.48). Among the nine strategies, the three most frequently use strategies applied by the Control group were '*referring to the task connected with the text*' (18), '*skipping unknown words*' (13), and '*reading the title of the text*' (11) (see Table 5.49), whereas '*skipping unknown words*' (39), '*rereading previous section of text*' (29), '*referring to the task connected with the text*' (24) were found to be the most three strategies used by the Experimental group (see Table 5.49).

In brief, the findings indicate that the Experimental group applied more variety of strategies when reading the text in English. Furthermore, the numbers of use for each strategy were higher than the Control group except '*applying grammar rules to understand the text*' in which the numbers of use was the same. Additionally, the Experimental group employed more strategies that

were used to read five different texts targeting five strategies as '*previewing &*
predicting', '*skimming', 'scanning*' '*searching*', and '*summarizing*'. Those
strategies are such as *'looking at the picture or reading the caption'* (6 and 0)*,*
'*reading the title of the text*' (22 and 11), *'predicting from title'* (3 and 1)',
'*reading the first sentence of each paragraph (before rest of text)*' (14 and 6),
'reading the first and last paragraph (before rest of text)' (2-0)*, 'summarizing*
part of the text' (6 and 2)*' , 'summarizing the whole text'* (2 and 0). This
suggests that the five strategies instructed affected the strategy use for the
Experimental group.

5.2.5 Interview Data

5.2.5.1 Analysis of Interview Data

As a further source of data on students attitudes towards reading in English
and towards reading strategies, fifteen students were interviewed in small
groups of three (see Section 3.7.3.1). The interviews were conducted by the
researcher and each lasted between fifteen to twenty minutes.

The data obtained from these informal group interviews were analysed
qualitatively. First of all, the tape recorded interview protocols were
transcribed in Thai and these transcriptions were then translated by the
researcher into English (see extract in Appendix 5.2). The learners'
responses to the general questions about the class and responses to the
three key interview questions are reported narratively below.

The majority of students' responses suggest that they had been worried about performing the reading test at Time 1. They claimed that the test was too difficult for them as it contained a good deal of unknown vocabulary. They were also not familiar with the content of each of the texts provided in the test. After the test, they were not pleased because they had achieved what they felt were low scores.

They reported that when performing the tests at Time 1, they had tried to read every word because they did not know any reading strategies to help them to read and understand the meaning of the text without doing this. In contrast, when performing the tests at Time 2, they felt that had learnt reading strategies and were able to apply strategies in order to read the texts more quickly. There was general agreement that those strategies had helped them to get an overall understanding of the texts.

The strategies that students mentioned that they had employed during reading included *skimming*, *scanning* and *previewing & predicting*. A few students also reported that they had applied *summarizing* strategies. The students reported that they felt pleased with the improvement they had made in their scores on the test at Time 2. They added that after learning reading strategies, they now enjoyed reading more because they felt less concerned by unknown words and did not read every word any more since they knew how to apply each strategy in order to understand the meaning of the texts they read.

The students reported that reading strategies had helped them to read the texts quickly and that this would benefit them when taking reading examinations. They also seemed to have enjoyed the range of texts used in the course, stating that they had been encouraged to read by the wide variety of content covered, including such topics as love, superstition and life experiences. They felt that these topics had been well suited to their age group.

Here are a few quotes from the student interview:

[*In the first session, I found the test was very difficult because it was a long text contained too many contents. This made me scared so I tried to read every word but this resulted in slow reading. I don't know the meanings of most words and also don't know any reading technique. For this reason, I don't want to read this text any more*]

[*After the course of instruction, I gain more understanding of reading strategies. I used to read every word before. Now I know the technique and use more reading strategies. However, I still don't understand every word but understand the main idea of the text I read*]

The learners' responses to the three key interview questions intended to probe their attitudes towards learning English are summarised as follows:

‘What do you think of the role of English in Thailand nowadays?’

The students provided a variety of responses to this question. They all agreed that English plays a crucial role in Thailand, the majority seeing *‘tourism’* in Thailand as the most important application of English because there have

been a large number of tourists travelling to Thailand each year and tourism brings a good deal of income to the country. For example, Student 2 replied that '*There are more tourists travelling to my country. I've more opportunities to use English and we can also make money*'. English was also agreed to play an important role in '*business*' in Thailand nowadays since Thai people have more international transactions in which English is necessary for dealing with foreign companies. Another role of English mentioned by this group of students was in the area of '*occupations*'. For example, Student 1 answered that '*I think English play a big role when looking for a job because most of the advertisements I read mention like 'good command of English will be advantage'. The job interview is also in English*'. Students claimed that Thai people who are able to communicate in English effectively will gain an advantage in applying for jobs and have more opportunities to get a better job.

The students also discussed educational exchange. Increasing numbers of Thais pursue further studies abroad, especially in English speaking countries. There are also a number of international institutions provided for Thai students whose English is sufficient to allow them to study in English medium classes. The last role of English reported by these students concerned what could be termed 'international communication'. They said that English is the dominant international language in Thailand and that it plays the most important role among all foreign languages.

'How do you think you will have to use reading in English in your lives?'

The students' responses to this question varied. Some students reported that they would have to use reading for study because English is their major subject in the university. They need to read a lot of texts in English in every class particularly in the reading class.

Some of them suggested that they would have to use reading in English outside the university in order to read English newspapers, magazines or English subtitles in movies and cartoons. They added that when reading English from these sources, they were able to learn more about slang, colloquialisms and so on. Others replied that they would have to use reading to read advertisements, notices, labels, instructions, and road signs. For example, Student 3 stated, '*Nowadays, English is everywhere…like the instructions of products are in English. I found the signs at the airport are written in English*'. These students claimed that they could not avoid reading in English in their lives because nowadays English is used everywhere, especially on product packages and labels of medicines that need careful reading for obvious reasons.

Reflecting the growing role of technology, a number of students mentioned the need to read in English on websites: '*I read English on internet and on the labels of products'* (Student 2). One student answered that reading is needed when working on computers, especially in reading the instructions for the use of computer programmes. Another student reported that she needs to read in English to read the instructions for playing computer games.

'What methods do you think will be suitable for teaching reading?'

Most of the students in this group agreed with each other that '*reading strategy instruction*' was the most suitable approach for teaching reading. They agreed that this had helped them to read texts very much more quickly than before they had received the Experimental course. This technique had helped them with reading in daily life and in taking examinations: '*Before taking this reading course, I read every word but now I skim the text, sometimes I read only the first and last paragraph'* (Student 1).

It was also generally agreed that their reading strategies would improve with more practice in reading. Some of them suggested that the strategies '*scanning*', '*skimming*', '*previewing & predicting*' as instructed in class were key elements in teaching reading. For example, Student 1 said that '*I think the technique you taught about using strategies such as scanning skimming, previewing and predicting is suitable. I know more strategies to use when reading and I can read more quickly'.* However, one student felt that she would have a better understanding of the text if she was provided with more instruction in English structure (grammar): Student 1 replied that '*I'd like you to teach grammar as well. Now I know that I don't have to understand every word but I can understand the text'.*

CHAPTER 6   CONCLUSIONS AND IMPLICATIONS FOR FUTURE RESEARCH

In this chapter, a summary of the major findings of the analyses undertaken in addressing the three research questions are presented. Based on these findings, final conclusions are drawn with references back to key implications from the literature review. The implications of the findings of this study for the various stakeholders and for the fields of pedagogy and teaching of reading are also highlighted. The implications of the study are described to indicate how this research might be improved upon and some further directions it might take are suggested.

6.1   Summary of key findings

A literature review on the changing theories of the reading process and associated reading models as well as the use of reading strategies were conducted. The findings of the literature review suggest that the changing theories of the reading process and the associated reading models have affected the ways in which reading is taught.

The use of reading strategies is said to help learners to solve their reading difficulties and enhance their comprehension and explicit reading strategy instruction is favoured over implicit approaches. The Khalifa and Weir (2009) cognitive process model of reading, suggests that L2/EFL readers need to be able to draw on both expeditious and careful reading and to be able to operate at both the local and the global level. This suggests the need for L2/EFL learners to be provided with explicit reading strategy instruction.

A framework for reading strategy instruction was developed following Khalifa and Weir's (2009) reading types and Carrell's (1989) types of reading strategies (global strategies and local strategies) to investigate the reading strategies used in the EFL reading process by Thai undergraduate English major students and to determine whether the implementation of an approach to explicit reading strategy instruction based on the language pedagogy literature could help to improve students' reading performance over the course of one semester.

In the following section, the findings of the study are summarized in relation to the research questions and final conclusions then drawn.

6.1.1 Research Question 1

Which reading strategies do Thai undergraduate English major students employ in the EFL reading process?

In answering this research question, we are mainly interested in the strategies used by students in the two groups before instruction. Evidence for this comes from the questionnaires administered at Time 1, before the students took the EIC course.

Taken across the Pilot study and the Main study, this suggests a preference for previewing strategies such as looking at titles and subtitles or looking at pictures before reading and a re-reading strategy to deal with difficulties in comprehension.

Reading strategies that tended not to be used by these Thai university students at the beginning of their courses included strategies that involved writing such as taking notes while reading or writing summaries of what had been read (strategies that might be particularly associated with reading for academic or professional purposes) and selective reading strategies such as reading the first sentence of each paragraph or reading the first and last paragraphs of the text.

Qualitative results showed that translation seemed to play an important part in reading English texts for these students. While they felt more confident in skimming Thai texts, they tended to fall back on careful reading strategies

and particularly on finding Thai equivalents when encountering words that they felt unsure of in the English texts that they read. The students felt that their main difficulty was with their limited vocabulary and found this a source of frustration as they were sometimes unable to arrive at a coherent interpretation of a text through a first reading.

Overall, at the beginning of the EIC courses the students arrived with some awareness of reading strategies. They were able to use previewing and predicting strategies to help them to gain an idea of what a text was about before reading, but then favoured slow, careful reading and translation in dealing with the texts themselves. They tended to avoid note taking and summarising strategies.

6.1.2 Research Question 2

Does explicit reading strategy instruction affect students' use of reading strategies in English?

As explained in Chapters 2 and 3, the study focused mainly on explicit instruction in global and expeditious reading strategies because a) explicit instruction has been found to be more effective than embedded instruction at developing student reading abilities (Duffy et al. 1987; Chamot, 1990) and b) global and expeditious strategies are said to be of particular relevance to undergraduate students for academic reading in real life settings (Weir et al, 2009).

The qualitative data obtained from the think-aloud protocols were triangulated with the questionnaire data results: quantitative data from closed-items and qualitative data from open-ended items. Combining the data from different approaches indicates whether the results from qualitative approaches (think-aloud) are supported by the results from the quantitative and qualitative questionnaire data, strengthening the evidence on the effects of strategy instruction.

Comparing the Control and Experimental groups in terms of the strategies displaying the greatest difference in gains between the two groups suggests that the original *Reading I* course appears to have been more likely to promote planning and preview strategies while the Experimental course seems to have promoted more text-analytic strategies.

The findings from the quantitative questionnaire data suggest that the participants in the Experimental group increased both the frequency and variety of their use of strategies after they had received explicit strategy instruction. The strategy associated with the greatest increase in Mean ratings was *'read the first paragraph and last paragraph (introduction & conclusion)'*. Other strategies whose ratings increased notably were '*scan the text for specific details'*, '*read the title and sub-titles before reading the rest of the text' ,'read the first sentence of each paragraph*', '*look at any pictures/illustrations*', '*read the title and sub-titles before reading the rest of the* text' and '*skim the text quickly to get the general idea*'. This is consistent

with explicit strategy instruction having a positive effect on the use of reading strategies in English.

