EFFECTS OF STRATEGY-BASED READING INSTRUCTION ON ENGLISH READING ABILITY AND READING SELF-EFFICACY OF LOWER SECONDARY SCHOOL STUDENTS

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A Thesis Submitted in Partial Fulfilment of the Requirements

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ผลของวิธีการสอนอ่านแบบเน้นกลวิธีที่มีต่อความสามารถด้านการอ่านภาษาอังกฤษและการรับรู้ความสามารถของตนเองด้านการอ่านของนักเรียนมัธยมศึกษาตอนต้น

นางดวงตา มอนดี้

วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาครุศาสตรมหาบัณฑิต
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By	Mrs. Duangta Mondi
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ดวงตา มอนดี้: ผลของวิธีการสอนอ่านแบบเน้นกลวิธีที่มีต่อความสามารถด้านการอ่านภาษาอังกฤษและการรับรู้ความสามารถของตนเองด้านการอ่านของนักเรียนมัธยมศึกษาตอนต้น (EFFECTS OF STRATEGY-BASED READING INSTRUCTION ON ENGLISH READING ABILITY AND READING SELF-EFFICACY OF LOWER SECONDARY SCHOOL STUDENTS)

อ.ที่ปรึกษาวิทยานิพนธ์: ดร.พรพิมล ศุขะวาที, 279 หน้า

การวิจัยนี้มีวัตถุประสงค์เพื่อ 1) ศึกษาผลของการสอนอ่านแบบเน้นกลวิธีที่มีผลต่อความสามารถด้านการอ่านของนักเรียน 2) ศึกษาผลของการสอนอ่านแบบเน้นกลวิธีที่มีผลต่อการรับรู้ความสามารถของตนเองด้านการอ่านของนักเรียน 3) ศึกษาความสัมพันธ์ระหว่างความสามารถด้านการอ่านและการรับรู้ความสามารถของตนเองด้านการอ่านของนักเรียน และ 4) ศึกษากลวิธีในการอ่านของนักเรียน กลุ่มตัวอย่างประกอบด้วยนักเรียนชั้นมัธยมศึกษาปีที่ 3 ภาคเรียนที่ 2 ปีการศึกษา 2556 โรงเรียนกระเทียมวิทยา จังหวัดสุรินทร์ จำนวน 30 คน การทดลองใช้เวลาทั้งสิ้น 10 สัปดาห์ ได้รวบรวมข้อมูลทั้งเชิงปริมาณและคุณภาพ โดยสถิติที่ใช้ในการวิเคราะห์คือ paired sample t-test และ correlation coefficient

ผลการวิจัยพบว่า 1) คะแนนเฉลี่ยจากแบบทดสอบการอ่านหลังการทดลองของนักเรียนสูงกว่าคะแนนเฉลี่ยก่อนการทดลองอย่างมีนัยสำคัญทางสถิติที่ระดับ $p<0.05$ 2) คะแนนเฉลี่ยจากแบบรับรู้ความสามารถของตนเองด้านการอ่านหลังการทดลองของนักเรียนสูงกว่าคะแนนเฉลี่ยก่อนการทดลองอย่างมีนัยสำคัญทางสถิติที่ระดับ $p<0.05$ 3) ความสามารถด้านการอ่านและการรับรู้ความสามารถของตนเองด้านการอ่านของนักเรียนมีความสัมพันธ์กันในระดับสูง และ 4) นักเรียนใช้กลวิธีการอ่านดังนี้ การใช้ความรู้เดิม การอ่านแบบคร่าวๆ การเดาความหมายจากบริบท การอ่านแบบสแกน การตั้งเป้าหมาย การใช้ผลสะท้อนกลับ และ การประเมินตนเอง ผลการวิจัยยังพบอีกว่านักเรียนทุกกลุ่มที่มีผลสัมฤทธิ์ด้านการอ่านแตกต่างกันมีคะแนนด้านการอ่านและการรับรู้ความสามารถของตนเองด้านการอ่านสูงขึ้นหลังการทดลอง โดยสรุปพบว่าการสอนอ่านแบบเน้นกลวิธีช่วยพัฒนาความสามารถด้านการอ่านภาษาอังกฤษและการรับรู้ความสามารถของตนเองด้านการอ่านภาษาอังกฤษของนักเรียนมัธยมศึกษาตอนต้น

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DUANGTA MONDI: EFFECTS OF STRATEGY-BASED READING INSTRUCTION ON ENGLISH READING ABILITY AND READING SELF-EFFICACY OF LOWER SECONDARY SCHOOL STUDENTS

THESIS ADVISOR: PORNPIMOL SUKAVATEE, Ph.D., 279 pp.

The objectives of this study were to: 1) investigate the improvement of students' reading ability following implementation of the strategy-based reading instruction; 2) investigate the effects of the strategy-based reading instruction on students' reading self-efficacy; 3) examine the relationship between students' reading ability and reading self-efficacy; and, 4) find out what implemented reading strategies students used with their reading. The sample group consisted of 30 grade 9 students who were studying in semester 2, academic year 2013 at Krathiamwittaya School, Surin province. The experiment lasted for 10 weeks. The data was analysed quantitatively and qualitatively. Statistics applied were paired sample t-test and correlation coefficient.

The results of the study revealed that: 1) students' post-test mean score was significantly higher than that of the pre-test for reading ability, with a level of $p<0.05$; 2) students had a higher mean score from the post-questionnaire than that from the pre-questionnaire for reading self-efficacy at a significance level of $p<0.05$; 3) students' reading ability and reading self-efficacy had a strong positive relationship; and, 4) students applied the implemented reading strategies with their reading, including Using Background Knowledge, Skimming, Using Context Clues, Scanning, Goal Setting, Feedback, and Self-evaluation. The results also showed that all groups of students from different reading achievement levels gained higher scores for their reading ability and reading self-efficacy following implementation. It was concluded that strategy-based reading instruction could improve student's reading ability and reading self-efficacy of lower secondary school students.

Department:	Curriculum and Instruction	Student's Signature .....
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Chapter I: Introduction

This section provides background of the study which includes importance of reading, reading ability of Thai students, cognitive development, reading strategies, strategic readers, reading self-efficacy, existing and proposed strategy-based reading instruction. In addition, research questions; research objectives; research hypotheses; definition of terms; research framework; and scope of the study have been presented in this chapter.

Background of the Study

In the age of globalisation, foreign language learning plays a vital role in cultural understanding, communication, career progression, and in study; and, the English language serves as a lingua franca in this manner. In recognition of its importance, the Thai Ministry of Education made Engish one of the compulsory subjects for education in 1996 (Watanapokakul, 2006). Reading ability is a fundamental skill for academic learning as it is a foundation that affects students' other learning skills; and, reading ability is important to Thai students to best allow them to learn new information, expand their knowledge, and progress their careers (Nampaktai, Kaewsombut, Akwaree, Wongwayrote, & Sameepet, 2013). The Report on the Commission of Reading identified the ability to read well as being a significant factor in underpinning a child's success and opportunity in school and beyond (Anderson, et al., 1985).

In the Ordinary National Education Test (O-NET), reading ability accounts for approximately 50 per cent of the test concerning reading comprehension and

vocabulary acquisition (Training and Educational Services, 2012). The result of the O-NET achievement score in the academic year of 2012 presented that the national average score of grade 9 Thai students was 28.71% (Educational Service Area Office 33, 2013), which is relatively low. In addition, "...researchers revealed that the majority of Thai students have some difficulties in English reading" (Jamornmarn & Ruangtakul, as cited in Language Institute Thammasat University, 2012, p. 169; Oranpattanachai, 2010, p. 27). Munsakorn (2012), identified that many Thai students do not understand passages correctly because they do not apply the correct reading strategies. This shows that a number of students need to improve their ability with reading academic texts.

Piaget (as cited in Huitt & Hummel, 2003) stated in his "Stages of Cognitive Development Theory" that children above the age of 12 are in the fourth stage of their cognitive development—*the Formal Operational Stage*—and, at this point should be able to think logically, abstractly and reason theoretically (Sandwell, 1995); and that reading-related activities are linked with cognitive processes (Keat & Ismail, 2011). Therefore, teaching students to become more efficient at reading would both increase their cognitive ability and help raise their learning achievements. Based on Chamot and O'Malley (1994), when faced with new information, the cognitive model of learning indicates that learners select and process information using an active and dynamic process. Within this process, and by retaining or remembering what is deemed to be important, learners can apply this information at the correct time—and this also applies to reading strategies. They have emphasised that effective memorisation of reading strategies will equip the learner with the knowledge of when and how

to apply the appropriate strategy, including the correct time and in the applicable context.

Reading strategies that support the dynamic learning processes are vital for students (Chamot and O'Malley, 1994). When students are taught to use learning strategies, this reduces the level of their anxiety, and can assist them to obtain the confidence they need to do the task best (Khaldieh, 2000). Furthermore, Huang (2006) identified that teaching reading skills is one of the three vital factors in motivating students to read efficiently; the other two being having teachers available to answer questions, and highlighting key points in text books.

If students either approach or possess negative feelings about their reading, then teaching will be less efficient and any reading efficacy benefit reduced (Casteel, Isom, & Jordan, 2000). All strategies can be learned and these strategies equip students' with the necessary skills to become successful readers. Academic language learning is more effective with appropriate learning strategies as these help to ensure that readers not only know which strategy to use for a particular reading task, but also how best to apply it (Chamot & O'Malley, 1994). Strategic readers are active and effective readers (Baker & Brown, 1984a; 1984b; Pang, 2008), and, as reading strategies can be transferred to different tasks, readers can apply different skills to construct correct meaning; and, "It is essential that learners make individual choices about which strategies to use" (Wright & Brown, 2006, p. 23). Non-strategic readers may encounter difficulties in their reading (Paris, Wasik, & Turner, 1991) and, if this hinders academic

achievement at an early age, may affect the way readers learn throughout their lives (Anderson, et al., 1985; Pang, 2008).

Research has shown that strategic readers are effective learners and will learn, retain, and use information effectively (Chamot, et al., 2002). Also, being mentally active, they analyse and reflect on their own learning activities and, when faced with new information, assess the best approach using a combination of known learning strategies and their own background knowledge. Furthermore, effective strategic readers will possess a wide gamut of skills including: comprehension, knowing how to anticipate the language structure; search, evaluate, and analyse the text; agree or disagree with text, reading with fluency and expressions, text prediction, problem solving, using verbal and non-verbal clues, connecting ideas, and synthesizing (Grow, 1996). When strategic readers approach any given task, they know they can accomplish and succeed as they have the strategies, the skills, the self-belief and the confidence to do so—*self-efficacy*.

Self-efficacy has been linked to an increase in the level of academic achievement (Multon, Brown, & Lent, 1991). It has been shown that readers who have high self-efficacy—the belief in oneself—can read more efficiently than those who do not (Scott, 1996). By training students to be more efficacious, and to have belief and confidence in their ability, can help to develop student reading comprehension (Schunk, 2003). Therefore, and as a direct result, as this level of student self-belief rises so will their self-efficacy and, ultimately, their reading ability. As their reading ability rises, so will their self-efficacy, and their confidence in their learning ability (Smithson, 2012; Zimmerman, 1990;

Zimmerman & Pons, 1986). Casteel, Isom, and Jordan (2000) stated in order to become an active reader, an individual must have a higher reading self-efficacy. In addition to positive response from teachers, Schunk (2003) found that modelling, where students try to mirror the success of their mentor; goal-setting, where they aim for a particular objective; and student self-evaluation, assessment of personal progression, are three instructional methods that help to raise reading self-efficacy. There are a number of different reading strategy instructions available to assist students to develop reading ability and reading self-efficacy, each offering an alternative approach.

Within this present study, three different explicit instructional frameworks that have been synthesised to form one single reading strategy instruction, these are: Patterson's (2010), Rosenshine's (1997), and the Cognitive Academic Language Learning Approach (CALLA) proposed by Chamot and O'Malley (1994). Patterson's framework consists of *Getting Ready for Learning, Modelling, Coaching, Scaffolding and Fading,* and *Applying Knowledge and Strategies in New Contexts.* Rosenshine's framework consists of *Review, Presentation, Guided Practice, Corrections and Feedback, Independent Practice,* and *Weekly and Monthly Reviews.* Last, is CALLA's framework, proposed by Chamot and O'Malley (1994), which consists of *Preparation, Presentation, Practice, Self-evaluation,* and *Expansion.* Each of these individual instructions offers certain benefits and proposes to assist students to read more effectively and independently. The reading strategies instruction proposed in this study consists of the following 5 phases: 5 phases:

Phase 1: Reviewing

Phase 2: Modelling

Phase 3: Coaching

Phase 4: Evaluating

Phase 5: Expanding

Research showed that explicit strategy instruction can affect students' reading comprehension significantly and rapidly; in fact, it can have such a positive effect, that even students who receive less-explicit strategy instruction, such as the control-group, demonstrated higher reading self-efficacy scores at the post-test readings (Nelson & Manset-Williamson, 2006). Kitsantas, Zimmerman, and Cleary (2000), found that the observation and practice of a modelled skill increases self-efficacy and interest. They also stated that modelling a skill to learners before they attempt to master a task plays an important role in motivation and the development of self-regulated learners. A study by McCrudden, Perkins, & Putney (2005), explored whether explicit strategy instruction in reading strategies (including modelled strategy use) and practice would affect students' self-efficacy and interest in the use of reading strategies. The findings revealed that students' self-efficacy and interest did increase following explicit strategy instruction and practice. Furthermore, their findings also suggested that modelling and practice of cognitive skills, such as reading strategies, can increase students' self-efficacy and interest in using strategies to learn; and, according to Zimmerman & Kitsantas (1997), these are vital components of motivation and task persistence.

Therefore, this study has investigated the extent to which the reading strategies instruction proposed helps to raise Thai students' reading ability and reading self-efficacy, as well as the relationship between reading ability and reading self-efficacy of lower secondary school students. The finding would yield the beneficial results about explicitly teaching reading strategies to help teachers in improving students' academic reading achievement and would assist students to read more effectively and dependently.

Research Questions

1. To what extent does the strategy-based reading instruction improve students' reading ability?
2. To what extent does the strategy-based reading instruction improve students' reading self-efficacy?
3. What is the relationship between students' reading ability and reading self-efficacy?
4. How does the reading strategies-use checklist help to explain students' reading ability following implementation of the strategy-based reading instruction?

Research Objectives

1. To investigate the improvement of students' reading ability following implementation of the strategy-based reading instruction.
2. To investigate the effects of the strategy-based reading instruction on students' reading self-efficacy.

3. To examine the relationship between students' reading ability and reading self-efficacy.
4. To find out what implemented reading strategies students used with their reading.