The findings from the qualitative questionnaire data of the piloting indicate that there was an increase in the numbers in both groups reporting using the strategy '*read the title and sub-titles of the text'*. These findings support the quantitative data results for the Control group and Experimental groups. Participants mentioned that when reading English texts, previewing and predicting or skimming strategies were helpful.

In Chapter 5, the qualitative questionnaire results show that both groups reported employing a variety of strategies both before and after receiving strategy instruction. However, participants in the Experimental group reported that they had increased the frequency of their use of strategies after they had received explicit strategy instruction. The strategy associated with the greatest increase in mean ratings was *'read the first paragraph and last paragraph (introduction & conclusion)'*. Other strategies whose ratings increased notably were '*read the first sentence of each paragraph'*, '*scan the text for specific details'* and '*skim the text quickly to get the general idea'*. Furthermore, the strategies '*look at any pictures/illustrations'* and '*read the title and sub-titles before reading the rest of the text'* remained the two highest rated strategies both before and after instruction. These findings highlighted the use of strategies that had been taught such as *previewing & predicting, skimming, scanning, and searching.*

There was also evidence of some reduction in reliance on translation among Experimental group participants. Some of the participants in both groups reported a '*translation strategy*' both before and after instruction. However, after receiving instruction the numbers reporting this strategy remained the same for the Control group, but decreased substantially for the Experimental group.

At Time 1, '*translation*' and '*careful reading*' were most often cited by the participants as their first choice strategies, but did not appear at all at Time 2. In contrast, '*skimming*' and '*scanning*' were not reported at Time 1 but were both frequently reported at Time 2.

The think-aloud data also suggested that the Experimental group were able to apply a wider range of strategies and to use them more frequently than those in the Control group. However, the think-alouds also suggested that even the students in the Experimental group tended to rely more on translation and careful reading strategies than might be desirable.

The interview data from the Experimental group supported the finding of an increasing use of expeditious reading strategies following instruction, but also highlighted difficulties for students. Problems included a lack of confidence in the accuracy of the text representation arrived at and a need to fall back on translation and slow careful reading when confusions occurred.

6.1.3 Research Question 3

How much improvement do the students show on measures of reading performance after receiving a programme of explicit reading strategy instruction?

The main source of data to answer this research question was the gains made in results on reading tests given at Time 1 and Time 2: the beginning and end of the EIC course. As the tasks used on the test addressed different aspects of reading skills, the results also offer some insights into aspects of reading that were developed through the Experimental course.

Both groups made significant improvement in their reading scores over the course of the semester. It is encouraging that students given explicit strategy instruction consistently made greater observed improvements in their reading test scores than their counterparts in the Control group, even if these differences were not statistically significant (perhaps because of the small numbers of participants involved). The differences were greater in the Main study than in the Pilot study, perhaps because the course was longer or because the Experimental and Control courses were more clearly differentiated. However, the results do quite clearly support the benefits of explicit strategy instruction for Thai university students.

In comparing the gains by test section, it is notable that the greatest improvements for the Experimental group came on the test section that dealt with search reading, which had been a focus of strategy instruction, while relatively little gain was made in the gap filling task, which would seem to rely more on knowledge of specific vocabulary and grammatical structures. The test results thus appear to support the findings from the questionnaire, think-aloud and interview data that participants in the Experimental group benefitted particularly from instruction in expeditious reading.

In summary, the study suggests that Thai university students do use previewing and predicting strategies, but then tend to rely on careful reading and translation to understand English texts while avoiding note taking and summarising. The explicit strategy instruction provided in the Experimental course does appear to have been successful in encouraging participants to use a wider range of strategies and to improve aspects of their reading abilities in English. However, there is still scope for further developing their strategic reading and encouraging them away from translation strategies.

6.2 Implications and recommendations for teaching reading in Thai universities

Based on the results of this study, the implications and recommendations for teaching reading in Thai universities are as follows:

6.2.1 Implications and recommendations for students

A positive result from an implementation of explicit reading strategy instruction for EIC students at RMUTI, Thailand suggests that explicit strategy instruction can have a positive effect both on students' use of strategies and on their reading abilities in English. The students who were provided with strategy instruction applied a wider range of strategies and employed the global strategies they had been taught more frequently. The use of these strategies resulted in expeditious reading which in turn helped students to improve aspects of their reading abilities in English. This can be seen from the students' improvements on scores obtained after instruction. This suggests that the use of strategies might affect students in terms of academic reading success.

It is therefore essential for teachers of English to raise students' awareness of the value of using reading strategies. Following an explicit approach to instruction based on declarative knowledge (knowing what strategies to us in different contexts), procedural knowledge (knowing how to use those strategies) and conditional knowledge (knowing why and when to use

strategies), (Paris, Lipson, and Wixson, 1983), appears to be effective in helping students to make the most effective use of reading strategies for reading at least in classroom and test settings. However, as the students observed, more practice in reading both inside the classroom and beyond is needed if students are going to improve their reading effectively and to become very successful or skilled readers. Students do need to play an active part in developing their skills.

6.2.2 Implications and recommendations for teachers

The positive results obtained from the Experimental group would suggest that the explicit reading strategy instruction used in this study might be successfully applied to other Thai teaching contexts. To investigate whether this is indeed the case, English teachers may apply the research approach taken in this study to other groups of English major students - students with higher level of language proficiency for instance. The results obtained can be compared with results for lower level groups of English major students. This will indicate whether explicit strategy instruction affects strategy use and brings about improvements on the reading performance of groups of students with different levels of language proficiency.

Moreover, this approach can also be applied in other Thai universities. Indeed it might be anticipated that a better result might be obtained when explicit strategy instruction is applied to other groups of English major students in other Thai universities than to the first-year EIC students at RMUTI whose English proficiency level is said to be comparatively to be low. Alternatively, this method could be applied to other groups of students from different fields of study such as engineering, business, computer, and agriculture. There may also be benefits in introducing more explicit strategy instruction earlier in students' school careers. If the results of further research are positive, explicit reading strategy instruction can be provided in high school English curriculum. This suggests a good preparation for students for academic reading in higher education or reading in real life. It was clear from this study that even following strategy instruction, students tended to rely on careful reading and translation and earlier instruction in effective strategy use might help to prevent these habits developing.

6.2.3 Implications and recommendations for materials writers

Materials writers should think about what strategies might benefit students in terms of academic reading and reading in real life and how a particular strategy is best applied and in what contexts. Writers should also consider following the approach to the presentation of strategies taken in this study and consider how it might be applicable to texts and tasks in more than one content domain. Guidance should be provided to teachers to help them to

make the most effective use of reading activities provided. This would mean that strategies can be applied appropriately and effectively in a variety of reading situations and contexts. A meaningful reading course enhanced by explicit strategy instruction should lead students to greater academic reading success.

6.2.4 Implications and recommendations for Department of Education

The positive results of this study can provide information for Thai foreign language educators at policy level, particularly those in the Department of Education responsible for English curriculum development. As the results appear to indicate that students benefitted from explicit strategy instruction, more support from the Department of Education should be provided to English teachers to conduct more research on strategy instruction in a wider range of settings to gain more results. The results will help these educators in terms of developing English language curricula for high schools and universities.

A course on reading strategy instruction particularly for all first year undergraduate students should be provided as a compulsory course because it will be beneficial for these students in their academic reading. This also suggests that teacher training provision should offer more guidance on reading strategy instruction.

6.3 Limitations and recommendations for further research

There were some obvious limitations on this study. First, the small number of students was not sufficient to support effective tests of the significance of the results. It seems likely that larger numbers of participants would have provided significant differences in reading test scores between the Experimental and Control groups. The length of the course of instruction was another limitation. A twelve-week course of instruction may not be long enough to allow significant differences in rates of improvement in reading abilities to emerge. Restrictions on time and resources made these limitations unavoidable for this study, but it would be interesting to conduct similar research on a larger scale.

Since the explicit strategy instruction provided in this study does appear to have been successful in encouraging participants to use a wider range of strategies and to improve aspects of their reading abilities in English, further research could explore variations on the approach to instruction adopted and, as suggested above, applications of explicit strategy instruction to other contexts.

6.4   Final conclusions

Upon the completion of this study, the researcher would like to make a final comment about explicit reading strategy instruction. The results of this study do quite clearly support the benefits of explicit strategy instruction for Thai university students and the findings support the findings of other research studies that reading strategy instruction has a positive effect on improving students' reading abilities.

However, strategy instruction alone is not sufficient to bring about the best improvements in students' reading abilities. Teachers do need to raise students' awareness of the value of expeditious global reading strategies and should encourage students not to rely on careful reading strategies at the local level. Additionally, teachers should also make it clear that the students' reading abilities will improve more if they engage in regular in reading practice. Regular reading will assist students to become strategic readers and to gain more benefits from their academic reading and reading in real life.

Appendix 1.1

Consent Form

Informed Consent from Participants of PhD Research Study on Academic Reading

Dear Students,

I am Burana Khaokaew, a PhD research student at the Centre for Research in English Language Learning and Assessment (CRELLA), University of Bedfordshire (UOB), United Kingdom. I am at present conducting a research study to investigate students' reading strategies. I should like to invite you to participate in this study by taking a reading test and filling out a questionnaire on the strategies you have used in reading process.Your responses will help us establish where students such as yourselves might need help with academic reading to improve their reading performance. at the university.

All information in the questionnaire and test instruments is completely confidential and will be used solely for the purposes of this research. Findings from your questionnaire and tests will not be disclosed to anyone except yourselves if you wish to receive feedback on your responses. No individuals will be identified in the study.

If you do not wish to participate in the research study, please inform the researcher and do not take the reading test or complete the questionnaire.

I would like to express my heartfelt thanks to all student participants for your invaluable contribution towards the study.

Should you wish to raise any queries or complaints regarding your participation in this research study, please contact Professor Angus Duncan, Head of Research Graduate School, University of Bedfordshire, Luton (email: Angus.Duncan@beds.ac.uk).

Yours sincerely,

Burana Khaokaew,

Centre for Research in English Language Learning and Assessment(CRELLA)

Room 125, Putteridge Bury Campus, University of Bedfordshire,

Hitchin Road, Luton LU2 8LE

I,_____, agree

to participate in this research project being conducted by Burana Khaokaew, PhD candidate in the Centre for Research in English Language Learning and Assessment (CRELLA), at the University of Bedfordshire, United Kingdom.