Statement of Hypotheses

Previous researches have shown that instructing students in reading strategies can help improve students' reading ability and reading self-efficacy. According to Paris (1998), students who have strategic thoughts and work are more motivated to learn. In order to assist students to think and work strategically, teachers have to choose appropriate instruction for their students. A study by Takallou (2011) showed that students' reading comprehension and metacognitive awareness increased significantly through an explicit instruction. When students learn how and when to apply reading strategies effectively and independently, it can help raise their levels of reading self-efficacy. Moreover, the self-evaluation strategy was also found to improve reading self-efficacy (Schunk, 2003). Research by Mallete, Henk, and Melnick (2004) has shown that there is a link between reading ability and reading self-efficacy. They found students' self-efficacy is positively related and significant to their reading success. Therefore, in this study, the hypotheses were set as follows:

1. Students' post-test scores should be significantly higher than that of the pre-test scores for reading ability at a level of .05.

2. Students should have a higher post-questionnaire mean score than that of the pre-questionnaire for reading self-efficacy at a significance level of .05.
3. Students' reading ability and reading self-efficacy should have a strong positive relationship.

Definition of Terms

1. **Strategy-based reading instruction:** in this study, the strategy-based reading instruction refers to an instructional framework used to explicitly teach reading strategies. The strategy-based reading instruction in this study consists of five phases which has been adapted from Patterson (2010), Rosenshine (1997), and Chamot and O'Malley (1994):

   1. Reviewing, it is when the teacher assists students to activate their prior knowledge and identify gaps. Reading strategy used in this phase is *Using Background Knowledge*.

   2. Modelling, it is when new information is presented and explained. Reading strategies used in this phase are *Skimming, Scanning, Using Context Clues,* and *Goal Setting*.

   3. Coaching, it is when students perform tasks independently, attend discussions, and receive feedback from their classmates and the teacher; the teacher's role is as a coach. Reading strategy used in this phase is *Feedback*.

4. Evaluating, it is when students check their performance to understand what has been learned. Reading strategy used in this phase is *Self-evaluation*.

5. Expanding, it is when students integrate new information and skills with their existing knowledge. Students apply reading strategies independently outside of classroom.

2. **Reading Strategies:** in this study, reading strategies are defined as thoughts or activities that assist in enhancing and reading outcomes. Strategies are divided into three types as follow:

   1. Metacognitive strategies, these include reading strategies namely Skimming, Scanning, Goal Setting, and Self-evaluation.

   2. Cognitive strategies, these include reading strategies namely Using Background Knowledge, and Using Context Clues.

   3. Social/Affective strategies, these include reading strategy namely Feedback.

3. **Reading ability:** in this study, reading ability refers to the ability to figure out of any English printed word using context clues—*word recognition*—and the ability to understand and interpret the meaning of an English text—*reading comprehension*. The reading ability test is used to evaluate the students' ability in word recognition and reading comprehension. The test items promote students' use of the reading strategies: Goal Setting, Using Background Knowledge, Skimming, Scanning, Using Context Clues, Self-evaluation, and Feedback. Based on Bloom's Taxonomy, the

test items support the students in both lower-order and higher-order thinking skills of comprehension process: remembering, understanding, applying, analysing, evaluating, and creating. Reading ability is determined from the mean score of the pre-test and post-test.

4. **Reading achievement levels:** in this study, reading achievement levels refer to the levels of reading ability that a student is placed based on the reading ability of the whole group. The pre-test is used to divide students into each level. Students who gain 10 scores or lower are classified as low reading achievers-30th percentile. Those who score 14 or higher are classified as high reading achievers-70th percentile. For those who achieve 11 to 13 scores are classified as moderate reading achievers.

5. **Reading self-efficacy:** in this study, reading self-efficacy refers to the belief in oneself to be successful at reading a particular task and mastering complex ideas in an English text. Reading self–efficacy in the questionnaire consists of four elements:

   1. Progress (PR), it concerns a comparison between the present reading performance and the past performance.

   2. Observational Comparison (OC), it concerns a comparison between one's own reading performance and the performance of classmates.

   3. Social Feedback (SF), it concerns encouragements about reading from teachers, classmates, and family.

4. Physiological States (PS), it concerns internal feeling during reading. The levels of reading self-efficacy are determined from the mean scores of the pre- and post-questionnaire; a higher score indicates a higher degree of reading self-efficacy.

6. **Lower secondary school students:** in this study, refers to lower secondary school students who are studying in grade 9, semester 2, academic year 2013 at Krathiamwittaya School, Surin province.

Scope of the Study

The sample of this study was lower secondary school students who were studying in grade 9, semester 2, and academic year 2013 at Krathiamwittaya School. The sample group consisted of 30 students and the age range was from 14-15 years old with 25 females and 5 males. Krathiamwittaya School is a state institution and provides education ranging from grade 7 to grade 12 of secondary school level. The total number of students is 880, which classifies it as a medium school. Krathiamwittaya School was established in 1981 and is located in Kratiam Sub-district, Sangkha district, Surin province, Thailand. The campus is surrounded by many different types of trees and rice fields. The majority (95%) of the students' family are rice farmers, and all of them are Buddhists. At home, most of the students use regional dialects, i.e. "Khmer", which is similar to Cambodian; "Isan", which is similar to Lao; and "Suay" or "Gui". They use both Thai and their own dialects to communicate with each other at school. However, they need to use Thai to communicate officially and when outside of their community. The ability of students in using the English language is relatively low,

which is presented by the O-NET achievement scores in the academic years 2008, 2009, 2010, 2011, and 2012 as being 28.82, 17.69, 11.92, 26.81, 25.60 per cent respectively.

This study took 10 weeks for collecting the data and there was one independent and two dependent variables:

1. The strategy-based reading instruction, which was the independent variable.
2. Reading ability, which was the first dependent variable.
3. Reading self-efficacy, which was the second dependent variable.

Other intervening or extraneous variables that might affect the dependent variables have been taken into account to prevent study results being compromised. These are as follows:

1. Participant variables, the participants in the study had similar characteristics: they were studying in the same class and, as they have been studying together for two-and-a-half years, had the same educational background knowledge. All participants were of a similar age, lived within a close radius, belong to the same ethnic group, shared the same culture, had comparable language proficiency, and similar home environments. They have been instructed that they were not permitted to take any special lesson, do activities, or attend tutorials related to the English language during the course of

the implementation. Moreover, one hundred per cent participation was required and if the student missed a class they would be excluded from the study.

2. Situational variables, the participants took pre- and post-test in conditions which mirror each other. For example, where possible, to attempt to replicate conditions, the post-test was on the same week day, at the same time, and students were required to sit in the same seat in the same classroom as the pre-test.

There were a number of variables that cannot be controlled, both internal and external to the learning environment. Some examples include: whether or not they have any familiarity with the strategies being taught, and if these have been taught explicitly or implicitly. The student may have physical limitations or ailments that affect their learning and test results; and, their interests, attitudes, and perspectives towards the topics presented in class, their fellow students, and the teacher may vary on given days. In addition, students may have different background knowledge, dissimilar language exposure away from the learning environment and, different study facilities within their homes.

These uncontrolled variables have been considered as they may or may not have impacts on the results. Therefore, randomization and blocking methods was employed in this study in order to avoid such problems. The randomization

was used to obtain the random numbers of students sitting in groups of five and the sequence of the topics taught in class; the blocking was used to divide the experiment into different groups on different weeks to prevent adverse effects (See Appendix D).

Outlines of the Study

Chapter I is the introduction section that provides background to the present study including research questions, research objectives, statement of hypotheses, definition of terms, and scope of the study.

Chapter II reviews the theoretical frameworks and previous research studies that are considered to be relevant to the study. The proposed strategy-based reading instruction and research framework are included.

Chapter III deals with the research methodology of the study. This includes research design, population and samples, research instruments, research procedures, and data analysis.

Chapter IV presents the result of the study in accordance with the research questions.

Chapter V summarizes the study, discusses the findings, and suggests implications and recommendations for teachers and further research.

Chapter II: Review of the Literature

This section includes defining reading ability; identifying the types of reading models; different process levels; existing studies on reading ability; reading self-efficacy, definition, sources, and assessment; influences on reading improvement, including modelling, goal-setting, self-evaluation, and feedback; previous studies on reading self-efficacy; an overview of reading strategies, strategic readers, the strategy-based reading instruction and how to teach and apply them in the classroom; proposed reading instructional framework; and, previous studies on strategy-based reading instruction..

Reading Ability

Definition of reading ability.

Several educators have provided the meaning of reading ability. Anderson, et al., (1985) defined reading as "...the process of constructing meaning from written texts. It is a complex skill requiring the coordination of a number of interrelated sources of information" (p. 7) . Leipzig (2001) has defined reading as a multifaceted process which involves word recognition and comprehension together in a fluent manner. She added that reading is constructing meaning from print that readers require to:

1. Identify the words in print—a process called word recognition
2. Construct an understanding from them—a process called comprehension

3. Coordinate identifying words and making meaning so that reading is automatic and accurate—an achievement called fluency.

Perfetti (1985) stated that reading ability is to be understood in the perspective of the cognitive process of reading: First, lexical access, or word recognition processes are applied to identify words; and second, comprehension processes are applied to build a representation of text meaning. Word recognition processes relate to the familiar ideas that a reader already possesses in their memory; comprehension processes allow the reader to obtain understanding of the text to allow them to answer simple questions, such as what, when and how? Perfetti has defined reading ability as the speed and comprehension of reading texts; plus he also explained that having an average or above reading speed relative to their age group and an above average comprehension ability classifies a person as a skilled reader. Word recognition is critical in reading and is vital in being able to read and comprehend faster. A recent study has found that the ability to identify words substantially influenced reading comprehension (van Kraayenoord, Beinicke, Schlagmüller, & Schneider, 2012).

Watanapokakul (2006), highlighted that Thai students struggle with reading comprehension tests and overall reading ability because they are deficient in both vocabulary and knowledge of how to derive the meaning of unknown words. Kruekaew (2008), stated that reading ability is essential for Thai students studying English and that vocabulary knowledge is required in addition to just being able to read words; and, this can aid in developing reading speed, comprehension, positive attitude and motivation (Wan-a-rom, 2012).

In addition to possessing a certain level of inherent ability at reading, to become an effective reader, a learner must also have the necessary physical and mental capability to permit them to achieve their goals. Chamot and O'Mally (1994) further added to this by stating that those readers who are skilled enough to have a fundamental understanding of the reading processes and their meaning, can use their ability, expertise and education to evaluate and understand texts. This realisation and skill, equips them with the desire and the tools to succeed, the belief in furthering their learning, the importance and the benefits of doing so, and the realisation that to master a skill often requires continued focus, practice, and self-evaluation.

In conclusion, reading ability refers to the ability to figure out any printed word using context clues—word recognition, and the ability to understand and interpret the meaning of a text—reading comprehension. In order to aid students to improve their reading ability, reading models are used.

Models of reading.

Three main methods, or models, have been identified to help students improve their reading ability. The first model focuses on the reading material itself whereby comprehension and understanding is obtained, piece-by-piece, from the bottom-up. The second model focusses more on personal factors and takes into account what the students themselves already know; these include: nationality, education, life experience, knowledge, opinions, and cultural understanding. The third model is a hybrid of the previous two models and incorporates the key elements of each. There is no "one size fits all" model and,

as every student is different, equipping them with a wide range of skills, the required knowledge, and the ability to tackle their reading tasks, will enable them to become effective readers.

Bottom-up models.

Learning begins from the moment a child is born. Their learning progresses through a series of stages, from the simplest of individual tasks, progressively to adulthood. In *The Stages of Reading Development*, Chall (1983) described the passage from birth to adulthood through a series of six stages. These take us from the earliest learning stage through to the highest achievable level of language development and achievement. At the earliest stage, children gather information, one item at a time, and selectively place these until a single section of the puzzle is complete. At the beginning stages of learning, a child has a limited background, prior contextual experience, or higher-level knowledge (Treiman, 2001) and, therefore, has to learn one item, or part, at a time—the bottom-up approach to learning (Dechant, 1991). For example, as a learner obtains the basics of the language they will derive the meaning of written texts in a complex, systematic fashion by first identifying the written letters, and then arranging them into meaningful speech sounds (Gough, as cited in Treiman, 2001). He calls this a "sequential or serial mental process". Of course, the number of these mental processes that the human brain can administer or decode at any one time depends on the individual concerned. Though no figure has ever been offered, research by LaBerge & Samuels (1985) drew a multitasking analogy similar to that between a human brain and a computer. They suggested that the brain attempts to decode and comprehend each task and, when the brain's

memory is full or when the maximum number of decodable tasks has been reached, one task has to be closed before another can be queued, processed and then subsequently decoded. Their theory suggest that if reading is considered a task and this task is practiced enough, subsequent decoding becomes more efficient and, as this task is less processor intensive, improved comprehension is feasible. However, Reutzel and Cooter (2005), have identified that reading is not just about decoding and to become a skilled reader often requires background knowledge and experience to understand and comprehend the material. Furthermore, they then stated a question implying that the whole purpose of reading is actually comprehension. However, application of an individual's prior experience and knowledge to a reading activity is from the opposite end of the learning spectrum to the bottom-up approach—the top-down model.

Top-down models.

Very often, to truly understand and comprehend textual material requires the reader to have some form of previous relationship with the text; such as an element of prior knowledge, of personal experience or, very often, a combination of both. The very purpose of writing itself is to convey meaning and, as opposed to the part-to-whole method—the bottom-up model—which focusses on the individual parts, the top-down reading model relies on the real-life experiences and knowledge of the reader (Boothe, Walter, & Stringer, 1999). Though bottom-up models place little emphasis on students' real-life knowledge, ideas, opinions, or experiences, Treiman (2001) declared that the whole-to-part—the top-down model—promotes these very factors as being

essential to any reading process. Dechant (1991) further added that readers will only identify letters and words when they want to verify textual meaning. Remembering that the goal of reading is to construct meaning from text (Smith, 1994; Ur, 1996), in a top-down reading model, readers can use syntax, semantic clues and other interactive materials to assist (Goodman, 1981; Rajabi, 2009). In addition, rather than extracting meaning and context from the written word, this interactivity allows the reader to analyse, select and contribute ideas and suggestions from both their own experiences and their own knowledge to aid understanding and comprehension (McCormick, 1988; Aebersold & Field, as cited in Qiu-mei, 2007). Studies by Block (1986) and Chamot and El-Dinary (1999), (as cited in Uso-Juan & Ruiz-Madrid, 2009), show that good readers prefer top-down strategies. Real-life dictates that no single model can be suitable for all situations, circumstances, or students, and some form of hybrid or combination model is often required—the Interactive reading model.

Interactive reading models.

There are many benefits to both models: bottom-up and top-down, and though it is hardly a one size fits all solution, the third model—the interactive reading model—combines both and offers a beneficial and flexible approach whereby the reader processes both the bottom-up textual information while actively applying top-down background, experience, and knowledge to aid comprehension (Horiba, as cited in Gladwin IV & Stepp-Greany, 2008). This approach recognises both the benefits and the importance of what the reader brings to the experience—the top-down reading model—and what is on the page—the bottom-up reading model—thereby allowing the learner to avoids

the pitfalls and disadvantages of both systems (Boothe & Walter, 1999). Clay (1992), stated that when they are learning to read and write, students are equipping themselves with learning strategies as opposed to simply learning a new set of skills. Having the experience and knowledge of how to use this range of skills and strategies will better equip readers with the tools and the flexibility to face any written material. Some of the strategies used with the interactive reading model are: The Gudschinsky Instructional Program, which uses a variety of approaches to reading, including a combination of synthetic, analytical and global methodologies (Halvorson, 1992); the Multistrategy Instructional Program, which relates literacy more to a sociocultural context (Stringer, 1999); and the Interactive Instructional Program, which uses whole passages of text to teach students to read (Walters, 1999). A key factor in each of these instructional programs is that there is no restriction, control, or prevention over which information sources or tasks a learner interacts with (Clay, 1992). To comprehend the models of reading and how they apply to reading comprehension, an understanding of reading comprehension taxonomies and comprehension process levels is required.

Comprehension process levels.

Bloom et al. (1956) referred to six levels of comprehension in their Taxonomy of Learning Objectives: knowledge, comprehension, application, analysis, synthesis, and evaluation. To be more suitable for modern day teachers and students, Anderson and Kratwohl (as cited in Forehand, 2012), modified Bloom's one dimensional structure by first, adapting the *levels of knowledge*;

second, by adding the *Knowledge Dimension* and the *Cognitive Process Dimension*; and third, by changing the *emphasis.*

Anderson and Kratwohl (2001) adapted the levels of knowledge by changing the forms of the six levels to remembering, understanding, applying, analysing, evaluating, and creating. Next, they added the knowledge and the cognitive process dimensions, first by sub-dividing the *Knowledge Dimension* into *factual knowledge*, *conceptual knowledge, procedural knowledge,* and *metacognitive knowledge*; and then by further sub-dividing the *cognitive process dimensions* (Forehand, 2012). The Bloom's Taxonomy chart was then populated as shown in Table 1.1. In the third step of their modification, Anderson and Kratwohl realised that the original taxonomy was adopted and used by many groups for whom it was initially not intended; according to oz-TeacherNet (as cited in Forehand 2012), changing the emphasis made it a more authentic and useful tool with regards to planning, delivery and assessment of both curriculum and instruction.

Table 1.1: Bloom's Taxonomy

Knowledge dimensions	**Cognitive process dimensions**					
	Remember	**Understand**	**Apply**	**Analyse**	**Evaluate**	**Create**
Factual knowledge	List	Summarize	Classify	Order	Rank	Combine
Conceptual knowledge	Describe	Interpret	Experiment	Explain	Assess	Plan
Procedural knowledge	Tabulate	Predict	Calculate	Differentiate	Conclude	Compose
Metacognitive knowledge	Appropriate Use	Execute	Construct	Achieve	Action	Actualise

Marzano (2001) also updated Bloom's work in his *Designing a new taxonomy of educational objective* and in his theory he described three systems explaining how learners approach a new task, how they reach a decision on whether to proceed with the task, the processes they use and, once they have begun, how they further process the information. These systems are: (a) The self-system, which concerns the motivation levels of the learner to begin or persist with the task: If they want to do it or, if they have already started, whether they want to continue. (b) The metacognitive system, which involves the high level strategies necessary to achieve a task: If they know how to plan, monitor and evaluate. (c) The cognitive system, which is the way the person processes the information to complete the task: The steps, processes or procedures they perform. Chamot and O'Malley (1994) have identified the language functions

that are needed in the classroom, and divides them into lower-order and higher-order processes.

Lower-order and higher-order processes.

Based on Bloom's Taxonomy, the categories of thinking are divided into lower-order and higher-order. The lower-order thinking processes are functions such as recalling facts and details, vocabulary identification, learning by rote or memory, or those functions that require simple grammatical structures—the *literal* level (Cuesta College, 2004). Remembering and understanding categories of comprehension process levels are included in lower-order thinking skills. General questions for this level of ability are who, what, when and where-type. Tests at this level will tend to favour objective tests such as true or false, fill-in-the blank, or multiple choice questions. The higher-order thinking processes are where learners are required to speculate, predict, and synthesise about their reading material (Chamot & O'Malley, 1994). This includes creative, critical, inquiry, insight, logical, metacognitive and reflective thinking (King, Goodson, & Rohani, 2000). The comprehension process levels: applying, analysing, evaluating, and creating are categorised as higher-order thinking skills. Development and growth of these higher-order thinking skills permits the learner to become involved with more complex language and disorderly structures and, in order for

them to obtain meaningful structure from texts, requires clear thinking and self-regulation (Clarke, 1990). Furthermore, higher-order thinking processes are often required to counter complex real-life problems and situations. Teaching learners these processes provisions them with indispensable skills to resolve such episodes and advances and improves their lower-order thinking skills, knowledge, experience, and self-esteem (DeVries & Kohlberg; McDavitt; Son & VanSickle, as cited in King, Goodson, & Rohani, 2000).

Studies related to reading ability.

Several researches have investigated how to improve students' reading ability. Studies by Allington (2001); Heilman, Blair, and Rupley (2001), and Reutzel and Cooter (2003) stated that with the correct materials and organisational support to teach reading, highly-motivated, flexible and professional teachers are principal elements in the successful outcome of student reading achievement. In a previous study, Huang (2006) has examined what motivates students to engage in English reading texts in an EFL context. Huang constructed a questionnaire that included 18 statements describing various scenarios in which the students were motivated to read. Descriptive statistics of the finding showed that the students were most willing to read under three distinct circumstances: (a) when teachers were available to answer the questions; (b) when key points were highlighted clearly in textbooks; and, (c) when reading skills were taught. These three conditions are vital factors in motivating students to read efficiently.

McNeil (2010) has explored a study by implementing a self-questioning reading comprehension strategy to a sample group of students for a period of 10 days. It found that students' reading comprehension significantly improved. The study has shown that after implementing the instructional treatment—teaching how to use self-questioning—the result of students' post-test was higher than the pre-test of reading comprehension. This study also reasoned that self-questioning and reading comprehension are related. In a more recent study, Al-Alwan (2012) has investigated metacognitive reading strategies—*planning, monitoring, evaluating*—on students' reading comprehension over a period of 5 days. The study found that these strategies can help enhance levels of reading comprehension. The study also indicates that the students who were taught reading texts through the use of metacognitive reading strategies scored higher than those who were taught through the use of traditional methods; this applied at all levels of reading: total reading comprehension, literal reading comprehension, analytic reading comprehension, and evaluative reading comprehension. He added that those students who were taught using this metacognitive reading strategy appeared to become aware of the different strategies that are needed in the process of reading. Kashef, Viyani, Ghabool and Damavand (2012) have conducted a study to investigate how a learning-centred method of reading instruction which teaches reading micro-skills can improve reading comprehension ability of students. In the implementation procedure, they introduced and taught a number of micro-skills as a pedagogical framework for a period of 4 months, namely: skimming, scanning, identifying the purpose, and summarizing. Their finding showed that students' reading comprehension

improved as a result of the instruction used. Nevertheless, students with different reading achievement levels might need different methods in order to help improve their reading more effectively.

Research by Duke (2013), has identified that many high achievers in US schools slip over the course of their schooling; that one-third of all states showed a decline in high achievers between 2002-2009; and, that though low achievers made significant progress, high achievers stagnated (Center on Education Policy, 2011). A report by Slavin, Lake, Davis, and Madden (2009), showed that though the provision of high-quality classroom instruction has a positive and strong effect on all students, it is particularly beneficial–and perhaps the best approach– for low, or struggling achievers. However, Torgesen (2004), identified that there is no 'one size fits all' model and that students with lower levels of reading skill may benefit from smaller-group instruction; and, that different instruction is provided to different groups and classes based on specific needs. Indeed, Pfeifer (2006) identified that students with a lower social background require better family and institutional support and that discipline, structure and reading strategies can contribute to their achievement.

Several studies have shown that reading ability is related to reading self-efficacy—the level of belief in one's own ability to successfully complete any given task or objective necessary to achieve goals. Self-efficacy affects people continually on a day-to-day basis by influencing not only how tasks are approached, but in the choices and decisions that are ultimately made to overcome the challenge. Consequently, as it effects learning outcomes, several educators are interested in, and have explored, this topic.

Reading Self-efficacy

Definition of reading self-efficacy.

Self-efficacy is one of the self-beliefs (McInroe, 2009) and is defined as one's beliefs about one's own capabilities to learn or perform assigned tasks at a designated level (Bandura, 1977). Bandura explained that self-efficacy affects the level of goals that people set for themselves; it also affects their commitment to those goals. Those who have high efficacy will increase their effort when their performance is lacking and they are unable to achieve their goals; whereas those who have low efficacy tend to become discouraged and demoralised. This means that when people believe in their ability they will be able to accomplish much more than someone with the same ability who lacks in confidence.

Reading self-efficacy refers to an individuals' assessments of how well they think they can accomplish a particular reading task and is influenced by how well they have performed on similar tasks; this includes any accompanying, feedback and encouragement received." (Wigfield, Guthrie, Tonks & Perencevich, as cited in Ferrara, 2005, p. 216). Guthrie and others (as cited in Worakitsawat, 2007), described reading self-efficacy as one's beliefs in one's own capabilities to read several types of challenging texts and books, and in having confidence in one's own reading skills. They defined the following eight characteristics of self-efficacy for reading:

1. Belief in oneself as a good reader
2. Confidence in reading

3. Knowledge and use of strategies in reading
4. Ability to recognize most words
5. Ability to work out and obtain the meaning of unfamiliar words
6. A preference for challenging books
7. Feedback from parents or teachers about being a good reader
8. Statements about oneself as having the ability to either read well or be better than other students.

Thus, reading self-efficacy can be defined as the belief in oneself to be successful at reading a particular task and mastering complex ideas in a text. Self-efficacy and reading self-efficacy can be influenced in a number of ways and from a number of sources.

Sources of self-efficacy.

Bandura (1977) suggested four main factors that influence individuals' beliefs about their self- efficacy.

1. Mastery experience
2. Peer pressure
3. Encouragement from others
4. Positive outlook

Mastery experience.

Mastery experience is the first and foremost influence on self-efficacy. When students do well at an activity they will develop a positive sense for that activity. When students experience failure they feel insecure about their

capabilities. Once they begin to develop the belief in their ability, their efficacy will build and they will then have to be given continually challenging tasks in order to learn that success does not come easy and has to be earned; if not, they will think that the tasks are too difficult to master and their confidence will suffer.

Peer pressure.

Models, or mentors, are sources of inspiration, aspiration and competency. When students see someone performing well and then being commended for that skill, they are more inclined to want to emulate that person in order to receive that same level of praise. If the model they observe has similar characteristics to them and performs a successful task, this raises the observer's efficacy beliefs that they also have the capabilities to do that task. These role models will give a student something to strive for and help to develop their self-efficacy further.

Encouragement from others.

Encouragement is also critical in developing self-belief and motivation within individuals. When students are given encouragement from those whom they respect, such as a teacher or their family members, they are effectively instilled with self-efficacy. Therefore, praise and support from the moment the learner starts to do an activity will ensure that they develop a positive feeling towards the task and that they will enjoy doing the activity more; in addition, they will also feel good about their endeavour which assists in further developing their self-efficacy

Positive outlook.

The fourth influence concerns physiological and mood stages. When students are depressed or feeling down they have a lower sense of efficacy, which will have a negative implication and effect their performance. For example, if a student is suffering from an illness this will have a detrimental influence on their outlook towards a task. However, when their outlook is positive they view their experiences in a different way and then use this enthusiasm to develop their efficacy. As an example, when faced with an obstacle, a students who is feeling negative is more inclined to let it stop them, whereas a student who is feeling positive is more likely to try to overcome it.

Factors affecting reading self-efficacy.

A number of factors that affect reading self-efficacy have been stated and principal among these are modelling, goal setting, self-evaluation and feedback. First, Schunk (2003) identified modelling as an important element in helping students' learning, and that successful repetition via mirroring assists skill mastery and elevates student self-efficacy. Second, goal-setting gives learners something to aim and work towards and, as stated by Locke, Shaw, Saari, and Latham (1981) and Locke and Latham (2002), being specific about goals has a direct impact on raising performance. Third, self-evaluation actively involves students in their own learning and makes them aware of the responsibility of their own education; consequently, this should be actively encouraged by teachers (Sloan, 1996). Last, according to Black and Williams (as cited in Frawley,

2010), feedback gives learners specific information about their work, suggestions for improvement and, if there are problems, what they are, and how to fix them.

Modelling.

It is important that students believe they can complete a new skill or a task and having first-hand experience of observing is an extremely effective method of learning knowledge and new skills (Bandura, 1986). This observational learning is known as modelling, imitation, or mirroring; and, by seeing the activity successfully completed step-by-step, the learner then knows that no matter how complex the task, by imitating the model they will be able to master that task (Bandura, 1977).

Bandura has identified four components as part of the modelling process:

1. Attention
2. Retention
3. Motor reproduction
4. Motivation

In order to learn by observation, one must observe. The first process component is *attention*, and it indicates that learners must focus on, and attend, the key features of the task being performed; only then can they mirror the

actions and behaviour of the model (Allen & Santrock, 1993). The second component, is *retention*. Learners must be able to retain the significant features of the task being performed in order to reproduce them. In addition to being reproduced, this information needs to be retrievable at the required time and must, therefore, be coded into long-term memory. The third step is *motor reproduction*. This is where the observer recalls the required information and uses it to replicate the model's actions and complete the task. The last process component in modelling is *motivation*. If a task is successfully reproduced, and the goal or target is achieved, the learner expects to receive encouragement for this. This is key in improving self-efficacy. The application of observation and guided practice to the core skills of *scaffolding, modelling,* and *coaching,* enables students to build a varied and integrated skill-set (Collins, Brown, & Holum, 1991).