Appendix 1.2

EIC Curriculum

Curricular Content for English for International Communication Programme at RMUTI, KKC

Code	Title	Credits		
		T.	P.	Total
1.General Education (30 Credits)				
1.1 Social Science (3 Credits)				
00-012-101	Life and Social Quality Development	3	0	3
1.2 Humanities (9 Credits)				
00-021-101	Information Literacy	3	0	3
00-022-101	Human Value: Arts and Sciences of Living	3	0	0
00-023-101	Sport and Recreation for Health			
1.3 Language (9 Credits)				
00-031-101	English for Study Skills Development	3	0	3
00-032-101	Thai for Communication	3	0	3
00-034-001	Chinese Conversation for Daily Life	3	0	3
1.4 Science and Mathematics (9 Credits)				
00-041-001	Life and Environment	3	0	3
00-041-103	Science for Health	3	0	3
00-042-101	Mathematics and Statistics for Daily Life	3	0	3
2.Specific requirement (96 Credits)				
2.1 Basic courses (30 Credits)				
01-071-101	English Phonetics	3	0	3
01-071-102	English Structure 1	3	0	3
01-071-203	English Structure 2	3	0	3
01-071-204	Comparative Studies of English and Thai	3	0	0
01-072-101	Pre-Intermediate Listening and Speaking for Communication	3	0	3
01-072-202	Intermediate Listening and Speaking for Communication	3	0	3
01-073-101	Introduction to Reading	3	0	3
01-073-203	Reading English Newspapers	3	0	3
01-074-201	Paragraph Writing	3	0	3
01-075-201	Introduction to Translation	3	0	3
2.2 Core courses (51 Credits)				
01-071-005	Social-English	3	0	3
01-072-203	Advanced Listening and Speaking for Communication	3	0	3
01-072-304	Public Speaking	3	0	3

Code	Title	Credits		
		T.	**P.**	**Total**
01-073-202	Reading for Pleasure	3	0	3
01-073-304	Academic Reading	3	0	3
01-073-305	Critical Reading	3	0	3
01-074-202	Essay Writing	3	0	3
01-074-303	English Report Writing	3	0	3
01-074-404	Argumentative and Persuasive Writing	3	0	3
01-075-302	Translation: English to Thai	3	0	3
01-075-303	Translation: Thai to English	3	0	3
01-076-001	English for Business Communication	3	0	3
01-076-002	English for Tourism	3	0	3
01-076-003	English for Advertisements and Public Relations	3	0	3
01-076-304	Seminar in English Usage	3	0	3
01-076-305	Practicum	3	0	3
01-076-407	Independent Study	3	0	3
2.3. Electives (15 Credits)				
01-042-001	Japanese 1	3	0	3
01-042-002	Japanese 2	3	0	3
01-042-203	Japanese 3	3	0	3
01-042-204	Japanese 4	3	0	3
01-042-205	Japanese Conversation 1	3	0	3
01-042-206	Japanese Conversation 2	3	0	3
01-042-207	Japanese Reading	3	0	3
3. Free electives (6 Credits)				
xx-xxx-xxx	xxxx	3	0	3
xx-xxx-xxx	xxxx	3	0	3
5. Internship	Minimum of 200 hours (Non-credit)			
	Total 140 Credits			

Appendix 2.1

Reading 1 Curriculum

COURSE OUTLINE

Title:	Reading I
Code:	01-320-011
Course Nature:	General education
Duration:	45 periods (1 period = 1 hour)
	3 periods per week in class and 3 periods per week for self-generated study
Credit:	3 credits
Pre-requisite:	English 1 and English 2

Course objectives:

1. To understand reading strategies
2. To get the main idea of a reading text
3. To get the details of a reading text
4. To make outline of a reading text
5. To get information and enjoy reading

Course description:

This course provides a program of study and practice to build up reading skills including setting up the reading purposes, using dictionary, guessing the meaning of unknown vocabulary by looking at word formation, sentence structure, context clues e.g. references and cohesive devices etc. Reading skills also include predicting, making reference, using background knowledge and knowledge of the world. Paragraph reading includes finding the topic, main idea, supporting details and making outline.

Appendix 3.1

Examples of teaching materials

UNIT 3:   SCANNING

Scanning is a way of reading. It is reading selectively to achieve very specific reading goals. When you scan, you look quickly at a text to find specific information such as a fact, a name, a number, a word and phrase. Make a clear picture in your mind of the information you are looking for. Move your eyes very quickly across the text without reading every word. When you find the information, stop and read the sentence to pick up the information you are looking for. If you scan a reading to find key words or phrases closely related to your purpose, it can help you decide if you should read the text again closely.

Warm-Up Activity Take 15 seconds to scan the repeated word in bold, and then underline it.

1. **newspaper** journal periodical   magazine   newspaper   review bulletin

2. **geology**   geometry   psychology   physics   logic   geography
        geology

3. **anarchism** socialism   conservatism Marxism   liberalism   anarchism
        capitalism

4. **plumber**   carpenter   stonemason   plumber   glazier welder miller

5. **sheikh**   king   shah   emperor   prince czar   sheikh

6. **astronomy** astrology   astrophysics cosmology   astronomy
        astronomer   meteorologist

Activity1: **Scan the following signs and then do the exercise given below**

Sometimes, people lose their pets. They try to find them by putting signs in the neighborhood. Look at these signs.

① **MISSING CAT**

"Fluffy" is 3 years old. She has one green eye and one blue eye. She is brown with black stripes.

Disappeared on March 17 near the post office.
REWARD for information!
CALL 269-2424

② **DOG MISSING !!!**

NAME: SANDY
LOST ON MARCH 9 NEAR EAST STREET. SANDY IS MEDIUM-SIZED WITH SHORT BROWN HAIR AND BLACK EYES. DON'T BE AFRAID, HE'S FRIENDLY. REWARD! CALL US, 303-2721.

③ **Lost cat !!**

Help me find my pet cat! She is 6 years old. She has long white hair and a long tail. Her name is SnowBall. call Mari at 630-4789

④ **HELP FIND "BLACKIE"**

LOST ON MARCH 3 NEAR MAIN STREET. BLACKIE IS 8 YEARS OLD, BUT HE LOOKS LIKE A PUPPY. HE'S BLACK AND WHITE WITH LONG EARS.
REWARD FOR INFORMATION.
CALL SAM, 598-3985.

⑤ **DO YOU KNOW WHERE "Lady" IS ?**

Lady is a black kitten -- only 6 months old. Her mother misses her! If you know where Lady is, PLEASE CALL 303-8720

How many questions can you answer in two minutes?

Write *T* if the sentence is true; write *F* if the sentence is false.

_____ 1. Sandy was lost on March 6.

_____ 2. Sandy is not friendly.

_____ 3. There is a reward for information about Fluffy.

_____ 4. Landy is two years old.

_____ 5. Snowball has long hair.

_____ 6. Lady is a mother cat.

_____ 7. Fluffy is black with brown stripes.

_____ 8. Sandy is a large dog.

_____ 9. Blackie has long ears.

_____ 10. Fluffy was lost near the hospital.

Activity2 : **The web page below is about the group Enigma. Scan it to**

find these things:

1. The number of press articles
    listed…………………………………………..
2. The cost of *The Screen Behind the Mirror* CD in US
    dollars………………
3. The name of the Canadian website which sells the
    CD…………………
4. The date of the recommended
    interview…………………………………

THE ENIGMA ARCHIVES

presents a new CD from Enigma:

THE SCREEN BEHIND THE MIRROR

January 17, 2000 (US/Europe)
February 7, 2000 (Australia)

Where to Buy It (buying from links with an asterisk help support this website!)

Borders* (US$12.59) has it bundled with the a promo copy of the first single for free!

CD Now* and **Amazon.com*** both have it for US$12.59

HMV UK ($11.99) has it in limited edition Digipak packaging with more artwork

CD Plus Canada (CDN$14.99) has it in stock

Disclaimer: The Enigma Archives does not endorse, nor is responsible for purchasing from, any of the above sites.

Press Articles

Gravity of Love (Review) 21-Jan-2000

Spotlight: Gravity of Love (Review) 15-Jan-2000

Review: The Screen Behind the Mirror 08-Jan-2000

The Screen Behind the Mirror (Interview) Dec-1999 *RECOMMENDED*

Reviews & Previews

Track-by-track **review** by Martyn Woolley

Long **review** by Joar Grimstvedt

Track-by-track **review** by Steven de Jong

Activity 3:

JUST ASK!

Before Reading

Which of these things is most important in a partner? Number them from 1 (most important) to 4 (least important).

…………. good looks   ……… an outgoing personality

….….…… a sense of humor   ……… being a good listener

A. Read the statements and guess whether they are made by Jon (J) or Ms.Hope (H).

   Then scan the text to check.

……….1. I need your help.

……….2. Lots of people don't care about movie star looks.

……….3. Girls like boys who are confident and good-looking.

……….4. It's important to be a good listener.

B. Read the whole text quickly. Record your reading time below and in the chart on page 169.

CD 2 Track 6

Start: _____
Finish: _____
Reading Time: _____

Just Ask!

Ms. Hope answers all of your questions on life and love.

Dear Ms. Hope,

1   I am a 19-year-old university student, and I need your help. I have been going out with my girlfriend for two months. We have a great relationship. We share the same sense of humor and have a lot in common. She seems to like me, and I'm crazy about her. There is only one problem. She thinks it is strange that I still haven't introduced her to my best friend.

2　　The trouble is, I am worried that when she meets him, she will like him better than me. I know it sounds ridiculous, but all the girls try to catch his eye. He is tall and very good-looking. People say he looks like a movie star. He's also funny and much more outgoing than I am. I know he would never try to steal my girlfriend or anything, I'm just worried that she'll prefer him, and she'll lose interest in me.

3　　I'm not very good-looking. For one thing, my skin hasn't been too good recently, so I don't feel very confident about my appearance. Also, I'm pretty short, and I wear glasses. I'm quite shy and quiet in social situations. In the past, when my friend and I have been out together, he is the one who does all the talking. Girls like boys who are confident and good-looking, so they all really like him.

4　　I don't know what to do. I really like this girl, and I don't want her to break up with me. Can you help?

　　— Jon

* * * * *

Dear Jon,

5　　It sounds like you and your girlfriend are made for each other. What you need is some self-confidence. You say this girl likes you and that you have a good relationship. She is obviously happy with you the way you are. Lots of people don't care about movie star looks. Not everyone agrees on the definition of what makes a man good-looking. Some people prefer short men. And by the way, what's wrong with glasses? Many people say glasses make you look intelligent.

6　　In any case, looks certainly aren't everything. I'm sure there are many things about you that your girlfriend finds attractive. She might like the fact that you are shy. Not everyone wants someone who talks all the time. It's important to be a good listener to others—it sounds like you're good at that.

7　　It's time to introduce your friend and girlfriend. So go ahead. Get in touch with your friend and plan a meeting. Who knows, your girlfriend may like you even more after she meets your talkative friend!

　　— Ms. Hope

Checking Fluency and Comprehension

A. Complete the sentences. Do not look back at the text.

1. Jon wrote the letter because _____
   a. he wants advice.
   b. he wants to meet Ms. Hope.

2. Jon is not very happy about his _____
   a. relationship with his girlfriend.
   b. appearance.

3. Jon's girlfriend _____
   a. has never met Jon's friend.
   b. likes tall men better than short men.

4. Ms. Hope tells Jon he should _____
   a. change his appearance.
   b. introduce his friend and girlfriend.

5. Ms. Hope thinks Jon should be more _____
   a. self-confident.
   b. talkative and outgoing.

B. Check your answers with a partner. Record your score on page 169.

Expanding Vocabulary

A. When certain words are used together in a phrase, they take on a new meaning. These phrases are called idioms. Find the idioms in bold in the text. Then match the halves of the definitions.

____ 1. If you are **going out** with someone (par. 1),
a. you contact them by phone or email.

____ 2. If you are **crazy about** someone (par. 1),
b. you love them very much.

____ 3. If you **catch someone's eye** (par. 2),
c. you attract someone's attention.

____ 4. If you **break up** with someone (par. 4),
d. you are a well-matched couple.

____ 5. If you are **made for** each other (par. 5),
e. you stop having a relationship with them.

____ 6. If you **get in touch** with someone (par. 7),
f. you have a relationship with them as girlfriend or boyfriend.

(Taken from Cover to Cover 1: Reading Comprehension and Fluency, 2007, p.104-107).