In addition to modelling–the provision of clear and direct visual instruction for explicit learning–the *think aloud* method–a process where the teacher verbalises their thoughts–provides clear and direct, explicit oral instruction to support the modelling process and to aid and reinforce student comprehension; and, the teaching of direct comprehension strategy instruction aids in the development of students and ensures they better acquire the necessary skills to become efficient independent learners (Montague & Tanner, 1987; Pearson P. D., 1985; Pearson & Gallagher, 1983). Moreover, think aloud is

an effective method of instruction as it enables students to hear the teacher's thought processes during reading teaching practices, it enables them to replicate the process as required, as well as allowing teachers a means of assess individual students' needs and to model their own reading strategies accordingly (Oster, as cited in Block and Israel, 2004; Wilhelm, 2001). According to Block (2004), when asked how teachers could best help improve their comprehension, the response showed that the most benefit would be if teachers could describe how they understood certain events in books, explain how they linked the correct meaning to relevant words, and clarified as to how 'everything' fitted together in their minds.

Think aloud is perceived by teachers to be difficult to teach (Block & Israel, 2004) as different reading levels require different techniques. For example, one suggestion made is that expert readers identify a 4-step initial thought process before reading: 1) perform an overview of the text, including thinking about the topic and selecting an enjoyable book; 2) looking for important information, mainly focussing on what is important and filtering out what is not; 3) identifying the main idea to comprehend the author's message and obtain the central view-points; and, 4) activate prior knowledge to link with one's own experiences at the same time as eliminating irrelevant or inaccurate information. Then, during the reading process, they begin to: 5) revise their prior knowledge and predict what will happen; 6) identify the author's written style to deduce future events; 7) determine word meanings via various decoding methods; and, 8) ask questions of the text to check validity, clarification, and consistency. Finally, after reading, expert readers then: 9) notice any novelties in the text,

such as how they feel about the material; relate the book to their lives, how it relates to, or affects them; and, 10) anticipate the knowledge from the material to then make use of what has been read. However, for readers with lower levels of ability, other methods may be better served. Chamot (2004), describes the *think-aloud individual interview* where a learner is given a task to complete and is asked to vocalise their thoughts while working on the task. This enables the teacher to aid, guide, and encourage the student with appropriate open-ended questions during the task, which not only aids the student in garnering understanding but, prompts the student with the kinds of questions they should be asking themselves, enables the teacher to better customise questions according to the requirements of each student, and betters enable them to eventually take control of their learning (Duke & Pearson, as cited in Lapp, Fisher, & Grant, 2008).

Goal setting.

Working towards and realising a set goal is an excellent method to raise self-efficacy in students. By succeeding in their aim they sense that reading is achievable and they will receive positive praise and encouragement for successfully completing their task. Moreover, successful completion of a task classifies that as a "mastery experience" (Bandura, 1977), which further raises student motivation and self-efficacy (Schunk, 2001). In addition, working towards a goal also encourages focus and sustained effort toward the completion of that

task (Bandura, 1986). Through goal-setting and by their own observations, judgements and perceptions, students can then assess and readjust their own performance accordingly (Schunk, 2001). Schunk has also identified goals as having the following key features: specificity, proximity, and difficulty.

Student self-regulation and motivation is enhanced when goals are more specific as general goals are, by nature, vague and can be easily achieved by almost any level of performance (Locke & Latham, 2002; Schunk, 2001). Similarly, goal proximity motivates students as the closer a task, the easier it is to maintain focus; and, conversely, the more distant the goal, the harder it is to sustain motivation, performance, commitment and self-regulation (Locke & Latham, 1990). Lastly, is the difficulty of the actual task, or how hard it is to reach the goal. Generally, a difficult task generates higher motivation in an individual than an easy task, because learners realise they must devote more time and energy to actually achieving that goal; however, this only applies if first, the goal is achievable; and, second, it has a desired outcome. Research by Zimmerman and Kitsantas (1999) has shown that outcome goals can be highly motivating and can lead to skill gains; but, if the goal is unattainable or does not have the desired outcome, then students will rarely find the motivation or expend the required

energy to attempt it. Consequently, from a teaching perspective, if students do not possess the necessary skills to complete a task, the learning benefit from attempting such a task is questionable (Locke & Latham, 2002). Attainable goals are motivating for learners and, typically, teachers know what motivates their students to read (Coddington & Guthrie, 2009).

Self-evaluation.

Student participation in self-evaluation is a significant and effective method to involve them in, and take responsibility for, their own learning (Sloan, 1996); it also allows them to focus on the objectives being measured (Rolheiser & Ross, n.d.). Initially, teachers may need to overcome certain preconceived ideas or misconceptions learners may have of self-evaluation, but by clarifying what it entails, and identifying the benefits it offers, may help to overcome students' resistance (Ross, Rolheiser, & Hogaboam-Gray, 1999). This opposition can often be alleviated by teachers posing questions of students that require them to evaluate and think about their own work (Hart, 1999). Moreover, if teachers also self-evaluate their own work through student feedback within class, they are clearly broadcasting the importance and value of such a technique and leading by example (Self-Evaluation, n.d.). As with any new skill or technique, students will encounter problems when monitoring their own learning, and teachers can then assist as required. (Nickerson, Perkins, & Smith, 1985; Smithson, 2012).

In spite of unsubstantiated findings from Locke and Latham (1990), research has also shown that students who set their own goals and self-regulate have higher motivation than those who do not. Students who define their own targets know these are achievable and, as they have actively participated in setting them, will strive harder to achieve them, thereby increasing their motivation and determination to learn (Schunk, 1995). This is particularly evident with student performance on more difficult tasks and even more so with pupils with higher-needs (Henry, 1994), and within those schools that are academically-oriented (Hughes, Sullivan, & Mosley, 1985). Rolheiser (1996) defined the four-stage "Theoretical Model for Self-evaluation" to help students self-evaluate:

Stage 1: Students are involved in defining the criteria.

Stage 2: Students are taught how to apply the criteria to their own work.

Stage 3: Feedback is given on students' self-evaluations.

Stage 4: Students are assisted in developing their own productive goals and action plans.

Feedback can be used effectively to improve the quality of students' work. Furthermore, studies have shown that this feedback was considered fairer and thereby enhanced expectations and requirements (Ross, Rolheiser, & Hogaboam-Gray, 1998b). Moreover, positive self-evaluations encourage students to set higher goals and commit more personal resources to learning tasks

(Bandura, 1977; Schunk, 1995). Conversely, negative self-evaluations guide students towards embracing goal orientations that conflict with learning, selecting personal goals that are unrealistic, adopting learning strategies which are ineffective, exerting low effort, and then making excuses for poor performance (Stipek, Roberts, & Sanborn, 1984).

Feedback.

Feedback is an essential part of learning and enables students to further their understanding, improve their skills, advance their capabilities and generate ideas (Juwah, et al., 2004). Providing information about their behaviour and performance following any given task or activity is beneficial to student achievement (Brookhart, 2008). According to Schunk (2003), progress feedback can help enhance students' self-efficacy. There are a number of feedback strategies that can be used and Nicol and Macfarlane-Dick (2006) have stated that good feedback practice will: help clarify the goals, criteria and standards for good performance; contribute to reflection and student self-assessment; deliver high quality information; provide a means to narrow the gap between current and desired performance; offer valuable information for further teaching; encourage good dialogue; and motivate and promote self-esteem. Sweetland (2012), identified *formative* versus *summative* comments, and also *higher-order* versus *lower-order* concerns as key considerations when giving feedback. Formative comments, such as identifying their strengths and weaknesses, assist students in revision, as opposed to gauging the quality of the completed activity and the actual grade the student receives. Higher-order concerns are those that concentrate on structure and concepts, such as whether or not the ideas make

sense and whether or not the work flows; whereas, lower-order concerns focus more on grammar and style, as opposed to the actual meaning of the text. When providing better feedback, it is important to be descriptive, balanced and objective (Klaber, 2012), as well as motivating to the listener (Race & Page, 2002). Race and Page added that before providing advice, think how the student will feel when they receive your feedback. Comments are given to help the learner, not hinder them. One particular method of preparing feedback is the *wh-?* method: *when*, *where*, *what*, *how* and *why*. *When* refers to a key principal that all feedback should be timely. The closer that feedback is given to the actual task, the more relevant it is to the students and the more likely it is they will remember, relate, and learn from it (Race & Page, 2002). *Where* refers to an appropriate location for giving feedback. For example, one-to-one, to a group, or to the entire class. This also depends on the type of learner and the type of feedback. *What* generally refers to the amount of information that is given to the learner: Too much information will overload the student, whereas too little is ineffectual (Brookhart, 2008). Similarly, the feedback has to be relevant and honest (Race & Page, 2002). According to Hattie and Timperly (as cited in Brookhart, 2008), there are four types of feedback: Feedback about the task, feedback about the processing of the task, feedback about self-regulation, and feedback about the self as a person. However, not all feedback will be positive, and when it is necessary to provide negative feedback, it is important to be specific and non-judgemental (McKimm, 2009). Feedback can be given orally, written, or it can be demonstrated. *How* the teacher does this is dependent on the task, the students, and the best way to help them. *Why* covers a broad range

of topics and principal among these are the reasons for giving this feedback and how it relates to principles, concepts, evidence what actual value will the feedback it be to the recipient (Klaber, 2012). Moreover, there are many different methods for giving effective feedback and doing so involves empathy, skill, and respect and, above all, it should be positive and be of benefit to the learner (Brookhart, 2008). Furthermore, after providing feedback it is important to allow the student to produce improved work, such as repeating the same exercise, to clarify that the feedback has been successful (Boud, 2000).

Assessment of reading self-efficacy.

In assessing self-efficacy, Bandura (2006) suggested that "as self-efficacy is concerned with perceived capability, the items should be phrased in terms of *can do* rather than *will do*. *Can* is a judgement of capability; *will* is a statement of intention" (p. 308). In the standard methodology for measuring self-efficacy belief, participants are presented with items describing different demands according to the level of the task, and they rate the strength of their belief in their ability to successfully complete the required activities. In terms of the formats of the self-efficacy scale, Maurer and Andrews (2000) have compared the reliability and validity of three types of self-efficacy for their study:

1. Traditional
2. Likert
3. General categorical

The finding showed that when assessing the level and strength of self-efficacy for a specific task, the Traditional and Likert measures are useful; whereas, when assessing general confidence of belief, the simplified measure is suitable. One of the popular reading self-efficacy scales is the *Reader Self-Perception Scale (RSPS)*, which was developed by Henk and Melnick (1995) in order to measure students' perception of reading self-efficacy. This perception is key to understanding how effective students think they are as strategic readers and Henk and Melnick's scale enables readers to report on their previous reading experiences; it provides a means to identify the low, middle or high self-perception scores of readers; it can be designed specifically for a required age group; and, it facilitates more effective follow-up for subsequent interviews, analysis and actions. (Wansgard, 2008). The RSPS was designed to focus on intermediate-level readers. Other instruments, such as McKenna and Kear's *Elementary Reading Attitude Survey (ERAS)*, 1990; Wigfield and Guthrie's *Motivations for Reading Questionnaire (MRQ)*, 1997; Gambrell, Palmer, Codling, and Mazzoni's, *Motivation to Read Profile (MRP)*, 1988, measure a student's general attitude toward reading; but, the RSPS was developed specifically as an instrument for self-evaluation of the way readers assess themselves (Gambrell, Palmer, Codling, & Mazzoni, 1996). The comparisons of the instruments are as follow:

Table 2.1: Comparisons of Reading Self-efficacy Questionnaires

Scale names	Authors	Construct measured	Affective aspects	Formats	Number of items	Levels	R
The Elementary Reading Attitude Survey (ERAS)	McKenna and Kear, 1990	Students' attitudes toward both school-based and recreational forms of reading	1. Attitude toward recreational reading 2. Attitude toward academic reading	4-point Garfield characters, ranging from very happy to very upset	39	Grade 1-6	.74 to .89
The Motivation to Read Profile (MRP)	Gambrell, Palmer, Codling, and Mazzoni, 1995	Students' self-concept as a reader and the value they place on reading	1. The reading survey: Self-concept as a reader, Value of reading	4-point Likert-type and Open-ended questions	20 and 14	Grade 3-5	.70 to .76

			2. The conversational interview: Narrative Reading, Information Reading, General Reading				
The Reader Self-Perception Scale (RSPS)	Henk and Melnick, 1995	Students' self-perceptions of how they feel about themselves as readers	1. Progress 2. Observational Comparison 3. Social Feedback 4. Physiological States	5-point Likert-type	33	Intermediate-level readers	.81 to .84
Motivation for Reading Questionnaire (MRQ)	Wigfield and Guthrie, 1997	Students' reading motivation	1. Reading Efficacy 2. Reading Challenge 3. Reading Curiosity 4. Reading Involvement	4-point Likert-type	53	Grade 4-5	.43 to .81

	5. Importance of Reading
	6. Reading Work Avoidance
	7. Competition in Reading
	8. Recognition for Reading
	9. Reading for Grades
	10. Social Reasons for Reading
	11. Compliance

The scale of the RSPS questionnaire is based on Bandura's theory of perceived self-efficacy and predicts the four basic factors that people consider when they evaluate their capabilities as a reader: Performance, Observation Comparison, Social Feedback and Physiological States (Bandura; Schunk, as cited in Henk and Melnick, 1995). As the term *Performance* is very broad in assessing reading self-efficacy they narrowed the scale of the term to *Progress*; this has been used in the RSPS questionnaire:

1. Progress (PR)—the present reading performance compares with the past performance
2. Observational Comparison (OC)—one's own reading performance compares with the performance of classmates
3. Social Feedback (SF)—encouragements about reading from teachers, classmates, and family
4. Physiological States (PS)—internal feeling during reading

The statement items for each aspect of the questionnaire are as follow:

Table 2.2: Elements of Reading Self-efficacy and Items

Elements of reading self-efficacy	**Statement items**
1. Progress (PR)	10. When I read, I don't have to try as hard as I used to.
	13. I am getting better at reading.
	15. When I read, I need less help than I used to.
	18. Reading is easier for me than it used to be.

	19. I read faster than I could before. 23. I understand what I read better than I could before. 24. I can figure out words better than I could before. 27. I read better now than I could before. 28. When I read, I recognize more words than I used to.
2. Observational Comparison (OC)	4. I read faster than other kids. 6. When I read, I can figure out words better than other kids. 11. I seem to know more words than other kids when I read. 14. I understand what I read as well as other kids do. 20. I read better than other kids in my class. 22. I read more than other kids.
3. Social Feedback (SF)	2. I can tell that my teacher likes to listen to me read. 3. My teacher thinks that my reading is fine. 7. My classmates like to listen to me read. 9. My classmates think that I read pretty well. 12. People in my family think I am a good reader. 17. My teacher thinks I am a good reader. 30. Other kids think I'm a good reader. 31. People in my family think I read pretty well. 33. People in my family like to listen to me read.

4. Physiological States (PS)	5. I like to read aloud.
	8. I feel good inside when I read.
	16. Reading makes me feel happy inside.
	21. I feel calm when I read.
	25. I feel comfortable when I read.
	26. I think reading is relaxing.
	29. Reading makes me feel good.
	32. I enjoy reading.

Studies related to reading self-efficacy.

There are several studies showing that self-efficacy affects reading ability, and that higher self-efficacy translates into higher achievement (Pajares, 1996). Mallete, Henk, and Melnick (2004) found that self-efficacy plays a role in reading motivation. When children feel that they are good readers and have confidence in reading this will motivate them to read. As they read more, they then become better readers which lead to increased efficiency at comprehending texts. Mallete and others also explained that motivation is developed according to how students feel about their previous performance with an activity when compared to the present one, and how this compares to that of their peers, and to feedback from teachers. If a reader feels that they can do well on a task they will be engaged and motivated to read and complete it (Wigfield A. , 1997). Wigfield emphasized that it is essential to encourage students to raise their self-efficacy in order to obtain motivation and to succeed in their reading. Without self-efficacy, the belief that students can

accomplish a specific reading task will diminish and it will be harder for them to continually push themselves to progress (Shelberg, 2009).

A student's reading proficiency was found to rise in relation to their self-efficacy in reading; therefore, there is a link in the relationship between self-efficacy and reading achievement (Scott, 1996). Students with high self-efficacy can perform better than those with low self-efficacy on given reading activities. The higher self-efficacious group is inclined to select more difficult reading tasks to complete (Bandura, 1977; Schunk & Pajares, 2002) and they may view the task as challenging in order to master it. In comparison, the low self-efficacious group may try to avoid the difficult and challenging reading tasks (Schunk, 2003). While the lower self-efficacious group can miss out on the opportunity to practice and improve their reading, the higher self-efficacious group can develop and improve (Solheim, 2011). As students advance, appropriate praise is encouraged as Schunk (2003) found that by providing positive responses, teachers can help raise the level of students' self-efficacy. He stated that using modelling, where students believe that they will be as successful as their mentor; goal setting, when students set a goal they are far more likely to try to achieve it; and, self-evaluation, when students assess themselves they will try to progress in their learning, affects their reading self-efficacy, motivation, and learning outcomes. His research found that instructional methods such as progress feedback, modelled strategies, goal setting, and self-evaluations, can all help to improve reading self-efficacy.

A study by Gaa (as cited in Schunk, 2003) grouped elementary-students into: conferences with goal setting, conferences without goal setting, and no

conferences. Results found that those students within the conferences groups showed higher levels of reading achievement against those without, implying that goal-conferences promote accurate self-evaluation. In addition, research by Kleingeld, van Mierlo, and Arends (2011), showed that students who were set specific yet difficult goals gained considerably higher group performance than those who did not. Furthermore, students who set personal goals performed better than those who did not, negative effects within groups is rare, and actual goal setting for groups is as effective as goal setting for individuals (Smithson, 2012).

Schunk and Rice (1991) examined the role of feedback and how it related to performance use versus strategy use. They required students to answer comprehension questions—find main ideas. The finding revealed that those students who received a process goal and goal-plus-progress-feedback presented a higher level of self-efficacy and comprehension for learning the strategy than those students who received either a product goal—answering questions; or, a process goal—learning to use the strategy. Studies from Morisano and Shore (2010), showed that specifying intrinsically appealing short-term and long-term goals for children enhances their self-concept, levels of motivation, self-efficacy, and well-being. Scott (1996) suggested that two ways to help develop students' efficacies are performance goals and learning goals. Performance goals relate specifically to ability, such as completing a graded task or assignment; whereas learning goals are generally more knowledge-based and less directly competitive which minimizes peer pressure. Scott added that

when all goals are in place, teachers should give students progress feedback in order to enable them to establish whether progress is satisfactory.

Even though reading self-efficacy plays an important role in student reading achievement, there are several advantages and disadvantages to high self-efficacy, including: when faced with a challenging or difficult task or goal, though low self-efficacy learners may be inclined to quit, those with high self-efficacy endeavour to develop, learn, and strive to overcome any setbacks or difficulties (Pajares, 1996). Though Pajares acknowledges that there are many benefits of having high self-efficacy, they also state that such high levels does make it difficult for researchers to assess; and, also that having high belief in no way guarantees success at any given task. Indeed, one particular weakness of possessing high self-efficacy is when faced with either mundane or, what could be considered, simple tasks which results in failure as they do not apply the required effort due to overconfidence (Redmond, 2009).

High reading self-efficacy can be supported by knowledge of reading strategies: the correct strategy to use, and how and when to apply it to any particular reading task or passage. According to previous studies, though reading self-efficacy has a positive effect on students' reading achievements, for students to become successful readers they need to be trained to be able to use reading strategies independently to achieve fluency, an ability to recognise words, and the required level of comprehension.

Reading Strategies.

According to Querol (as cited in Oxford, 1994; Arani, 2006) when they are performing tasks or processing new information in the classroom, students use learning strategies either unconsciously or consciously. Although not all strategies work for all students, and certain strategies do not necessarily work in all situations, direct, explicit strategy instruction, especially for reading comprehension, can substantially improve achievement (Forness, 2001; Guthrie & Davis, 2003; Swanson, 1999). The strategies proposed by O'Malley and Chamot (1990) are categorised as metacognitive, cognitive, and social/affective, and "Reading strategies can be defined as thoughts or activities that assist in enhancing reading outcomes…and can be learned." (Chamot & O'Malley, 1994, p. 60). They also found that using select metacognitive and cognitive strategies in combination proved mutually supportive and, as stated by Querol (2010), often had more success than when the strategies are used individually. This was supported by Simpson and Nist (1990) who stated that the strategy itself has less value than a combination of the cognitive and metacognitive processes involved within.

Acquiring reading skills, particularly in an academic context, requires focus and learning and reading strategies can help students achieve this (Chamot & O'Malley, 1994). Metacognitive strategies such as *reading for gist*, *skimming*, *scanning*, lay the foundation for anticipating, planning, or evaluating a task; cognitive strategies such as *grouping, note-taking, elaborating on prior knowledge, summarising,* and *making inferences,* lend themselves to individual tasks; and social/affective strategies such as *questioning for clarification, co-*

operation and *self-talk* involve other students, group-work to facilitate effective learning.

Metacognitive strategies.

Metacognition can be termed as "thinking about thinking" (Peirce, 2003), and metacognitive strategies are those strategies for acquiring knowledge. "Success with metacognition depends on a belief in one's ability to get smarter as well as the beliefs of others, such as teachers, in one's ability." Crowl, Kaminsky, and Podell (as cited in King, Goodson & Rohani, 2000, p. 12).

When students are in high school, there is a notion that teaching strategies have already been taught to them; but, the reality is this is normally conjecture as they rarely have been (McKeachie, 1988) and many students are unaware that such strategies exist. Research has shown that learning improves when study strategies are explicitly taught (Chiang, 1998; Commander & Valeri-Gold, 2001; El-Hindi, 1997; McKeachie, 1988; Ramp & Guffey, 1999). Often, the only strategy many students are unconsciously aware of, and therefore equipped with, is that of learning by rote: A bottom-up learning technique that involves little or no real-life experience or prior subject knowledge (Nist, 1993). To explicitly teach metacognitive strategies, Chamot & O'Malley (1994), emphasised

and divided these into three stages: *Planning*, *Monitoring*, and *Evaluating*. This division allows each strategy to be analysed to provide the best learning method, and to provide a continual assessment of progress. Each of these stages can be further sub-divided as necessary. For example, the strategy of *Advance Organisation* can be further sub-divided into *preview, skim*, and *gist reading*; the strategy of *Selective Attention* can be sub-categorised into *scan, identify* and *select specific information*.

Cognitive strategies.

One definition of a cognitive strategy is the mental process or procedure required to fulfil any specific cognitive goal (Chinn & Chinn, n.d.). Cognitive strategies can be either general or specific (Pressley & Woloshyn, 1995) and, as quoted in Serri, Boroujeni and Hesabi (2012), control the input, or the use of a particular skill to achieve a certain task (Azumi, 2008; Griffiths, 2004; Martinez, 1996; Meang, 2006). However, as skill use is often automatic with cognitive strategies, as opposed to using a skill for a particular task, learners usually have to think about the task required and then work out the best strategy to apply (Alexander, Graham, & Harris, 1998). Cognitive strategies control the input or use a certain skill to complete a particular task (Azumi, 2008; Griffiths, 2004; Holden,

2004; Martinez, 1996; Meang, 2006). O'Malley and Chamot (1990) stated this is how our brains handle tasks, enabling many different ways to understand and produce new language. Though there are numerous cognitive learning strategies, Chamot and O'Malley (1994) groups them into three broad categories: *rehearsal*, *organisation* and *elaboration*. Each of these broad cognitive strategy groups can be further divided into sub-categories or into individual learning tasks or activities. The purpose of *rehearsal*, the first cognitive strategy, is to offer practice for the skill being learned. As an example, this could be sub-divided into repetition: Reading and re-reading the sentence to understand the sentence structure, to identify the verbs, the melody, the pitch or the inflection; or, it could be further divided into underlining examples of direct speech within the text. Second is *organisation*, which involves those tasks that involve arranging and grouping work into an organised, manageable and workable framework. Tasks such as classifying words, understanding synonyms, active voice in the written text, outlining the theme of the text, or the main thought of the author, fall into this category. Third is *elaboration*, which relates to those learning strategies which associate a new piece of information with existing schemata. This association could range from a student performing a different exercise in a textbook, forming mental images

from the scene they have just read, paraphrasing the text, summarising the chapter, or perhaps drawing analogies. It is clear that when faced with any learning task, the three considerations that determine whether a student will use a particular strategy are: (a) whether they actually know of the strategy itself; (b) whether they know how to use it; and, (c) whether they believe the strategy will be effective (Chinn C. A., 2006).

Social/Affective strategies.

Social or affective strategies refers either to strategies used by learners while interacting with their fellow students; or, are questions asked of the teacher to aid understanding and to reduce or eliminate students' anxiety (Chamot & O'Malley, 1994). According to Oxford (1994) there are three main social strategies: *Questioning*, where students ask questions for corroboration, or explanation; *Cooperating*, where students work with their fellow students to learn the new language; and, *Empathising*, where the students obtain and develop thoughts, feelings and cultural understanding. In the same way, Querol (2010) has identified three sets of affective strategy: *Lowering anxiety*, which can be achieved by adopting via techniques such as slow breathing, relaxing, and meditating; *Self-encouragement*, where learners can help themselves by positive thinking, self-

praising, and giving themselves rewards for achieving set goals; and, by using "*Emotional temperature*": This is where individuals can use checklists, keep a language diary to record their feelings and anxieties, and build personal knowledge and experiences. Of these, Chamot and O'Mally (1994) identified peer pressure and anxiety as being two crucial factors in restricting learning advancement, and identifies three of the strategies from above as being helpful for alleviating stress: two of them are social learning strategies: questioning and cooperating; and the remaining one is an affective strategy, *Self-talk*. Many students often feel either devoid, lacking, or absent of either cultural understanding or subject knowledge and, whether this deficiency is perceived or not, it is critical that students are not afraid to request clarification when it is required. Much of the time it is the teachers who have to break down the barriers to learning and "... are the key to improving students' reading abilities and motivation to read, no matter students' achievement levels." (Guthrie & Davis; Heilman, Blair, & Rupley, as cited in Margolis, 2004, p. 199). Reading strategies used in this present have been chosen based on the literature and previous studies concerning their effects on reading self-efficacy and reading ability. These strategies are as follow:

Using Background Knowledge is classified as a cognitive strategy and used for connecting existing knowledge to the topic; and, is essential to comprehending new topics and engaging the students (Gabriel & Gabriel, 2010; Greenwood, 2011).Van Keer and Verhaeghe (2005) found that multiple reading strategies, including Using Background Knowledge, had positive effects on reading comprehension and reading self-efficacy. Using Background Knowledge is a technique of linking what readers already know to new information. A lack of background knowledge can often be linked to learning difficulties (Gabriel & Gabriel, 2010); and, increasing background knowledge is essential to continuous learning (Fisher, Frey, & Lapp, 2012).

Skimming is classified as a metacognitive strategy and is used for finding the main ideas. A study by Shang (2010) revealed that all the reading strategies taught in the study—including Skimming, Using Context Clues, and Scanning—had a significant correlation with self-efficacy. Skimming is a method of moving the eyes quickly through the text to obtain the main ideas and determine the general overview of the content. To skim, students start by reading the title, the introductory paragraph, the first sentence of each paragraph—as this is likely to contain the main idea (Dormio, 2012)—the summary or last paragraph, and identify sub-headings, italicized, underlined, boldface words, quotations, phrases or other elements which distinguish key points and aid in quickly grasping the main idea.

Using Context Clues is classified as a cognitive strategy and can help students to recognise unfamiliar or unknown words in sentences or longer texts; and, being able to recognise words automatically is key to constructing meaning (Allen, 1998). This strategy is used to help determine the meanings of unfamiliar words by using different types of clues such as semantic—meaning, syntactic—structural, or graph phonic—visual, in surrounding words, sentences, paragraphs and other aids as hints or indicators of meaning. These can include definitions, antonyms, synonyms, definitions, inferences, explanations, examples, restatement with parentheses, tables, photographs and drawings.

Scanning is classified as a metacognitive strategy and used for finding specific information. Munsakorn (2012), stated it is an important strategy; and, according to Nezami (2012), the inability to scan effectively may not be down to differences or deficiencies between the native and the foreign language but due to an absence of skills in other areas such as comprehension, understanding, prediction and summarising. Scanning is a method of moving the eyes quickly to cover a large amount of text quickly in order to identify a specific fact or a piece of information; it is useful for finding a specific name, date, statistic without reading the whole text in detail, and is particularly useful for research and study.

Goal Setting is classified as a metacognitive strategy and used for making a commitment to one's own reading. Nelson and Manset-Williamson (2006) found that both strategies of Goal Setting and giving Feedback help improve reading self-efficacy. Goal Setting strategy helps

students to make a commitment to their reading in order to time themselves when doing exercises, understand the meanings of words they have learned and use reading strategies. This helps them to comprehend the text they read more effectively. Furthermore, by setting realistic goals, they are an excellent means of measuring progress and success (Winick, 2013); and, as they feel positive about their own goals, it helps to motivate students to achieve them (Kelberlau-Berks, 2006).