Appendix 3.2

Think-aloud training instruction (Thai and English version)

คำชี้แนะ

กระบวนการในการคิดออกมาดัง ๆ

(Think-aloud procedure)

ต่อไปนี้จะเป็นการแนะนำวิธีการเพื่อให้นักศึกษาคุ้นเคยกับเทคนิคที่จะนำมาใช้ในการ เก็บข้อมูล เพื่อใช้ในงานวิจัยครั้งนี้ เทคนิคนี้เรียกว่า **"Think-aloud"**

สิ่งที่นักศึกษาจะต้องทำคือ อ่านเรื่องที่กำหนดให้ ให้อ่านให้เป็นธรรมชาติ คืออ่านและ คิดออกมาเสียงดังๆ เพื่อให้ตัวเองเข้าใจเรื่องที่อ่าน เสมือนกับว่า นักศึกษาอ่านอยู่ตามลำพังใน ห้อง

ในขณะที่อ่าน นักศึกษาจะต้องคิดออกมาดังๆ เป็นภาษาไทย หรือภาษาอังกฤษก็ได้ ตามความถนัด ให้คิดออกมาดังๆ พูดเกี่ยวกับ คำศัพท์ วลีหรือหรือประโยค แล้วให้เหตุผลว่า ทำไมคิด เช่นนั้น นักศึกษาคิดอย่างไร มีคำถามอะไรเกี่ยวกับเรื่องที่อ่าน ต้องการทำอย่างไร เพื่อให้เข้าใจความหมายของเรื่องที่อ่าน ให้นักศึกษาคิดและพูดสิ่งที่คิดออกมาดังๆ

กระบวนการนี้คล้ายคลึงกับเวลาที่นักศึกษาคิดออกมาดังๆ   เพื่อแก้ปัญหาโจทย์ คณิตศาสตร์สิ่งที่นักศึกษาคิดที่จะแก้โจทย์ในใจก็คือ สิ่งที่นักศึกษาพูดออกมาดังๆ เพื่อทำโจทย์ คณิตศาสตร์นั้นๆ นั่นเอง ถ้านักศึกษายังนึกภาพไม่ออก ให้ลองนึกถึงเวลานักศึกษาลืมสิ่งของ ต่างๆ ไว้ที่ไหนสักแห่ง เช่น กระเป๋าเงิน นักศึกษาอาจจะคิดและพูดออกมาดังๆ ว่า "เอ๊ะ ฉันลืม กระเป๋าเงินไว้ที่ไหนนะ ฉันเห็นกระเป๋าเงินครั้งสุดท้ายเมื่อไหร่ ตอนนี้ฉันจำเป็นต้องใช้เงินซะ ด้วยสิ จะทำยังไงนะ...."

ในขณะที่กำลังอ่านเรื่องที่กำหนดให้   นักศึกษาอาจจะรู้สึกว่าเรื่องที่อ่านง่ายหรืออาจจะ รู้สึกว่ายาก อาจจะต้องหยุดอ่านบ่อยๆ เพื่อคิดและพยายามที่จะเข้าใจเนื้อเรื่อง นักศึกษาจะ

หยุดอ่านประโยคไหน วลีไหน หรือคำไหนแล้วคิดออกมาดัง ก็ได้ทั้งนั้น ทั้งนี้ขึ้นอยู่กับตัว
นักศึกษาเอง

สิ่งที่นักศึกษาต้องใส่ใจเสมอก็คือ เมื่อไรที่นักศึกษาหยุดอ่านเพื่อคิด หรือแก้ปัญหาข้อง
ใจเพื่อให้เข้าใจเรื่องที่อ่าน ทุกสิ่งที่นักศึกษาคิดในใจ นักศึกษาจะต้องพยายามคิดและพูดออกมา
ดังๆ เสมอ ไม่ว่าช่วงไหนที่อ่านเรื่องที่กำหนดให้ เมื่อนักศึกษารู้สึกว่ายาก ก็ให้คิดและพูด
ออกมาดังๆ ให้นักศึกษาอธิบายว่า ทำอย่างไรที่นักศึกษาจะแก้ไขข้อข้องใจนั้นๆ เพื่อให้เข้าใจ
เรื่องที่อ่าน ให้นักศึกษาพยายามพูดออกมาดังๆ พูดเกี่ยวกับทุกสิ่งทุกอย่างที่นักศึกษาคิด
ขณะที่อ่าน กระบวนการนี้เน้นว่า สิ่งที่นักศึกษาพูดออกมาดังๆ ก็คือ สิ่งที่นักศึกษาคิดนั่นเอง

ให้นักศึกษาพยายามไม่ใส่ใจว่า ผู้วิจัยนั่งอยู่ด้วย ผู้วิจัยเป็นเพียงผู้ที่จะเตือนและกระตุ้น
ให้นักศึกษา "คิดออกมาดังๆ" ถ้านักศึกษาหยุดคิดดังๆ ในขณะที่อ่านและผู้วิจัยทำหน้าที่ดูและ
การบันทึกเทปเสียงเท่านั้น

Think-aloud training instruction (English version)

Think-aloud procedure

I would like to demonstrate how to use the technique called 'Think-aloud' which is used to collect data for this research.

What you have to do is that you read the text provided and think aloud while you are reading as if you are in your room alone.

While reading, you have to think aloud in Thai or English. You are supposed to think aloud about vocabulary, phrases, or sentences and then say why you think that way. Whatever you think or question about the text you read, whatever you want to do in order to comprehend the text, you have to think and say it aloud.

This process is similar to the way you solve mathematic problems. What you think about how to solve those problems is what you think aloud. If you could not imagine how to do this, you can think about a situation where

you forgot something such as a wallet so you might think and say aloud something like: 'where did I leave my wallet?' 'When did I last see it?' 'I need money now?' 'What should I do?'

While you are reading the text provided, you might think that the text is easy or difficult to understand. You might have to stop in order to think and try to understand the meaning of the text. You can stop and think aloud whenever you want.

However, whenever you stop reading, you are supposed to think aloud whatever is in your mind. Although you think that the text is too difficult, you have to think and say the technique you are using to help you understand the text you read. This process emphasizes that 'what you say is what you think'.

While reading, you are supposed to ignore the researcher in the class. S/he is only responsible for encouraging you to think aloud and tape recording.

Appendix 3.3

English version questionnaires

Reading Strategy Questionnaire

The purpose of this questionnaire is to collect information on students' background and the various strategies they use when reading a text in English class.

<u>Part 1</u> Please complete the following information

1. Name_____

2. Age _____

3. Sex　　　　　( ) Male　　　　　　　( ) Female

4. Which grade did you start learning English? _____

5. Where did you live when you were in secondary school?　　( ) city　( ) country

6. Name and location of secondary school _____

7. Programme of study in secondary school _____

8. Did you study on an English programme (EP), (the teacher uses English as the medium of instruction in the classroom) at high school?　　　　　( ) Yes　　　( ) No

9. Have you studied at a language school in Thailand?　( ) Yes　　　( ) No

10. Have you been to an English speaking country such as the UK, the US, Australia, New Zealand, Canada, Singapore or others?

　　( ) Yes　　Which country/ies? _____

　　　　　　　When? _____ For how long?_____

　　( ) No

Part 2 Read each statement and circle the number (1, 2, 3, 4, or 5) which applies to you.

0	=	never (0%),		1	=	rarely (25%),		2	=	sometimes (50%)

3	=	often (75%),		4	=	usually (90%),		5	=	always (100%)

Before reading a text, I…………………………….

1. plan what to do before I start.	0 1 2 3 4 5
2. have a purpose in mind.	0 1 2 3 4 5
3. read the title and sub-titles before reading the rest of the text.	0 1 2 3 4 5
4. focus on the key words from the title.	0 1 2 3 4 5
5. think what I already know about the topic.	0 1 2 3 4 5
6. think about how one sub-title relates to another sub-title.	0 1 2 3 4 5
7. look at any pictures/illustrations.	0 1 2 3 4 5
8. think about what information the writer might present.	0 1 2 3 4 5

When I read the text, I………………………………

9. read every sentence slowly and carefully to understand the text.	0 1 2 3 4 5
10. read the first sentence of each paragraph.	0 1 2 3 4 5
11.read the first paragraph and last paragraph(introduction conclusion).	0 1 2 3 4 5
12. guess the meanings of unknown words or phrases.	0 1 2 3 4 5
13. skip unknown words.	0 1 2 3 4 5
14. use contextual clues to help me understand the text better.	0 1 2 3 4 5
15. use English grammar to help me understand the text.	0 1 2 3 4 5
16. skim the text quickly to get the general ideas.	0 1 2 3 4 5
17. scan the text for specific details.	0 1 2 3 4 5

18. distinguish between main points and examples.   0 1 2 3 4 5

19. differentiate important from unimportant ideas.   0 1 2 3 4 5

20. distinguish between fact and opinion   0 1 2 3 4 5

21. understand the relationship between ideas.   0 1 2 3 4 5

22. analyze what the writer meant or tried to say.   0 1 2 3 4 5

23. take notes while reading to help me understand what I have read.   0 1 2 3 4 5

24. write a summary of the main information in the text.   0 1 2 3 4 5

25. translate the text from English into Thai.   0 1 2 3 4 5

26. check if my guesses about the text are right or wrong.   0 1 2 3 4 5

After reading the text , I ……………………….

27. re-read it once or more if I do not understand it.   0 1 2 3 4 5

28. make notes on the main points as I remember them.   0 1 2 3 4 5

29. evaluate my plans or goals for reading.   0 1 2 3 4 5

Part 3 **Complete the following questions.**

1. While reading English texts what do you do to help you understand the meaning of the text?

…………………………………………………………………………………………………

…………………………………………………………………………………………………

2. What do you do to help yourself find the main idea in the passage?

…………………………………………………………………………………………………

…………………………………………………………………………………………………

…………………………………………………………………………………………………....

3. What do you do to help you find the supporting details in the passage?

………………………………………………………………………………………………

………………………………………………………………………………………………

………………………………………………………………………………………………

4. What strategies do you use most often?

………………………………………………………………………………………………

………………………………………………………………………………………………

………………………………………………………………………………………………

5. What do you do if your first strategy/strategies do[es] not work?

………………………………………………………………………………………………

………………………………………………………………………………………………

………………………………………………………………………………………………

6. Do you read differently when reading Thai and English texts? How?

………………………………………………………………………………………………

………………………………………………………………………………………………

………………………………………………………………………………………………

7. Which reading strategies help you to have a better understanding of English texts? Why?

………………………………………………………………………………………………

………………………………………………………………………………………………

………………………………………………………………………………………………

PART 4

Is there anything you would like to add about your problems and strategies with reading in English?

………………………………………………………………………………………………………

………………………………………………………………………………………………………

………………………………………………………………………………………………………

………………………………………………………………………………………………………

………………………………………………………………………………………………………

………………………………………………………………………………………………………

THANK YOU!

Appendix 3.4

Thai version questionnaires

<div align="center">

แบบสอบถาม

เรื่องกลยุทธ์ในการอ่าน

</div>

แบบสอบถามนี้มีวัตถุประสงค์เพื่อเก็บรวบรวมข้อมูลของนักศึกษาด้าน   ประวัติส่วนตัว ประวัติการศึกษา และกลยุทธ์การอ่านประเภทต่างๆ ที่นักศึกษาใช้ในการอ่านบทความภาษาอังกฤษในชั้นเรียน

<u>ส่วนที่ 1</u> **กรุณากรอกข้อมูลด้านล่างต่อไปนี้ให้ครบถ้วน**

1. ชื่อ-นามสกุล _____

2. อายุ _____

3. เพศ   ( ) ชาย   ( ) หญิง

4. เริ่มเรียนภาษาอังกฤษในระดับชั้น _____

5. สถานที่ตั้งของที่พักอาศัยขณะที่เรียนระดับมัธยมศึกษาตอนปลา   ( ) ในเมือง ( ) นอกเมือง

6. ชื่อและที่อยู่ของโรงเรียนที่ท่านเรียนในระดับมัธยมศึกษาตอนปลาย_____

7. โปรแกรมวิชาที่ท่านเรียนในระดับมัธยมศึกษาตอนปลาย _____

8. ท่านเรียน English Program (ใช้ภาษาอังกฤษสำหรับสอนในชั้นเรียน) ในระดับมัธยมศึกษาหรือไม่
                    ( ) ใช่   ( ) ไม่ใช่

9. ท่านเคยเรียนภาษาอังกฤษที่ศูนย์ภาษาในประเทศไทยหรือไม่

                    ( ) เคยเรียน   ( ) ไม่เคยเรียน

10.ท่านเคยเดินทางไปประเทศที่ใช้ภาษาอังกฤษเป็นภาษาหลัก เพื่อการสื่อสารของคนในสังคม
เช่น   อังกฤษ สหรัฐอเมริกา ออสเตรเลีย นิวซีแลนด์ หรือ สิงคโปร์ หรือไม่

( ) เคย   ชื่อประเทศ_____

ช่วงเวลาที่ไป_____ ระยะเวลาที่พักอาศัยอยู่ในประเทศนั้นๆ _____

( ) ไม่เคย

<u>ส่วนที่ 2</u> **กรุณาอ่านประโยคด้านล่างต่อไปนี้แล้วทำเครื่องหมายวงกลมที่หมายเลข (1, 2, 3, 4 หรือ
5) ซึ่งตรงกับตัวท่านมากที่สุด**

 0 = ไม่เคย (0%),   1 =   นานๆครั้ง (25%),   2 = บางครั้ง (50%)

 3 = บ่อยครั้ง (75%),   4 =   เสมอ (90%),   5 = ทุกครั้ง (100%)

<u>**ก่อนอ่านบทความภาษาอังกฤษ ข้าพเจ้า**</u>……………………………………………….

1. วางแผนการอ่านก่อนเริ่มอ่านบทความ   0 1 2 3 4 5

2. ตั้งวัตถุประสงค์การอ่านไว้ในใจ   0 1 2 3 4 5

3. อ่านชื่อเรื่องและหัวข้อย่อยก่อนที่จะอ่านบทความส่วนอื่นๆ   0 1 2 3 4 5

4. มุ่งเน้นที่คำสำคัญจากชื่อเรื่อง   0 1 2 3 4 5

5. พิจารณาความรู้ที่มีเกี่ยวกับหัวเรื่อง   0 1 2 3 4 5

6. พิจารณาเกี่ยวกับความสัมพันธ์ของแต่ละหัวข้อย่อย   0 1 2 3 4 5

7. พิจารณาภาพประกอบและคำบรรยายประกอบภาพ (ถ้ามี)   0 1 2 3 4 5

8. พิจารณาเกี่ยวกับเนื้อหาที่ผู้เขียนต้องการนำเสนอ   0 1 2 3 4 5

ขณะอ่านบทความภาษาอังกฤษ ข้าพเจ้า……………………………………………………

9. อ่านทุกประโยคอย่างช้าๆและอย่างละเอียดเพื่อให้เข้าใจเรื่องที่อ่าน   0 1 2 3 4 5

10. อ่านเฉพาะประโยคแรกของแต่ละย่อหน้า   0 1 2 3 4 5

11. อ่านเฉพาะย่อหน้าแรก และย่อหน้าสุดท้าย (คำนำและบทสรุป)   0 1 2 3 4 5

12. พยายามเดาความหมายของคำศัพท์หรือวลีที่ไม่รู้ความหมาย   0 1 2 3 4 5

13. อ่านข้ามคำที่ไม่รู้ความหมาย   0 1 2 3 4 5

14. ใช้บริบทหรือข้อความแวดล้อม เพื่อช่วยให้เข้าใจมากขึ้น   0 1 2 3 4 5

15. ใช้ความรู้ทางด้านไวยากรณ์เพื่อช่วยให้เข้าใจเรื่องที่อ่าน   0 1 2 3 4 5

16. อ่านอย่างรวดเร็วเพื่อจับใจความสำคัญของเรื่อง   0 1 2 3 4 5

17. อ่านอย่างรวดเร็วเพื่อเก็บรายละเอียดของเรื่อง   0 1 2 3 4 5

18. พยายามแยกใจความหลักออกจากตัวอย่าง   0 1 2 3 4 5

19. พยายามแยกใจความความสำคัญออกจากใจความขยาย   0 1 2 3 4 5

20. พยายามแยกข้อเท็จจริงออกจากข้อคิดเห็น   0 1 2 3 4 5

21. พยายามทำความเข้าใจความสัมพันธ์ระหว่างย่อหน้า   0 1 2 3 4 5

22. วิเคราะห์สิ่งที่ผู้เขียนต้องการสื่อความหมาย   0 1 2 3 4 5

23. จดบันทึกย่อในขณะที่กำลังอ่านเพื่อช่วยให้เข้าใจเรื่องอ่านมากขึ้น   0 1 2 3 4 5

24. เขียนสรุปย่อใจความสำคัญของเรื่องที่อ่าน   0 1 2 3 4 5

25. แปลบทความภาษาอังกฤษเป็นภาษาไทยในขณะที่อ่าน   0 1 2 3 4 5

26. ตรวจสอบว่าการเดาความหมายของเรื่องที่อ่านนั้นถูกต้องหรือไม่   0 1 2 3 4 5

<u>หลังอ่านบทความภาษาอังกฤษ ข้าพเจ้า</u>...

27. อ่านทบทวนหนึ่งครั้งหรือมากกว่าหนึ่งครั้งถ้าไม่เข้าใจเรื่องที่อ่าน   0   1   2   3   4   5

28. จดบันทึกย่อประเด็นสำคัญของเรื่องที่อ่านเท่าที่จำได้   0   1   2   3   4   5

29. ประเมินแผนการอ่านและจุดประสงค์การอ่าน   0   1   2   3   4   5

<u>ส่วนที่ 3</u> กรุณาตอบคำถามด้านล่างต่อไปนี้

1.ในขณะที่อ่านบทความภาษาอังกฤษ ท่านมีวิธีการอย่างไรเพื่อช่วยให้เข้าใจความหมายของเรื่องที่
กำลังอ่านมากขึ้น

....

....

....

2.   ท่านมีวิธีการอ่านอย่างไรเพื่อช่วยในการค้นหาใจความสำคัญของเรื่องที่อ่านได้

....

....

....

3. ท่านมีวิธีการอย่างไรเพื่อช่วยในการค้นหาข้อความสนับสนุนในเรื่องที่อ่านได้

....

....

....

4. กลยุทธ์ในการอ่านประเภทไหนที่ท่านใช้มากที่สุด

…………………………………………………………………………

…………………………………………………………………………

…………………………………………………………………………

5. ท่านมีวิธีการแก้ไขอย่างไรถ้ากลยุทธ์ในการอ่านที่ท่านใช้ครั้งแรกไม่สัมฤทธิ์ผล

…………………………………………………………………………

…………………………………………………………………………

…………………………………………………………………………

6. ท่านมีวิธีการอ่านบทความภาษาไทยและบทความภาษาอังกฤษแตกต่างกันหรือไม่ และอย่างไร

…………………………………………………………………………

…………………………………………………………………………

…………………………………………………………………………

7. ท่านใช้กลยุทธ์การอ่านประเภทใดเพื่อช่วยให้ เข้าใจเรื่องที่อ่านมากขึ้น และเพราะเหตุใด

…………………………………………………………………………

…………………………………………………………………………

…………………………………………………………………………

<u>ส่วนที่ 4</u>   กรุณาตอบคำถามด้านล่างต่อไปนี้

ท่านมีความคิดเห็นเกี่ยวกับปัญหาการอ่านและกลยุทธ์ในการอ่านบทความเป็นภาษาอังกฤษ
อย่างไร โปรดระบุ

....

....

....

ขอบคุณค่ะ

Appendix 4.1

Pilot study tests

A1 **Choose one word a), b), or c) for each gap and write the letter in the space on the answer paper. The first one is done for you.**

Dear Helen,

                            a) in

I am learning English **Example** **b) near** England now.

                            c) from

    a) study

I **(1) b) learn** to the city school of English.

    c) go

       a) evening

Every (**2**) **b) afternoon** I get up at 7 o'clock and have breakfast.

      c) morning

                    a) do

My friends and I go to school at 9 and **(3)** **b) have** classes all day.

                    c) study

a) After

(4) b) At school we visit interesting places in London. We go   by   bus

c) When

or use the Underground trains.   Sometimes we get lost.

a) helpful

 People here are always **(5) b) cold.**

c) wrong

They show us the way.

Hope to see you soon,

Mary.

A2   Order the sentences below to make a story.

Write your answers on the answer paper.

The first one is done for you and marked on the answer sheet.

Kindness to animals

A. She took it inside, and made it comfortable in an old shoebox.
B. She went outside to get her bike.
C. **Emma got up early one morning to visit her friend**.
D. After a few weeks the leg was better and the rabbit could hop away.
E. It was a rabbit with an injured leg.
F. But just outside the front door she saw something in the grass.
G. Emma realised that it needed help.

B1 Read the text and complete each gap with one word from the box below. Write the words on the answer paper. The first one is done for you on the answer sheet.

Reiki: healing by touch

Throw out the bottles and boxes of drugs in your house. A new **theory** suggests that ①_____could be bad for your health, which should at least come as good news to people who cannot afford to buy expensive treatments. However, it is a blow to the medicine ②_____, and an even bigger blow to our confidence in the progress of science.

According to this theory, healing is at our fingertips: we can ③_____ our health by doing Reiki on a regular basis. Reiki is ④_____ and drug-free. What is more, it is easy to learn by anyone, regardless of age and ⑤_____. It can be used anywhere, anytime. It also enhances physical, mental, emotional and spiritual well-being and

the ⑥_____ last a lifetime. It is definitely high time to ⑦ _____
the drugs we keep in our drug cabinet!

| benefits expense experience   food   improve   industry medicine |
| natural   older people reiki remove reorder ~~theory~~ unfit use |

B2 Read the passage below quickly. Match a heading (A-H) to each paragraph (1-7).
There are more headings than you need.

Write your answers on the answer sheet. The first one is done for you and marked
on the answer sheet.

Headings

A. **Unintended harm to non-human creatures**

B. **Cold and drought tolerance**

C. **Making food quality worse**

D. **Gene transfer to non-target species**

E. **Unknown effects on peoples' health**

F. **Economic impact**

G. **Tolerance to weed-killers**

H. **Higher quality food intake**

Genetically Modified Foods: For or against?

GM food refers to crop plants created for human or animal consumption using the latest molecular biology techniques. These plants have been modified in the laboratory to improve, for example, their resistance to pests and diseases. Genetically modified foods have the potential to solve many of the world's problems in relation to food production, but we must avoid causing unintended harm through our enthusiasm for this powerful technology.

What are some of the advantages of GM foods?

1. Farmers often spray large quantities of chemicals to destroy weeds, a time-consuming and expensive process that requires care so that the herbicide doesn't harm the crop plant or the environment. Crop plants genetically engineered to resist the harmful effects of herbicides are claimed to be highly beneficial.

2. Unexpected frost can destroy sensitive seedlings. An antifreeze gene from an Arctic fish has been introduced into plants such as tobacco and potato. With this antifreeze gene, these plants are able to stand low temperatures that normally would kill unmodified seedlings. Farmers will also need to grow crops in other locations similarly unsuited to plant cultivation. Creating plants that can withstand long, dry periods or high salt content in soil and groundwater will help people to grow crops in formerly inhospitable places.

3. Malnutrition is common in third world countries where impoverished people rely on a single crop such as rice for the main staple of their diet. However, rice does not contain adequate amounts of all the nutrients necessary for a balanced diet. If rice could be genetically engineered to contain additional vitamins and minerals, nutrient deficiencies could be reduced. For example, blindness due to vitamin A deficiency is a common problem in third world countries. Researchers have now created a strain of "golden" rice containing an unusually high content of beta-carotene (vitamin A).

What are some of the criticisms against GM foods?

4. There is a growing concern that introducing foreign genes into food plants may have an unexpected and negative impact on human beings. There is a possibility that introducing a gene into a plant may cause an allergic reaction in susceptible individuals. A proposal to incorporate a gene from Brazil nuts into soybeans was abandoned because of the fear of causing unexpected allergic reactions. Extensive testing of GM foods may be required to avoid the possibility of harm to consumers with food allergies.