Feedback is classified as a social/affective strategy and used for reflecting on one's reading performance at a particular reading task. It is a very powerful strategy to help build knowledge, increase motivation, improve skills and focus the recipient (Paul, 2013). For Feedback strategy, the teacher gives comments to students about how they did for a particular reading task and the students also receive and provide feedback for their classmates. The aim of giving Feedback is always to improve the performance of the other person and feedback should never be inadequate or counterproductive.

Self-evaluation is classified as a metacognitive strategy and used for checking one's own reading and strategy use. Schunk and Zimmerman (1997) stated that "self-evaluations of progress enhance self-efficacy and maintain motivation to improve" (p. 196). Students can assess their

reading by writing or completing a checklist of what they have learnt, and this is also a means by which the teacher can assess differences in student ability and modify their teaching appropriately. According to Kelberlau-Berks (2006), students appeared to take ownership of their learning and, as a result, student self-reflection increases student learning.

In conclusion, the 7 reading strategies chosen for use in this study are based on their effectiveness in helping students' reading ability. According to Chamot and O'Malley (1994), these strategies are categorised into metacognitive, cognitive, and social or affective as follows:

Table 2.3: Summary of Reading Strategies Used in this Study

Strategy types	Strategy names	Strategy descriptions
Metacognitive strategies:	Skimming	Looking for main ideas
	Scanning	Looking for specific information
	Goal Setting	Making a commitment to one's own reading
	Self-evaluation	Checking one's own reading performance and strategy use
Cognitive strategies:	Using Background Knowledge	Connecting existing knowledge to the topic
	Using Context Clues	Guessing the meaning from surrounding words, sentences, pictures, or the context

Social/Affective strategies:	Feedback	Receive reflections on one's reading performance

From Table 2.3, Skimming, Scanning, Goal Setting and Self-evaluation are categorised as metacognitive strategies as they are the high level strategies where students are required to plan, monitor, and evaluate their reading in order to complete a task (Marzano, 2001). Using Background Knowledge and Using Context Clues are categorised as cognitive strategies because it deals with the way the person processes the information or the steps in the procedures they need to perform to complete the task (Marzano, 2001). Feedback is categorised as a social or affective strategy because it involves other students or group work to facilitate reading (Chamot & O'Malley, 1994). Consequently, all the reading strategies in this study are aligned with the appropriate dimensions of Bloom's Taxonomy: higher order thinking levels align with Goal Setting, Self-evaluation, and Feedback; whereas, lower order thinking levels align with Skimming, Scanning, Using Background Knowledge, and Using Context Clues.

Strategic Readers.

Research by Chamot, et al., (2002) has shown that to be an effective reader one must also be a strategic reader. A strategy is a plan chosen to accomplish a goal or a task (Houghton Mifflin Company, 1997) and it must be emphasised that "being strategic" is markedly different from having a strategy. Knowing what a strategy is—*declarative knowledge*—does not necessarily indicate the best way to use it—*procedural knowledge*—why it should be used—*conditional knowledge*—how to modify it if circumstances change, to

describe it, or how to teach it (Paris & Winograd, 2006); however, knowing these can help learners to formulate effective learning plans (Paris, Lipson & Wixson, as cited in Paris & Winograd, 2006). “There is near unanimity in the field of literacy education that strategic readers are more active readers and that active readers both retain more and are more likely to reapply what they remember in new contexts” (Keene & Zimmerman, 2007, p. 27).

Depending on their purpose for reading a particular text, effective and strategic readers will use bottom-up techniques, top-down techniques, or a combination of both to look for clues within the material to help them make sense of it; they will then adjust their techniques as necessary (Houghton Mifflin Company, 1997). When students are strategic, they devote time and effort in distinguishing between ineffective and effective approaches to tasks and consider alternatives before selecting their strategy; teachers can play a role in helping students become strategic readers by explaining, discussing and justifying their choice of their own learning strategies. Unlike passive readers, strategic readers obtain understanding by comparing what they are reading to what they already have experienced and have opinions about: they read for a purpose, for a specific goal, and to obtain comprehension; and, they are selective, active, confident and adaptable. Connecting new information to old knowledge aids retention, recall, evaluation, extension, reuse and the generation of new ideas (Grow, 1996).

Strategy-based Reading Instruction.

Any learning task for which students are unprepared or unfamiliar will affect their motivation, perception, expectation of success, anxiety and their

stress levels towards that task (Holton and Noe, as cited in James, 2012). Key factors in effective preparation for these tasks are equipping learners with the metacognitive and cognitive ability, and the learning strategies to tackle and complete them (Chamot & O'Malley, 1994).

Teachers play a vital role in equipping students and act as role model, moderator, and facilitator in aiding students to become independent learners and also to switch the focus from teaching to learning (Chalyova, 2011). The main goals of learner autonomy are to help the student to become an independent learner; but, this does not just mean the relegation of teacher responsibilities but rather increasing students' to understand themselves and their work and to be aware of their responsibilities and goals (León & G.L., 2010). Ultimately, learner autonomy is desired and the teacher must generate interest by discussions, providing student's with the correct choices about their education, and showing them the different ways in which they can learn (Chalyova, 2011); this will enable them to continue working confidently and efficiently when away from the guided-learning environment (Scrivener, 2005).

Strategy-based instructions that propose to help students to read more effectively and independently are based on a learner-centred approach. The features of these instructions are: reading strategies are taught explicitly; students are told the names of particular strategies; they are given the reasons for using the strategy; they observe the teacher modelling the strategy; and, they are given opportunities to practice the strategies with ordinary classroom tasks (Cohen, Weaver, & Li, 1996). The instructions promote students to be active learners, and

can be in control of their learning and education; it also recognises three types of knowledge:

1. Declarative: knowledge of facts—what it is
2. Procedural: knowledge of how to do things—how it works
3. Conditional: relating what is happening now to prior knowledge and learning procedures—when and why it is to be applied (Paris, Lipson, & Wixson, 1983; Blumberg, 2009).

The reading strategies instructions that propose to help students to read more effectively and become independent learners are as follows:

Existing reading instructional frameworks.

Patterson's instructional framework.

Patterson (2010), developed his instructional framework from a number of teaching models which involves 5 phases of teaching reading strategies in a non-linear manner; whereby components of multiple phases can be combined, as required, into individual lessons. The researcher had categorised his students as at-risk readers, and this framework was designed to respond to the needs of the student and of the literature. Furthermore, it was aimed at understanding strategic reading and to teach students to self-manage their reading in a manner which offered adaptability to a whole-class environment, yet afforded flexibility to meet the needs of targeted students. The 5 phases are:

Phase 1: Getting Ready for Learning. Successful reading and students' knowledge of reading strategies is defined and determined in whole

class discussion and using the Think-Pair-Share technique (Carleton College, 2013); and, goals for this, and subsequent lessons are established.

Phase 2: Modelling. The teacher acquaints students with before, during and after metacognitive framework and reading strategies as activating prior knowledge helps to make students connect what they already know to the material being taught. The teacher models the use of the framework and through self-questioning, identifies the main ideas, aids understanding, selects the most appropriate reading strategies, reflects on whether the goal was achieved, the meaning of texts, and if this is new learning.

Phase 3: Coaching. Teacher supports students while applying the reading strategies involving whole class shared reading—to help students who would struggle to read independently. The framework allows for shared phases and the teacher could also incorporate and modelling and sharing of the strategies being taught via the think-aloud technique.

Phase 4: Scaffolding and Fading. Students perform independent practice of the reading strategies using the think-aloud technique and identify how these strategies are best used, which ones are effective for each task, and categorise them accordingly. They can then report back to the class on their thoughts, the effectiveness of the strategy, its importance and its use to collate group understanding.

Phase 5: Applying Knowledge and Strategies in New Context (Generalising). By reflecting on their lessons and the scaffolded use of the framework, students can now employ the reading strategies into new external tasks.

Rosenshine's Instructional Framework.

Rosenshine (1997) used 16 instructional behaviours and elements to construct a 6-phase framework of explicit teaching of reading strategies by selecting and applying a sequence of content to meet the cognitive capabilities of the student. As required, this content can also be further sub-divided to address harder or less frequent skills and also to fit students' needs. Understandably, this framework requires an initial high level of teacher involvement which is reduced and withdrawn as students become independent readers. The framework is as follows:

Phase 1: Review. The teacher assists students to review their prior work, to elicit background knowledge, to review and to link the skills and knowledge required for the task. It is important to use clear, consistent and unambiguous language to eliminate confusion and to verify that students have the prerequisites to learn the skill.

Phase 2: Presentation. The teacher sets the goals, presents the material and models procedures using clear language to ensure that learners are clear on what is to be learned, its importance, and to achieve a mastery experience (Bandura, 1977). This aids understanding of what is required

to complete the task, what is expected of them as learners, and also reinforces the importance of the skill or strategy.

Phase 3: Guided Practice. Students practice the exercise and continue until they are fluent. This ensures a high success rate, a high level of response, and offers timely prompts and clues. Task difficulty can be regulated and increased when results indicate success.

Phase 4: Corrections and feedback. Teacher monitors the students closely allowing rapid response to exercises to ensure students have understanding, progress and ultimately succeed.

Phase 5: Independent Practice. Students practice on new tasks until skills are automatic; the teacher continues to monitor to maintain flow and assist in student mastery of the skill. As students' progress, the teacher should try and incorporate *cumulative practice*—opportunities to practice previous and newly acquired skills— as well as *distributed practice*—practicing the same skill over time.

Phase 6: Weekly and Monthly Review. Teacher and students review progress to help students improve their knowledge organisation: linking skills and concepts can be difficult and, where possible, the teacher can aid in making these connections explicit.

CALLA Instructional Framework.

The CALLA reading instruction was developed by Chamot and O'Malley (1994) in response to an understanding that as students become more strategic in their approach to learning, they also become more autonomous and thereby

lessen the dependency on the teacher. CALLA refers to a framework that assists students becoming more strategic by explicitly teaching reading strategies. These strategies involve Metacognitive strategies, Cognitive strategies and Social/Affective strategies. CALLA consists of five phases as follows:

Phase 1: Prepare. The teacher assists students in activating background knowledge. This helps align students with the subject being taught, develops awareness of the current and available strategies and techniques, and helps to instil a belief that the strategies work. This can involve small group, or whole class discussion and even for the teacher to model the think-aloud technique to identify strategies.

Phase 2: Present. The teacher presents and explains new information using explicit instruction: naming the strategy, showing how it is used with specific, multiple tasks or classroom activities —to show students that the task is not limited to just one example; and, explaining the importance of this strategy.

Phase 3: Practice. Students practice using the strategies with the task or activities under the guidance of the teacher. The level of assistance required will depend on student familiarity and proficiency with the strategy and the teacher must ensure it is being used effectively.

Phase 4: Self-evaluation. In a whole class discussion, students check their performance to assess the effectiveness of the strategy and to understand what has been learned. Students will be actively

encouraged to record their findings in a learning journal to enable them to both manage and increase their repertoire and use of strategies.

Phase 5: Expansion. Students integrate new information and skills with existing knowledge and apply these to additional materials. The teacher can use *scaffolding* prompts as required and encourages students to use alternative strategies with a view to comparing and evaluating their effectiveness.

In conclusion, the three frameworks have a number of common features: Phase 1, in order to correctly focus students on the particular lesson, they use techniques for activating schemata. Phase 2, it has been agreed that there are significant benefits from teachers using modelling to instruct students. Phase 3, all three frameworks identified the importance of students performing the task modelled and the teacher only assists as required. Phase 4, having completed the exercises, it is important that students reflect and evaluate their performance. Phase 5, there is an agreement that once the students have mastered the activity the next step is to practice on new material independently. It must be noted that Rosenshine proposed an additional phase where weekly and monthly reviews are scheduled but this is not included in this study's framework as it is not common across the other frameworks. Therefore, the proposed instructional framework has been constructed by combining the key elements of the selected frameworks; and, the title of each step used in the proposed instructional framework are chosen based on simplified terminology to ensure clarity. The proposed instructional framework is as follows:

Proposed reading instructional framework.

In this study, an instructional framework used to teach reading strategies has been developed in response to both literature and the perceived needs of students. This teaching and learning framework consists of 5 reading phases to progress students towards becoming independent readers.

Phase 1: Reviewing.

In phase 1, Reviewing, the teacher assists students to activate their prior knowledge and identify what they already know about the topic. The reading strategy used in this is *Using Background Knowledge.* Ascertaining students' prior subject knowledge identifies its extent, highlights any discrepancies and, assists in discovering previously used learning methods. It also helps to activate schemata, aligns students with the current task, and reinforces awareness that their prior knowledge can be applied to the topic. Techniques for using background knowledge include brainstorming, teacher demonstrations, videos, and role-play of interesting and relevant material to enhance enjoyment as well as recollection, selection, and implementation of the correct reading strategy. If a student enjoys the material, they will be motivated to read more (Swanson, 1999); and, academic self-belief, specifically his/her reading self-efficacy, is related to motivation (Quirk, Schwanenflugel, & Webb, 2009).

Phase 2: Modelling.

In phase 2, Modelling, new information is presented and explained. The reading strategies used in this phase are *Skimming, Using Context Clues, Scanning,* and *Goal Setting*. Teachers are the key element in students' learning and in

improving students' reading motivation (Guthrie & Davis; Heilman, Blair, & Rupley, as cited in Margolis, 2004); and, must ensure that they present their planned material clearly and explicitly in an overt, logical, sequence, with sufficient contextual clues to aid comprehension. Some strategies will be harder than others and teachers must adapt accordingly. For example, modelling the strategy, where the teacher demonstrates the actual requirements while *thinking-aloud,* clearly demonstrates the strategy being applied successfully and therefore helps reduce student anxiety (Bandura, 1977; 1986).

Phase 3: Coaching.

In phase 3, Coaching, students perform tasks independently, attend discussions, give feedback to each other, and receive feedback from the teacher; the teacher's role is as a coach. Students apply reading strategies independently while the teacher monitors and coaches them. The reading strategy used in this phase is *Feedback.* During the lesson, the teacher gives feedback to students and the students also give feedback to their classmates about how they did in class. All learning materials used must be interesting, challenging and provide sufficient practice and reinforcement to enable students to fully understand, develop and master the required skills (Allington, 2001; Heilman, Blair, & Rupley, 2001; Lipson & Wixson, 2003; Schunk & Zimmerman, 1996). Initial teacher support is required in this phase but can be phased out as required; and, when suitable, a wide variety of tasks can be implemented to ensure students can practice, reflect, and communicate their experiences with the strategy (Collins, Brown, & Holum, 1991). This method requires the teacher and students to be active

members of the learning process (Mueller, 2009); and, as students' cognitive ability is enhanced, increasingly complex material can be presented and practiced (Chamot & O'Malley, 1994).

Phase 4: Evaluating.

In phase 4, Evaluating, students check their performance to understand what has been learned. The reading strategy used in this phase is *Self-evaluation*. Self-evaluation helps to actively involved students in their own learning and their findings and conclusions helps build an effective strategy base which can be used to evaluate and compare which strategies work better and when they should be used. Experiencing that not all strategies work effectively every time enables students to reflect on and identify gaps in their own performance, to establish whether changes are required, and to remedy these deficiencies (El-Koumy, 2004; Zimmerman, 2000). Group collaboration and sharing of strategy-use information is another effective method which enhances desire to learn, self-efficacy, and motivation to the benefits of all—it should be actively encouraged.

Phase 5: Expanding.

In phase 5, Expanding, students integrate new information and skills with their existing knowledge by applying reading strategies independently outside of the classroom. Once phase 4, evaluating is complete, teachers can post new challenges for students by introducing different materials, activities, and tasks for students to practice in non-modelled exercises. As well as allowing students to evaluate and compare existing strategies against each other—which fosters, students' thinking, evaluation, analysis and expands their existing range of

strategic tools—continuous repetition helps reinforce the mastery experience (Bandura, 1977) and to further embed the strategy and knowledge into long-term memory. Continued progression augments the number of strategies available to the students; and, as their reading ability increases, strategy choice will eventually become automatic regardless of task, material, or activity.

The proposed strategy-based reading instruction model is presented in Figure 1.1, below:

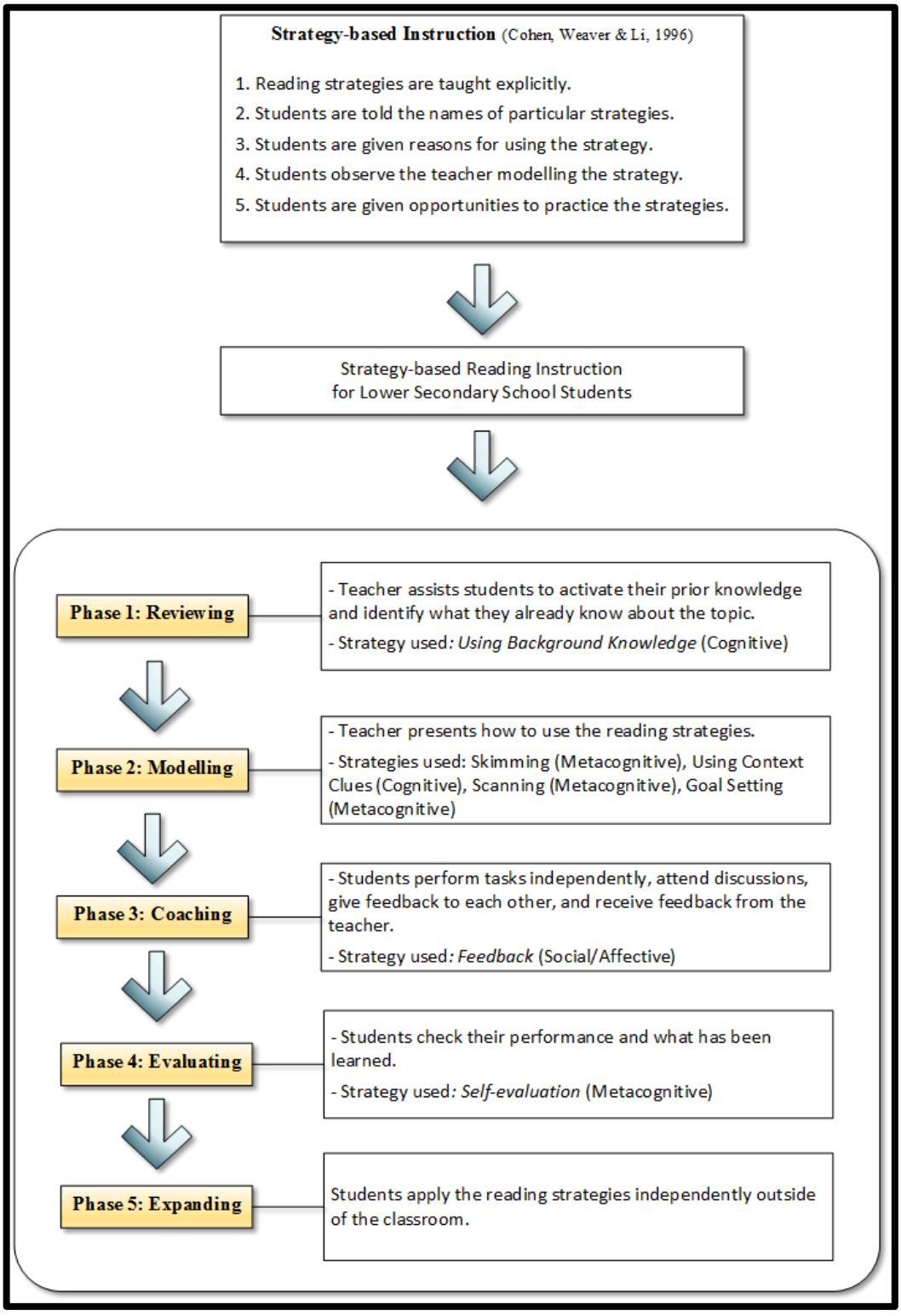

Figure 1.1: Proposed Framework of the Strategy-based Reading Instruction

Studies related to strategy-based reading instruction.

Çubukçu (2008) investigated the teaching of ten metacognitive strategies to assist students with reading comprehension and vocabulary achievement. These strategies were *using strengths*, *inferring meaning*, *using background information*, *evaluating*, *searching according to the goals*, *reading goals*, *distinguishing*, *deciding on the difficulty*, *revising*, and *guessing the later topics*. The sample group had been implemented with these strategies for 5 weeks through a systematic direct instruction. The finding confirmed that students' reading comprehension and vocabulary achievement have improved. In order to become better readers and strategic learners, Çubukçu stated that the students started to think metacognitively with regards to the strategies they could use to improve their reading comprehension. In a recent study, Takallou (2011), explored metacognitive strategies—*planning* and *self-monitoring* strategies. The students received the explicit reading strategy instruction on metacognitive strategies for 5 sessions of ninety minutes. The finding revealed that the two experimental groups which received the instruction on planning and self-monitoring performed better than the control group on the reading comprehension test. Takallou concluded that receiving the instruction on how to plan and monitor reading improved students overall reading and metacognitive awareness. Rasekh & Ranjbary (2003) explored the effectiveness of explicit metacognitive strategy training on vocabulary learning of the EFL students. These strategies included *preparing and planning*, *selecting and using strategies*, *monitoring strategy use*, *orchestrating various strategies*, and *evaluating strategy use and learning*. The students had been implemented with

these strategies for 10 weeks. The result of the study showed that explicit metacognitive strategy training had a significant positive effect on the vocabulary learning of EFL students. In another recent study, Marimuthu, Muthusamy, and Veeravagu (2011) investigated training students' metacognitive strategies helps to improve students' reading comprehension performance. The study showed that metacognitive strategy training through an instructional framework helped develop the students' performance in reading comprehension. The metacognitive strategies used were *global reading*, *problem-solving*, and *support reading*. In addition, metacognitive reading strategy awareness for the experimental group increased after implementing the instruction of reading strategies. Another research has been done by Xuan (2008), where she conducted a study about the effectiveness of metacognitive strategy training on students' reading proficiency. The strategies involved were *planning*, *selective attention*, *monitoring*, and *evaluating*. These strategies had been implemented with the experimental group for 18 weeks. The results of the study concluded that student's metacognitive strategy awareness and reading proficiency could benefit from an effective integrated-strategy training plan.

Research showed that the explicit strategy instructions can affect students' reading comprehension significantly and rapidly; in fact, it can have such a positive effect, that even students who receive less-explicit strategy instruction, such as the control-group, demonstrated higher reading self-efficacy scores at the post-test readings (Nelson & Manset-Williamson, 2006). Kitsantas, Zimmerman, and Cleary (2000), investigated *Modelling* and *Social Feedback* and found that the observation and practice of a modelled skill increases self-efficacy

and interest. They also stated that modelling a skill to learners before they attempt to master a task plays an important role in motivation and the development of self-regulated learners. A study by McCrudden, Perkins, & Putney (2005), implemented a strategy instruction to measure self-efficacy, interest, and comprehension over a two-week period including the following strategies: *Read the story title, Create pictures in your mind, Check back to earlier sentences if an idea is not clear, Question, predict, Imagine, and Summarize.* They explored whether explicit strategy instruction in reading strategies (including modelled strategy use) and practice would affect students' self-efficacy and interest in the use of reading strategies. The findings revealed that students' self-efficacy and interest did increase following explicit strategy instruction and practice. Furthermore, their finding also suggested that modelling and practice of cognitive skills, such as reading strategies, can increase students' self-efficacy and interest in using strategies to learn; and, according to Zimmerman & Kitsantas (1997), these are vital components of motivation and task persistence. Li and Wang (2010) investigated reading self-efficacy and the use of reading strategies in the Chinese EFL context. The finding revealed that reading self-efficacy was significantly and positively related to the use of reading strategies. In a more recent study by Rousta and Saeed (2012), they confirmed that metacognitive reading strategies instruction has a significant impact on reading self-efficacy. The instruction was implemented with the sample group of Iranian EFL context for four weeks. The strategies used are: *Making Text-to-Self Connections, Making Text-to-Text Connections, Making Text-to-World Connections, Previewing and Predicting Objective, Creating Questions, Monitoring*

Comprehension and Using Fix-up Strategies, Setting a Purpose for Reading, Review-Previewing and Predicting, Review-Using Background Knowledge and Questioning, Review-Setting a Purpose and Monitoring Comprehension.

Summary

From the literature review, reading is a cognitive process of decoding symbols so as to derive the meaning of a text. Reading ability refers to the ability to figure out any printed word using context clues—word recognition—and the ability to understand and interpret the meaning of a text—reading comprehension. The three models that have been identified to improve student's reading ability are: the bottom-up, the top-down, and the interactive reading models. According to Bloom's taxonomy, comprehension process level—levels of understanding—is divided into six levels which are remembering, understanding, applying, analysing, evaluating, and creating. The categories of thinking are levelled from lower-order thinking skills to higher-order thinking skills. Remembering and understanding are lower-order thinking skills, and applying, analysing, evaluating and creating are higher-order thinking skills. Previous researches have shown that metacognitive, cognitive, and social strategies help to enhance students' reading ability.

Self-efficacy is concerned with students' beliefs in their capabilities to do well in completing tasks, as this affects their level of motivation and learning achievement. Reading self-efficacy is defined as the students' belief that they can read different types of text and can understand them even if the text is complex. Students' beliefs in their efficacy are developed by mastery

experience, peer pressure, encouragement from others and positive outlook—the four main sources of influence. When students perform well, can see successful models, receive regular progress feedback, and feel optimistic, they are better placed to raise the level of their self-efficacy. Students' reading self-efficacy can be influenced by modelling, goal setting, self-evaluation and feedback, all of which are fundamental factors in helping to build students' reading self-efficacy and their ability to comprehend texts. Several researches have shown that students who have high self-efficacy for reading can read better than those who do not.

According to the literature, the research framework had been constructed as shown in Figure 2.1 below. The framework shows that the strategy-based reading instruction consists of the following five phases: reviewing, modelling, coaching, evaluating, and expanding. It also shows its effects on reading ability and reading self-efficacy of lower secondary school students and presents that reading ability and reading self-efficacy are related to each other.

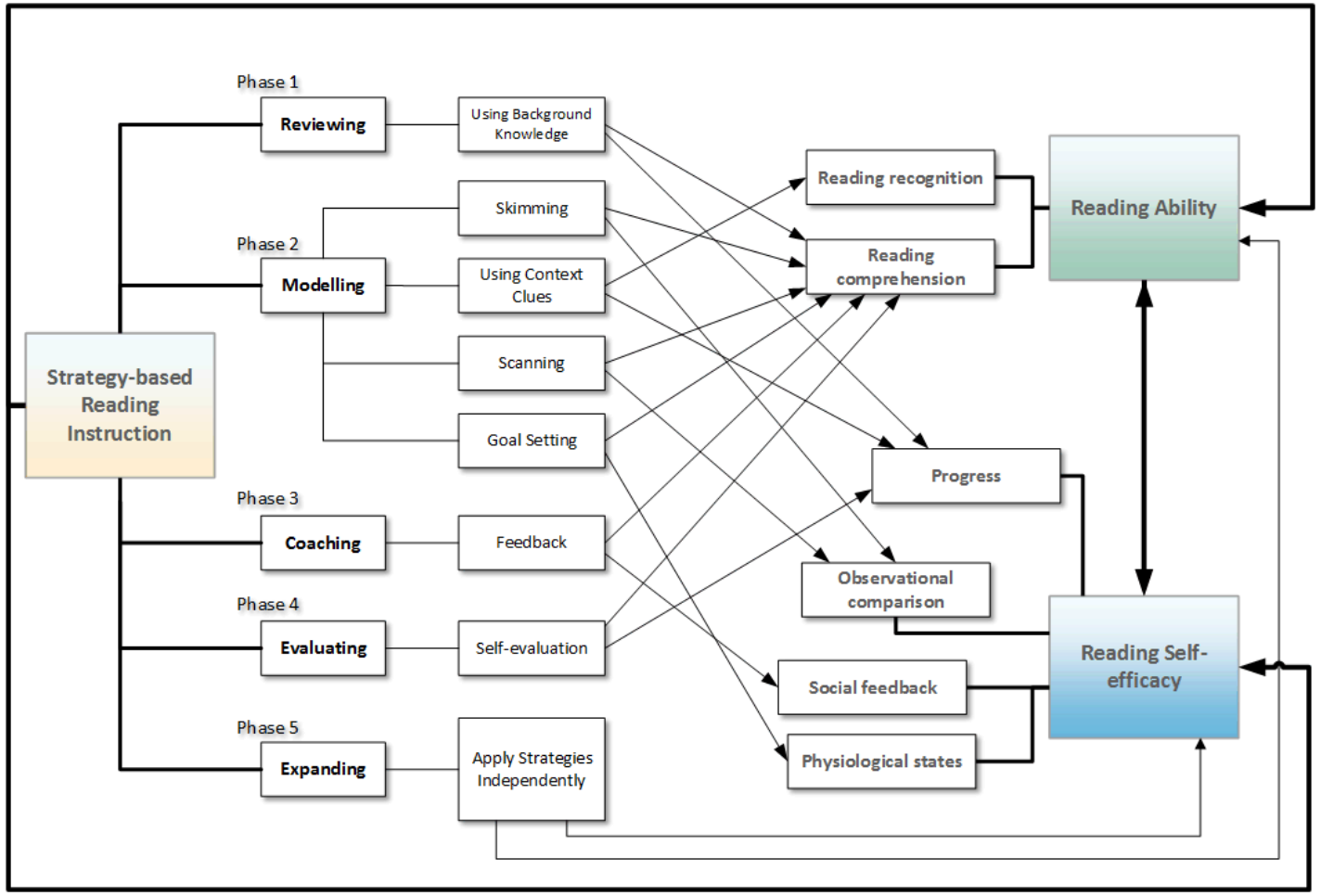

Figure 2.1: Conceptual Framework of the Research.