5. A laboratory study was published in *Nature* showing that pollen from one type of genetically modified corn (B.t) caused high mortality rates in monarch butterfly caterpillars. Monarch caterpillars consume milkweed plants, not corn, but the fear is that if pollen from B.t. corn is blown by the wind onto milkweed plants in neighbouring fields, the caterpillars could eat the pollen and perish. Although the *Nature* study was not conducted under natural field conditions, the results of the study seemed to support this viewpoint. Unfortunately, it is not possible to design a B.t. toxin that would only kill crop-damaging pests and remain harmless to all other insects.

6. Another concern is that crop plants engineered for herbicide resistance will cross-breed with weeds, resulting in herbicide resistant weeds. These "superweeds" would then be herbicide resistant as well. Other GM crops may cross-breed with non-modified crops planted next to the GM crops. The possibility of cross-breeding is illustrated by the case of the company that filed patent infringement lawsuits against farmers, accusing them of illegally harvesting GM crops. The farmers' claim that their unmodified crops had been cross-pollinated from someone else's GM crops planted a field or two away was supported in court.

7. Bringing a GM food to market is a lengthy and costly process, and of course agri-biotech companies wish to ensure a profitable return on their investment. Many new plant genetic engineering technologies and GM plants have been patented, and patent infringement is a big concern of agribusiness. The worry is that patenting these new plant varieties may raise the price of seeds so high that small farmers in third world countries will not be able to afford seeds for GM crops, thus widening the gap between the wealthy and the poor.

C1 Only six of the statements (A – H) below are true according to the whole passage *Genetically Modified Foods*.

Choose the true statements and put them in the order the information appears in the passage.

A statement may refer to information in one or two paragraphs.

Write your answers on the answer paper. The first one is done for you.

Statements

A.   GM crops may interact with other plants in unforeseen ways.

B.   GM food crops have an increased resistance to a number of harmful conditions.

C.   If producers only consider their own financial interests, the GM solution may be beyond the reach of many farmers.

D.   It is difficult to detect cross-contamination from GM crops in food products.

E.   GM foods engineered to solve food-production problems may also pose unforeseen risks.

F.   Patent enforcement is a difficult and unnecessary regulation.

G.   It is not possible to predict damaging effects of GM foods on living creatures.

H.   With their enhanced properties, GM crops may help tackle some health problems.

C2 **Below are some additional mini texts on this topic.**

Decide which paragraph (1-7) in the passage _Genetically Modified Foods_ each mini text best relates to.

Write your answers on the answer paper. One is done for you.

Mini-texts

A. In contrast to the first generation of genetically engineered (GE) crops that have been designed to address production problems, the second-generation crops currently under development are expected to include a much wider range of alterations. These may include changes in the levels and types of specific fatty acids, minerals, phytochemicals, and, potentially, some substances presently found in supplements.

B. Intellectual property rights (IPRs)are likely to be an element in the debate on GM foods., WHO has reviewed the conflict between IPRs and an equal access to genetic resources and the sharing of benefits. The review has considered potential problems of monopolization in the field of genetic sequences in human medicine. Such considerations are likely to also affect the debate on GM foods.

C. Many organisms have the ability to produce poisonous substances. For plants, such substances help to defend stationary organisms from the many animal predators in their environment. In some cases, plants contain inactive pathways leading to poisonous substances. Addition of new genetic material through genetic engineering could reactivate these inactive pathways or otherwise increase the levels of poisonous substances within the plants posing a threat to wildlife.

D. Beet has been bred so that it normally flowers in the second year of growth after creating a store of energy in   its root. Since they are normally harvested before flowering, growers claim there is no danger from pollen produced by crops of GM beet. However, in any field of beet a proportion of plants 'bolt', i.e. they produce flowers early, in their first year. Typically not every bolter will be removed so there is a risk of pollen being produced. Beet pollen travels extremely long distances as shown in a study by the Institute of Terrestrial Ecology which found that wild beet pollen can travel a distance of 14 km and affect non-GM crops.

E. Gene transfer from GM foods to cells of our bodies or to bacteria in the gastrointestinal tract would cause concern if the transferred genetic material has adverse affects. This would be particularly relevant if antibiotic resistance genes, used in creating GMOs, were to be transferred. Although the probability of transfer is low, the use of technology without antibiotic resistance genes has been encouraged by a recent FAO/WHO expert panel.

F. Scientists at the UK's leading plant science centre have uncovered a gene that could help to develop new varieties of crop that will be able to cope with the changing world climate. Researchers have identified the gene in barley that controls how the plant responds to seasonal changes in the length of the day. This is key to understanding how plants have adapted their flowering behaviour to different environments.

ANSWER PAPER

Name………………………………………………Class…………………………

Age……………………………………………………Sex…………………………..

Section A1

(Example)   *A*
_____

1   _____

2   _____

3   _____

5

Section A2

(Example) 1   *C*
_____

2   _____

3   _____

4   _____

6

7

Part B1

(Example)   theory

1 _____

2 _____

3 _____

4 _____

5

6

Part B2

(Example)   *G*

1 _____

2 _____

3 _____

4 _____

6

Part C1

Paragraph   Heading

Introduction

What are some of the advantages of GM foods?

(Example) 1   E

2 _____

3 _____

What are some of the criticisms against GM foods?

.

5

6

7

Part C2

(Example) A   *3*

Mini-Text Paragraph

B _____

C _____

D _____

E _____

F

Appendix 5.1

Main study tests

A1 **Read the letter here and study the alternatives in 1 to 5 below the letter. Choose the correct alternative a), b) or c), as in the example o).**

Dear Helen,

*I am learning English (0) ….. England now.   I **(1)** ……………..*

to the City school of English in London.

Every **(2)** *............... I get up at 7 o'clock and have breakfast.*

My friends and I go to school at nine and **(3)** *.... classes all day.*

(4) *.............. school we visit interesting places in London. We go*

by bus or use the Underground trains.   Sometimes we get lost.

People here are always (**5)** *................   They show us the way.*

Hope to see you soon,

Mary.

O　√ **A) in**　　　**B) near**　　　**C) near**

1　　A) study　　B) learn　　C) go

2　　A) evening　　B) afternoon　　C) morning

3　　A) do　　B) have　　C) study

4　　A) after　　B) at　　C) when

5　　A) helpful　　B) cold　　C) wrong

ANSWER BOX A1

(Example)	A
1	
2	
3	
4	
5	

A2 Pot the *sentences below in a sequence to make a story*.

(ให้เรียงประโยค A-G เพื่อจัดลำดับเหตุการณ์ของเรื่องให้สมบูรณ์, ตัวอย่าง C เป็นเหตุการณ์แรก)

The first one, letter *C*, is done for you and marked on the answer sheet A2 below. Now write the other letters in the answer box to show the order of the events in the story.

Kindness to animals

H. She took it inside, and made it comfortable in an old shoebox.
I. She went outside to get her bike.
J. **Emma got up early one morning to visit her friend**.
K. After a few weeks the leg was better and the rabbit could hop away.
L. It was a rabbit with an injured leg.
M. But just outside the front door she saw something in the grass.
N. Emma realised that it needed help.

ANSWER BOX A2

(Example)	C
1	
2	
3	
4	
5	
6	

B1 **Read the text about *Reiki* below and complete each gap with one word from the box above the text.   Write the words you choose in the B1 Answer Box below the text**. (อ่านบทความด้านล่างแล้วนำคำที่กำหนดให้ในกรอบสี่เหลี่ยมมาเติมเพื่อให้ข้อความสมบูรณ์)

benefits	expense	experience	food	improve industry
	medicine		natural	older people
reiki	remove	reorder	~~theory~~ unfit	use

Reiki: healing by touch

Throw out the bottles and boxes of drugs in your house. A new **theory** suggests that ①_____could be bad for your health, which should at least come as good news to people who cannot afford to buy expensive treatments. However, it is a blow to the medicine ②_____, and an even bigger blow to our confidence in the progress of science.

According to this theory, healing is at our fingertips: we can ③_____ our health by doing Reiki on a regular basis. Reiki is ④_____ and drug-free. What is more, it is easy to learn by anyone, regardless of age and ⑤_____. It can be used anywhere, anytime. It also enhances physical, mental, emotional and spiritual well-being and the ⑥_____ last a lifetime. It is definitely high time to ⑦ _____ the drugs we keep in our drug cabinet!

The first one is done for you as an example.

ANSWER BOX B1

(Example)	theory
1	
2	
3	
4	
5	
6	
7	

B2 **Read the passage below. Match a heading (A-H) to each paragraph (1-7).There are more headings than you need.** อ่านบทความด้านล่างแล้วจับคู่หัวเรื่อง **A-H** กับย่อหน้า **1-7** (จำนวนหัวเรื่องจะมีมากกว่าจำนวนย่อหน้าหนึ่งหัวเรื่อง)
Write your answers on the Answer Box B2. The first one is done for you.

<u>Headings</u>

A. Unintended harm to non-human creatures

B. Cold and drought tolerance

C. Making food quality worse

D. Gene transfer to non-target species

E. Unknown effects on peoples' health

F. Economic impact

G. Tolerance to weed-killers

H. Higher quality food intake

Genetically Modified Foods: For or against?

GM food refers to crop plants created for human or animal consumption using the latest molecular biology techniques. These plants have been modified in the laboratory to improve, for example, their resistance to pests and diseases. Genetically modified foods have the potential to solve many of the world's problems in relation to food production, but we must avoid causing unintended harm through our enthusiasm for this powerful technology.

What are some of the advantages of GM foods?

1. Farmers often spray large quantities of chemicals to destroy weeds, a time-consuming and expensive process that requires care so that the herbicide doesn't harm the crop plant or the environment. Crop plants genetically engineered to resist the harmful effects of herbicides are claimed to be highly beneficial.

2. Unexpected frost can destroy sensitive seedlings. An antifreeze gene from an Arctic fish has been introduced into plants such as tobacco and potato. With this antifreeze gene, these plants are able to stand low temperatures that normally would kill unmodified seedlings. Farmers will also need to grow crops in other locations similarly unsuited to plant cultivation. Creating plants that can withstand long, dry periods or high salt content in soil and groundwater will help people to grow crops in formerly inhospitable places.

3. Malnutrition is common in third world countries where impoverished people rely on a single crop such as rice for the main staple of their diet. However, rice does not contain adequate amounts of all the nutrients necessary for a balanced diet. If rice could be genetically engineered to contain additional vitamins and minerals, nutrient deficiencies could be reduced. For example, blindness due to vitamin A deficiency is a common problem in third world countries. Researchers have now created a strain of "golden" rice containing an unusually high content of beta-carotene (vitamin A).

What are some of the criticisms against GM foods?

4. There is a growing concern that introducing foreign genes into food plants may have an unexpected and negative impact on human beings. There is a possibility that introducing a gene into a plant may cause an allergic reaction in susceptible individuals. A proposal to incorporate a gene from Brazil nuts into soybeans was abandoned because of the fear of causing unexpected allergic reactions. Extensive testing of GM foods may be required to avoid the possibility of harm to consumers with food allergies.

5. A laboratory study was published in *Nature* showing that pollen from one type of genetically modified corn (B.t) caused high mortality rates in monarch butterfly caterpillars. Monarch caterpillars consume milkweed plants, not corn, but the fear is that if pollen from B.t. corn is blown by the wind onto milkweed plants in neighbouring fields, the caterpillars could eat the pollen and perish. Although the *Nature* study was not conducted under natural field conditions, the results of the study seemed to support this viewpoint. Unfortunately, it is not possible to design a B.t. toxin that would only kill crop-damaging pests and remain harmless to all other insects.

6. Another concern is that crop plants engineered for herbicide resistance will cross-breed with weeds, resulting in herbicide resistant weeds. These "superweeds" would then be herbicide resistant as well. Other GM crops may cross-breed with non-modified crops planted next to the GM crops. The possibility of cross-breeding is illustrated by the case of the company that filed patent infringement lawsuits against farmers, accusing them of illegally harvesting GM crops. The farmers' claim that their unmodified crops had been cross-pollinated from someone else's GM crops planted a field or two away was supported in court.

7. Bringing a GM food to market is a lengthy and costly process, and of course agri-biotech companies wish to ensure a profitable return on their investment. Many new plant genetic engineering technologies and GM plants have been patented, and patent infringement is a big concern of agribusiness. The worry is that patenting these new plant varieties may raise the price of seeds so high that small farmers in third world countries will not be able to afford seeds for GM crops, thus widening the gap between the wealthy and the poor.

300

B2

Paragraph   Heading

Introduction

What are some of the advantages of GM foods?

1

_____

2

_____

3

_____

What are some of the criticisms against GM foods?

4

_____

5

_____

6

_____

7

_____

C1 Only six of the statements (A–H) below are true according to the whole passage *Genetically Modified Foods*. Choose the true statements and put them in the order the information appears in the passage.

A statement may refer to information in one or two paragraphs.

(จากประโยค 8 ประโยค **A-H** ด้านล่าง จะมีเพียง 6 ประโยคที่ถูกต้องตามเนื้อเรื่องในบทความ Genetically Modified Foods ในหน้าที่ **4,** ให้เลือกประโยคที่ถูกต้อง 6 ประโยคแล้วนำมา เรียงลำดับเหตุการณ์จากเนื้อเรื่องที่อ่าน ประโยคหนึ่งประโยคอาจจะเกี่ยวข้องกับข้อความหนึ่ง หรือสองย่อหน้า) **Write your answers in the Answer Box C1.**

Statements

A.   GM crops may interact with other plants in unexpected ways.

B.   GM food crops have more protection from a number of damaging conditions.

C.   If producers only think about making money, GM may be too expensive for many growers.

D.   It is difficult to detect cross-contamination from GM crops in food products.

E.   GM foods designed to solve food-production challenges might have surprising health risks.

F.   Patent enforcement is a difficult and unnecessary regulation.

G.   GM plants can sometimes kill harmless animals living in the area.

H.   With their new features, GM crops may help deal with some health problems.

ANSWER BOX C1

1	
2	
3	
4	
5	
6	

C2   The people below all want to get some information from an internet website. There are descriptions of eight websites.

Decide which website would be the most suitable for the following people.

1   Rosie is 20 and studies Spanish and German. She's planning to spend six months at a German university and, before going, she wants to find out what life there is like for people of her age.

2   Eric is keen on teaching himself languages. He's going on holiday to Spain next year and would like to be able to say some simple things in the language when he gets there.

3   Claudia is learning about life among the ancient Romans. Her teacher has asked her to choose a famous Roman and find out as much as she can about him or her.

4   Ivan teaches history. He wants some information about the changes that have taken place since earliest times in the ways in which people exchange ideas.

5   Miriam wants to encourage her children to find out something about classical music. They need basic information but she also wants them to have some fun while they're learning.

ANSWER BOX C2

1	
2	
3	
4	
5	

Appendix 5.2

Extract from think-aloud transcripts

Skim อืม การใช้ skimmingfor the main idea//ok a team player// a team player// I am an Australian teacher at high school in sdyney//อืม เป็นเรื่องเกี่ยวกับครูชาวออสเตรเลีย อ๋อ สอนอยู่โรงเรียนไฮสคูลที่ซิดนี่ย์ i teach english as a second langageอืม สอนเกี่ยวกับภาษาอังกฤษ เป็นภาษาที่สอง//a couple of years ago//สองปี สองปี สอนมาสองปีแล้วก็ไปเจแปน I went to japan to teach English at a high school for one year//โอเคสอนที่ญี่ปุ่น// เป็นครู ภาษาอังกฤษเหมือนกันที่โรงเรียนไฮสคูลหนึ่งปี I quickly schools in two countries are very difference///อืม โอค เอา paragraphสุดท้ายก็น่าจะเป็น aying ideas is very different this team pl i was taught //in australia the individual who is important not the group//from australia culture //from a very early ageน่าจะเป็นเรื่องที่///ในความคิดเป็นอะไรที่แตกต่าง วัฒนธรรมทาง ออสเตรเลีย ก็ไม่น่าจะใช่ but after a year in japan I learn เกิดการเรียนรู้ขึ้นมา that cultures are different and that it is not a question of which one is better อืม อืม ดู paragraph แรก paragraph แรกก็ I was wrong instead of a noisy debate with different viewpoints//there was almost silence the students whispered briefly///I was surprised at the time but I now realize///คำถาม คำถามบอกว่า use the strategy to skim the text ใช้ อย่างไรดี ใช่ความสำคัญ อ่านเร็วๆ I taught English for a year in japan ก็ไม่น่าจะใช่ อันนี้ไม่ น่าจะใช่หรอก ข้อแรกตัดทิ้งไปเลยbeing a team player is very important in japanese culture 2 // อันนี้// เป็นการเริ่ม 3 there are lots of differences between//a team player อืม ข้อ 2ข้อ 3 เข้าข่าย แต่ อ่านอีกทีหนึ่ง paragraph แรกใช่มั�้ย ย่อหน้าที่สอง in my first class//to discuss question on the blackboard who has more advantage in society สังคม men or women ผู้ชายหรือผู้หญิง in my class in australiaนักเรียนที่ออสเตรเลียของฉัน this topic get everyone talking even though the students make lots of mistakes with English อืม missก็แปลว่าไม่ เดี่ยวนะ each one wanted to sayต้องการท่จะพูด บอกอะไร for me what this meant//meant แปลว่าอะไรน้อไม่รู้จัก -E-MA-N- Tอันนี้ก็แค่ส่วนขยาย ส่วนขยาย อืม ตัดมาที่นี่เลย I was I was confident that the same thing would happen///ข้อ 2 ข้อ 3เข้าข่าย i was surprised// at that time อืม //ก็คือเป็นครู อยู่ออสเตรเลียสองปี จากนั้นก็ย้ายไปที่ญี่ปุ่นหนึ่งงปี paragraph ที่ 5 ย่อหน้าที่ 5 paragraph//learning how to be a good player เรียนรู้เกี่ยวกับวิธีการคือเล่นเป็นทีมที่ดีเหรอ

in japan begins at early age//in a class//children are often organized into groups and taught how to study or play together อ๋อ อืม this emphasis on being a good team player continues in the workplace and in all aspects of society//this team ย่อหน้าที่ 6เป็นเรื่อง เกี่ยวกับความแตกต่างระหว่างวัฒนะธรรมออสเตรเลีย คือ เข้าใจแล้ว เข้าใจแล้ว เป็นเรื่องเกี่ยวกับ ความแตกต่างให้//น่าจะ อืม อันนี้เป็นย่อหน้าสุดท้าย เพราะฉะนั้นแล้ว ข้อ 2 น่าจะตัดทิ้งได้เลย// อืม this team playing idea is very different ความแตกต่างระหว่างออสเตรเลีย วัฒนธรรมออสเตรเลีย Australian culture อ๋อ in Australia it is individual who is important not group// I was taught from early age to may my own decisions อืม อันนี้แปลว่าอะไรน้อ ไม่รู้ to become my own person// at first//at first I did not really understand the Japanese way of thinking about team playing/// อืม playing น่าจะเป็นข้อนี้ เพราะว่ามันอยู่ paragraph สุดท้าย มันอยู่ที่ย่อหน้าสุดท้าย เพราะฉะนั้นข้อ 1 ตัดทิ้งเลย ข้อ 1 ไม่เกี่ยว อืม after a year in japan I learned that cultures are different/// and that is not a question of which one is better// กลับมาดู การใช้ skimเรียน ไปแล้ว ข้อ 1 ไม่น่าจะใช่//ระหว่าง team player is very important in japan culture มันเป็นเรื่อง เกี่ยวกับสองประเทศ ออสเตรเลียกับเจแปน///there are lots of differences between Australia and japan ดูอีกครั้งหนึ่งก่อน น่าจะอยู่ paragraph ย่อหน้าสุดท้าย// culture are different// and that is not a question of which one is better///อืม ก็คือเปรียบเทียบ which one is better เพราะฉะนั้น แล้ว main idea น่าจะอยู่ที่ข้อ 3 เพราะมันเป็นเรื่อง which one//there are lots of difference between Australia and japan ok ได้คำตอบแล้ว

Appendix 5.3

Extract from interview transcripts

T: Hello! Please introduce yourself

S : My name is ....

T: I'm...

S: My name is ....

T: How're you today?

S: I'm fine , thank you.

R: Ok, we're having informal interview today. How did you feel when you first attend this reading course?

S: The test was so difficult. I didn't understand what the text was about.

T: Did you understand any word?

S: I sometimes don't understand because I don't know the meaning of vocabulary.

S: Yes, there were many difficult words in the test.

S: I agree

T: How about after taking the course?

S: I've learnt more about the techniques or strategies. I used to read without any technique, and didn't understand the text at all.

S: Before taking this reading course, my vocabulary knowledge was limited. But after I learnt the strategies such as skimming or scanning, I used these strategies that help me understand the text without looking for the meaning of every word.

S: That means strategies help you improved your reading skill, right? Were you nervous when reading?

S: I was so nervous when taking the test.

 Why?

S: Me too.

S: I was nervous when I got low scores

S: At the beginning, I got 2 or 3 scores, but I gained more scores later on.

S: Yes, because we can adapt to the technique.

S: For me, I feel ok. But if my friends scored higher than me , I feel worried.

T: OK, now I'd like to ask you about the role of English in Thailand nowadays?

S: There are a lot of tourists travelling to our country.

S: Yes, we can make more money, and I've more opportunities to use English.

S: I think English play an important role when applying for a job. If you have a good command of English. It is advantage for you.

S: yes, yes

S: If you are good at English, you'll get more opportunities.

T: so you think that English play a big role in your daily life.

S: I read English on websites.

S: I think, English is important for study in higher education.

S: yes, I think so.

T: How?

S: If you choose to study in this field, your English will be develop and you can further your education.

S: It's like English is for career. I want to be an English teacher.

T: you mean that you'll use English for your career, right?

S. yes.

T: OK, let's talk about reading, How do you use reading in English in your daily life?

S: A lot

T: Can you explain?

S: I read the labels of product in English. Some products haven't got any instruction in Thai. So we have to read in English.

T: What else?

S: I use English to read newspaper. I found some slangs.

S: yes, there are some   colloquial in there.

S: So you can learn English from reading English newspaper.

T: Anything else?

S: Yes, I read on the website. There are so many English websites nowadays.

S: I also read the signs on the public bus.

T: Ok.That means you use reading quite a lot in your daily life.

S: I read the subtitle when watching English movies.

T: Can you read all of them?

S: Of course not.

T: This is also a good way to practice your English. You're supposed to do quite often in order to improve your reading. Now, I'd like to ask you about what methods do you think will be suitable for teaching reading?

S: I think the method you use in class good but sometime when I use it by myself, I don't understand. I've to practice more.

S: .I agree ,yes

S: I always come across with unknown words.

T: So what methods do you think is suitable to teach reading, then?

S: I think the reading strategies you taught is good but we have more reading.

S: I can make use of reading strategies. It made me read the text more quickly. I read the first paragraph and last paragraph as you taught and I can understand the main idea of the text.

 S: I used to read from the beginning till the end. Sometimes, I read only five sentences and gave up because I don't understand. I've to use translation all the time.

S: After learning strategies, I just skim the text, sometimes I read only the conclusion.

T: So now you know how to use strategies effectively for your reading success.

S: Yes, I think so.

S: Me too.

S: Yes.

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References

Alderson, J. (1984). Reading in a foreign language: a reading problem or a language problem? In J. Alderson and A. Urquhart (Eds.), *Reading in a Foreign Language* (pp.1-24). London: Longman.

Al-Melhi, A. (1999). *Analysis of Saudi college students' reported and actual reading strategies along with their metacognitive awareness as they read in English as a foreign language*. Unpublished PhD dissertation. Michigan State University.

Anderson, N. (1991). Individual differences in strategy use in second language reading and testing. *The Modern Language Journal*, *75*, pp. 460-72.

Block, E. (1986). The comprehension strategies of second language readers. *TESOL Quarterly*, *20,* pp. 463-91.

Block, E. (1992). See how they read: comprehension monitoring of L1 and L2 readers. *TESOL Quarterly, 26*, pp. pp.319-43.

Brown, J. D. (2005). Testing in language programs: A comprehensive guide to English language assessment (New ed.). New York, McGraw-Hill.

Brown, A. Bransford, J., Ferrara, R., & Campione, J. (1983). Learning, remembering, and understanding. In J. Flavell & M. Markman (eds.), *Carmichael's manual of child psychology, 3*, pp.77-166. New York: Wiley.

Brown, A., & Palinesar, A. (1982). Inducing strategies learning from texts by means of informed, self-control training. *Topics in Learning and Learning Disabilities, 2*, pp.1-17.

Carrell, P. (1989). Metacognitive awareness and second language reading. *Modern Language Journal, 73*, pp.121-34.

Carrell, P. L., Pharis, B.G., & Liberto, J.C. (1989). Metacognitive strategy training for ESL reading. *TESOL Quarterly, 23,* pp.647-78.

Carrell, P. L. (1998). Can reading strategies be successfully taught? *The Language Teacher* (online),22/3,55 paragraph. Available at: http://www.jalt-publications.org/tlt/files/98/mar/carrell.html (Accessed: 12 January 2011).

Chamot & El-Dinary (1999). Learning strategies instruction in the English classroom. JALT.23(6):7-9

Clare. A. and Wilson, J,J. (2006) Total English Intermediate Student's Book: Longman.

Cohen, A. (1986). Mentalistic measures in reading strategy research: some recent findings. *English for Specific Purposes, 5*, pp.131-45.

Cohen, L. & Manion, L. (1994). Research Methods in Education (4[th]ed). London, Routledge.

Cotterall, S. (1990). Developing reading strategies through small group interaction. *RELC Journal, 21*(2), pp.55-59.

Cresswell,J (2002) Research design: *qualitative,quantitative, and mixed methods approaches.* 2rd edn. California: SAGE Publications, Inc.

Crystal, D. (1997). English as a global language: Cambridge University Press.

Davies, J.N., & Bistodeau, L. (1993). How do L1 and L2 reading differ? Evidence from think aloud protocols. *The modern Language Journal, 77*, pp.459-71.

Davies, F. (1995). *Introducing reading*. London: Penguin Group.

Duffy, G. G., Roehler, L. R, & Herrmann, B. (1988). Modelling mental processes helps poor readers become strategic readers. *The Reading Teacher 41*, pp.762-7.

Ellis, R. (1997). Second Language Acquisition. Oxford, Oxford University Press.

Ericsson, K.A., & Simon, H.A. (1984). *Protocol analysis. Verbal reports as data*. Cambridge, MA: The MIT press.

Eskey, D. (1973). A Model programme for teaching advanced reading to students of English as a foreign language. *Language Learning, 23*, pp.169-84.

Eskey, D. (1988). Holding in the bottom: An interactive approach to the language problems of second language readers. In P. Carrell, J Devine, & D. Eskey (Eds.), *Interactive Approaches to Second Language Reading* (pp. 93-100). Cambridge: Cambridge University Press.

Eskey, D. (1989). ESL in the 21st Century. In *PASAA, 19*, pp.8-11.

Faerch,C. & Casper, G. (1987). From product to process-introspective methods in second language research. In F.Faerch and G.Kasper (eds.), *Introspection in second language research* (pp.5-23.) Clevedon: Multilingual Matters Ltd.

Foddy, W.(1993). Constructing questions for interviews and questionnaires: Theory and practice in social research. Cambridge, Cambridge University Press.

Fulcher, G. & Davidson, F. (2007) *Language and assessment*, Oxon: Routledge.

Gillham, B. (2000). Developing a questionnaire. London, Continuum.

Goodman, K.S. (1967). Reading: a psycholinguistic guessing game. *Journal of the Reading Specialist, 6*, pp.126-35.

Gough, P. (1972). One second of reading. In Kavanagh & Mattingly (Eds.) 1972. *Language by Ear and by Eye*. Cambridge, Mass: MIT Press.

Grabe, W., and Stoller, F.L. (2002). *Teaching and researching reading*, Longman, London.

Graddol, David (1997). *The future of English? A guide to forecasting the popularity of the English language in the 21st century.* London: British Council

Graddol, David (2006). *English Next.* London: British Council.

Grant, R. (1994).Comprehension strategy instruction: Basic considerations for instructing at-risk college students. *Journal of reading, 38*, pp. 42-48.

Green, A.(1998). Verbal protocol analysis in language testing research: A handbook. Cambridge, Cambridge University Pre

Green, A. (1998). Studies in Language Testing: Verbal protocol analysis in language testing research. Cambridge: University of Cambridge Local Examinations Syndicate

Harvey, S. & Goudvis, A. (2000). *Strategies that work*. Main: Stenhouse Publishers.

Hawkey, R. (2007). Teaching English at Pre-University, *Triam Udom Suksa commemorative volume, 2,* pp.*14-218.*

Hosenfeld, C. (1978). Students' mini-theories of second-language learning. *Language Association Bulletin, 29*, pp.6-7.

Hosenfeld, C. (1984). Case studies of ninth grade readers. In J. Alderson & A. Urquhart (eds.), *Reading in a foreign language* (pp.231-44). London: Longman.

Johnston, P. (1983). Reading comprehension assessment: *a cognitive basic*. Newark, DE: International Reading association.

Kaewdaeng, R. (1997). *Thai Education System Revolution*. Bangkok: Matichon Publishing.

Kay,S and Jones, V. (2009). New Inside Out Intermediate: Student book. Macmillan.

Kern, R. (1989). Second language reading strategies instruction: It's effects on comprehension and word inference ability. *Modern Language Journal, 73*, pp.135-49.

Khalifa, H. and Weir, C.J. (2009). *Examining Reading*, Cambridge University Press, Cambridge.

Kintsch, W. (2004). The construction-integration model of text comprehension and its implications for instruction. In R. Ruddell & N. Unrau (eds.) *Theoretical Models and Processes of Reading*. (5th ed.) International Reading Association, Delaware.

Koda, K. (2005). *Insights into second language reading*: *A cross-linguistic approach*, Cambridge University Press, New York.

Krashen, S. (1985). The input hypothesis: issues and implications. London: Longman.

LaBerg, D. & Samuel, S. (1974). Toward a theory of automatic information processing in reading. *Cognitive Psychology, 6*, pp.701-33.

McDonough, J.and McDonough, S. (1997).Research methods for English language teachers. London: Edward Arnold.

McDonough, J. & Shaw, C.(1993). Materials and methods in ELT: a teacher's guide. Applied language studies, edited by D. Crytal & K. Johnson. Oxford UK & Cambridge USA: Blackwell.

Munby, J. (1978). *Communicative Syllabus Design*. Cambridge: Cambridge University Press.

Nuttal, C. (2005). *Teaching Reading Skills in a foreign language*. Macmillan ELT.

Olshavsky, J. (1976-1977). Reading as a problem solving: an investigation of strategies. *Reading Research Quarterly, 12*, pp. 655-75.

O'Malley, J., Chamot, A., Stewner-Manzanares, G., Kupper, L., Russo, R. (1985a). Learning strategies used by beginning and intermediate ESL students. *Language Learning, 35*, pp.21-46.

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

Oppenheim, A. N. (1992). Questionnaire design, interviewing and attitude measurement. London, UK: Pinter Publishers.

Ostler, S. (1980). A survey of academic needs for advanced ESL. *TESOL Quarterly, 14*, pp.489-502

Pallant, J. (2005). *SPSS SURVIVAL MANUAL*: *A step by step guide to data analysis using SPSS for Windows (Version 15)*. Maidenhead : Open University Press.

Paris, S.G., Lipson, M.Y., and Wixson,K.K. (1983). Becoming a strategic reader. *Contemporary Educational Psychology*, 8, pp.293-316.

Phakiti, A. (2008). Construct validation of Bachman and Palmer's (1996) strategic competence model over time in EFL reading tests. *Language Testing*, 25, pp.237-272.

Rayner, K., and Pollatsek, A. (1989). *The Psychology of Reading*. Prentice-Hall, Inc., New Jersey.

Robertson, D. (1983). English Language use, needs, and proficiency among foreign students at the university of Illinois at Urban, Champaign. Unpublished PhD dissertation, University of Illinois.

Rumelhart, D. (1977). Toward an interactive model of reading. In S. Dornic (Ed.), *Attention and performance, 6,* pp.573-603.

Rumelhart, D. (1980). Schema: the building blocks of cognition. In R. Spiro, B. Bruce & W. Brewer (Eds.), *Theoretical issues in reading comprehension* (pp. 33-58). Hillsdale, New Jersey: Lawrence Erlbaum.

Sarig, (1987). High-level reading in the first and in the foreign language: Some comparative proess data. In J. Devine, P.L.Carrell. & D.E. Eskey (Eds.) *Research in reading in English as a second language* (pp.105-120). Washington: *TESOL Quarterly*, pp.105-20.

Saunders, M., Lewis, P. and Thornhill, A. (2009). Research methods for business students. 5th edn. Essex Pearson Education Limited.

Smith, L.E. (1988). The Role of English in Thailand: Transition and Tradition. In *PASAA, 18*, pp.1-5.

Soars, J. and Soars, L. (1990). Headway: Intermediate Workbook. Oxford.

Song, M. (1998). Teaching reading strategies in an ongoing EFL university reading classroom. *Asian Journal of English Language Teaching, 8*, pp.41-54.

Spolsky, B. (1989) Conditions for Second Language Learning, Oxford University Press.

Srisa-an, W. (1998). English Language Teaching: A Look Into the Future. In *Thai TESOL, Bulletin , 11*, pp.1-7.

Stanovich, K.E. (2000). *Progress in Understanding Reading: Scientific foundations and New Frontiers*. New York: The Guildford Press.

Thailand. Office of the National Education Commission. (1997). *Education in Thailand*. Bangkok: Office of the National Education Commission.

Tomas, (2003) *underlying the academic reading construct as measured by IELTS*, British Council/IDP Australia Research Reports Volume 9: 157-189.

Upton, T. (1997). First and second language use in reading comprehension strategies of Japanese ESL students. TESL-EJ, [online], 3, 1 Available from : http://tesl-ej.org/ej09/a3.html.

Urquhart, S. and Weir, C. (1998). *Reading in a second language*: Process, product and practice. London: Longman.

Wallace, C. (1992). *Reading. Oxford*: Oxford University Press.

Weir, C. J., Yang, H. & Jin, Y. (2000). *An empirical Investigation of the Componentiality of L2 Reading in English for Academic Purposes*. Studies in Language Testing 12. Cambridge: Cambridge University Press.

Weir, C J (2005) *Language Testing and Validation: An Evidence-Based Approach*, Basingstoke: Palgrave Macmillan.

Winograd, P., & Hare, V.C. (1988). Direct instruction of reading comprehension strategies: The nature of teacher explanation. In C.E.Weinstein, E.T. Goetz, & P.A. Alexander (Eds.), *Learning and study strategies: Issues in assessment instruction and evaluation* (pp.121-139). San Diego: Academic Press.

Wolf, D.F. (1987). Some assumptions about second language text comprehension. *Studies in Second Language Acquisition*, 9, pp.307-326.