The explanation of the framework shown in Figure 2.1 in detail is as follows:

Phase 1, Reviewing: The Using Background Knowledge strategy has effects on reading comprehension and the progress aspect of reading self-efficacy

Phase 2, Modelling: The Skimming strategy has effects on reading comprehension and the observational comparison aspects of reading self-efficacy. Using Context Clues has effects on reading recognition and the progress aspect. Scanning has effects on reading comprehension and the observational comparison aspect. Goal setting has effects on reading comprehension and the physiological states aspect.

Phase 3, Coaching: The feedback strategy has effects on reading comprehension and social feedback.

Phase 4, Evaluating: The Self-evaluation strategy has effects on reading comprehension and the progress aspects of reading self-efficacy.

Phase 5, Expanding: Students apply reading strategies they have learnt outside of classroom. This phase has effects on reading ability and reading self-efficacy.

Chapter III: Research Methodology

This section includes research design; research framework; population and participants; research procedures; and research instruments. The results of validity and variability for each instrument have been presented. Furthermore, the data collection procedures have been described and, finally, the data analysis of the four research objectives has been identified with statistics used.

Research Design

This study employed an experimental research using one group pre-test post-test. The data was analysed by using qualitative and quantitative data. Descriptive and inferential statistics were used to investigate the improvement of reading ability and reading self-efficacy as well as the relationship between reading ability and reading self-efficacy. The quantitative data was used as the main source of the data to find the extent to which the strategy-based reading instruction helped improve students' reading ability and reading self-efficacy, including the relationship between the two dependent variables. The qualitative data was used to investigate what implemented reading strategies the participants used with their reading. The sample group of this study was selected by using purposive sampling design and they then were randomly selected to sit in groups of five during the period of implementation.

O_1	X	O_2

Figure 3.1: Research Design

O_1 means pre-test for reading ability and pre-questionnaire for reading self-efficacy.

X means the treatment which is the strategy-based reading instruction.

O_2 means post-test for reading ability and post-questionnaire for reading self-efficacy.

Population and Participants

The population for this study was lower secondary school students, studying in grade 9, semester 2, academic year 2013 at Krathiamwittaya School, Surin province. All grade 9 students of the 4 different classes were taught how to read based on the strategy-based reading instruction. However, one class of grade 9 students, which had high learning achievement scores in all subjects, was selected purposively to be the sample of this study. This is because most of the students always attend class, and would therefore not miss the opportunity to practice how to apply the different types of strategies for reading. In addition, they are very active and enthusiastic learners, apply more effort, and try harder than other classes in learning English. The total number of the sample group was 30, with 25 female and 5 male students; and, the age range of the students was from 14 to 15 years old.

Research Procedures

There were two stages of research procedures in this present study. The first stage involved the development of strategy-based reading instruction and

consisted of the following 9 steps: 1) exploring the topic and studying the basic concepts and related documents, 2) developing needs analysis, 3) developing pre-test post-test for reading ability, 4) developing pre- and post-questionnaire for reading self-efficacy, 5) developing lesson plans, 6) developing IOC questionnaire, 7) validating the instruments, 8) revising the instruments as needed, and 9) piloting them. The second stage involved the implementation of strategy-based reading instruction and consisted of the following 7 steps: 1) distributing reading ability pre-test, 2) distributing reading self-efficacy pre-questionnaire, 3) implementing the strategy-based reading instruction, 4) distributing reading ability post-test, 5) distributing reading self-efficacy post-questionnaire, 6) collecting data for reading strategies-use checklists using think-aloud method, and 7) evaluating the effectiveness of the instruction.

Research Instruments

In this study, to collect the quantitative data pre-test post-test were used for reading ability, and pre- and post-questionnaire for reading self-efficacy. The Reading Strategies-use Checklist was used to collect qualitative data. Lesson plans were used as a treatment instrument. Needs analysis was constructed to survey the reading topics that students wanted to learn and this was based on the Basic Education Core Curriculum 2008, including Strand 3—Language and Relationship with Other Learning Areas. The strategy-based reading instruction was implemented in the classroom of the core course for 8 weeks, plus 2 weeks for pre-test post-test and pre-and post-questionnaire. The instruments were developed and were then validated by experts who have expertise in the related field of this study before piloting and using with the sample group. The

instruments which were used to collect the data included reading ability test, reading strategies-use checklist, and reading self-efficacy questionnaire; and, the treatment instrument was lesson plans.

Reading ability test.

Reading ability test refers to word recognition and general reading comprehension. The test contains 5 passages with 30 multiple-choice questions. The passages used in this reading ability test include variety of fields such as geography, history, science and literature—short story, which were adopted and adapted from different sources. The word recognition element accounts for 10 items, and the remaining 20 items for the reading comprehension element. The students have 60 minutes to complete the test. The same test has been administered to the sample group before and after the implementation. The reading ability pre-test scores were used to group students into high, moderate, and low achievers. The topics for the reading ability test were chosen based on: (a) the students' background knowledge, they were informally asked whether they were familiar with the given topics; and, (b) the rating and difficulty of the Flesch reading ease and Flesch-Kincaid reading grade level for each passage. As the programme is suited for L1 readers, following the pilot study, the reading grade level was adjusted from 5 to 6 to allow for L2 readers within the context of this study. This is as follows:

Table 3.1: Readability Levels for Reading Ability Tests

Topics	Flesch reading ease	Flesch-Kincaid reading grade levels
Houses	78.3	5.0
Umbrellas	67.6	6.0
How Water Affects our Weather	71.1	6.0
Volcanoes	78.3	6.0
Big City Noise	85.8	5.0

Flesch Reading Ease and Flesch-Kincaid Reading Grade Level.

The Flesch Reading Ease and the Flesch-Kincaid Reading Grade Level are tests which are designed to provide a measure and indication of the readability of English text (Educational Technology Clearinghouse, n.d.); in particular, a passage of contemporary academic English.

Both methods use the same word length and sentence length, but apply different weighting factors to provide their respective scores. With the Flesch Reading Ease, a higher score signifies an easier text, and a lower score, one which is more difficult.

The Flesch Readability Ease (FRE) uses the following formula:

$$FRE = 206.835 - (1.015)\left(\frac{total\ number\ of\ words}{total\ number\ of\ sentences}\right) - 84.6\left(\frac{total\ number\ of\ syllables}{total\ number\ of\ words}\right)$$

The following scale is used to categorise the results (My Byline Media, n.d.):

90-100	Very Easy
80-89	Easy
70-79	Fairly Easy
60-69	Standard
50-59	Fairly Difficult
30-49	Difficult
0-29	Very Difficult

According to this subjective scale, the topics for the test used in this study fall within the standard and fairly easy categories (67.6 – 85.8).

In contrast to this, the Flesch-Kincaid Reading Grade Level (FKR) uses a lower score to indicate an easier text, and a higher score to signify harder passages. It uses the following formula:

$$FKR = .39\left(\frac{total\ number\ of\ words}{total\ number\ of\ sentences}\right) + 11.8\left(\frac{total\ number\ of\ syllables}{total\ number\ of\ words}\right) - 15.59$$

The result (FKR) is equivalent to the grade of the student. For example, if the result is 5.3, the passage should be readable to a 5th grade student. According to this scale, the topics for the test used in this study can be read by a 5th-6th grade L1 student.

Though it is not applicable for this study, the Flesch-Kincaid Reading Grade Level has a maximum value of 12, which is equivalent of 12th grade. (My Byline Media, n.d.).

For this study, all readability tests and grades were performed on the same computer, and using the same version of Microsoft Word. There are certain websites available which proclaim to offer exactly the same tests but record different scores to that obtained from Microsoft Word.

Reading ability test in this study has been constructed in order to evaluate student's reading ability. The test consists of word recognition and reading comprehension. The test items promote students' use of the reading strategies: Goal Setting, Using Background Knowledge, Skimming, Scanning, Using Context Clues, Self-evaluation, and Feedback. The students were supposed to apply Goal Setting before starting the test; apply Using Background Knowledge, Skimming, Scanning, and Using Context Clues during the test; and, apply Self-evaluation after finishing the test. For the Feedback strategy, they were supposed to apply all the feedback they have got during the implementation to improve their reading ability. Based on Bloom's Taxonomy, the test items support the students in both lower-order and higher-order thinking skills of comprehension process. These include remembering (11 items), understanding (11 items), applying (1 items), analysing (4 items), evaluating (2 items), and creating (1 items). Reading strategy uses while performing test and comprehension processes are presented as follow:

Table 3.2: Elements of Reading Ability Test and Items

Sections	Reading strategy uses	Comprehension processes	Items
1. Word Recognition	-Using Background Knowledge -Skimming -Using Contexts Clues	-Remembering -Understanding	1-10
2. Reading Comprehension	Passage 1: Using Background Knowledge, Skimming	-Understanding	11
	-Scanning	-Understanding	12
	-Scanning	-Remembering	13
	-Scanning	-Analysing	14
	-Scanning	-Applying	15
	-Scanning		
	Passage 2: Using Background Knowledge, Skimming	-Remembering	16
	-Scanning	-Remembering	17

	-Using Background Knowledge -Scanning -Scanning -Scanning	-Understanding -Analysing -Evaluating	18 19 20
	Passage 3: Using Background Knowledge, Skimming -Scanning -Scanning -Scanning -Scanning -Using Background Knowledge	-Remembering -Understanding -Understanding -Analysing -Evaluating	21 22 23 24 25
	Passage 4: Using Background Knowledge, Skimming -Scanning -Using Background Knowledge -Scanning	-Remembering -Remembering -Understanding -Analysing	26 27 28 29

	-Scanning -Using Background Knowledge	-Creating	30

Validity and reliability check.

1. Validity

Four experts were asked to validate the test. The Index of Item Objective Congruence (IOC) was developed and used to check whether the test was appropriate in terms of the instructions, time, content, test items, and choices. The IOC index ranges from -1 to 1 as follows:

Congruent = 1

Questionable = 0

Incongruent = -1

After the experts have validated the test, the value of IOC for each item was calculated. The results showed that most of the test items gained above the target value of .6, which means they were congruent with the criteria set. However, there were some items needed to be modified and these items were 11, 12, 16, 28, 29, and 30. From the expert's comments, all the suggested items have been revised.

2. Reliability

After the revision of the test, the test was piloted with another class of grade 9 students who have similar characteristics as the participants in this study. After that each test item was analysed for the difficulty and discrimination index; and, the results were between .23 and .80 for the difficulty index and at least .2 for the discrimination index, which were satisfied. The criteria for the difficulty index and the discrimination index were set based on Whitney and Sabers (as cited in Vega, 2010). The interpretations are as follows:

For the difficulty index (p)

p < .20	means the item is difficult.
p = .20-.80	means the item is good in terms of its difficulty.
p = .81-.94	means the item is easy.
p ≥ .95	means the item is very easy.

For the discrimination index (r)

r = 0	means the item has no discrimination ability.
r ≥ .19	means the item has a low discrimination ability.
r = .20-.29	means the item has a fair discrimination ability.

r = .30-.39 means the item has a high discrimination ability.

r ≥ .40 means the item has a very high discrimination ability.

The Kuder-Richardson-20 formula (KR-20) was employed to calculate the overall reliability of the test; and, the value of KR-20 was .71, meaning that the test has high reliability and can be used for the study.

Reading self-efficacy questionnaire.

The reading self-efficacy questionnaire was adopted from Henk and Melnick (1995) and translated into Thai by the researcher. It was then validated by three experts regarding the correctness and appropriateness of the language. The questionnaire is called the Reader Self-Perception Scale (RSPS). It consists of four aspects: Progress (PR), Observational Comparison (OC), Social Feedback (SF) and Physiological States (PS). The first aspect—Progress—is defined as the present reading performance compared with the past performance. The second aspect—Observational Comparison—refers to one's own reading performance compared with the performance of classmates. The third aspect—Social Feedback—concerns encouragement about reading from teachers, classmates, and family. The final aspect—Physiological States—regards internal feeling during reading. The total item value for the questionnaire is 33. The questionnaire presents the four aspects in a random order without categories and scoring number. All the 33 items are presented in the form of 5-point numeral Likert scales. Students were asked to rate the extent to which they agree with each

statement of English reading and they have 20 minutes to complete the questionnaire. The Likert scales in the questionnaire are as follows:

SA = Strongly Agree

A = Agree

U = Undecided

D = Disagree

SD = Strongly Disagree

Each item of the reading self-efficacy questionnaire is worth 5 points and the overall score is 160. The score interpretation is: SA = 5, A = 4, U = 3, D = 2 and SD = 1 (Item 1 does not count for a score because it is about general perception and is not included in the four aspects of reading self-efficacy scale). Henk and Melnick have set their levels of reading self-efficacy as follows:

Table 3.3: Levels of Reading Self-efficacy in Total Scores

Levels	**Progress**	**Observational Comparison**	**Social Feedback**	**Physiological States**
High	44+	26+	38+	37+
Moderate	39	21	33	31
Low	34	16	27	25

From the scale shown, Table 3.3 presents the minimum score required for each reading level category with a total score of 160; however, to facilitate further understanding, the mean scores from each category have been recalculated by using the total score divided by the number of questions, to obtain the mean score as presented in Table 3.4:

Table 3.4: Levels of Reading Self-efficacy in Mean Scores

Levels	**Progress**	**Observational Comparison**	**Social Feedback**	**Physiological States**	**Total Mean Scores**
High	4.9+	4.3+	4.2+	4.6+	4.5
Moderate	4.3	3.5	3.7	3.9	3.9
Low	3.8	2.7	3.0	3.1	3.2
Total Mean Scores	4.3	3.5	3.6	3.9	3.8

Note: A score that falls under the low range indicates a child's somewhat indifferent perception of themselves as a reader with respect to the four aspects of reading self-efficacy, and is categorised in this study as *Under Low.*

Validity.

The items were translated into Thai and they were then validated. The Index of Item Objective Congruence (IOC) was developed and used to check whether the translation from English to Thai was correct and appropriate. Three IOC experts were asked to validate the questionnaire. The IOC index ranges from -1 to 1 as follows:

Congruent	=	1
Uncertain	=	0
Incongruent	=	-1

After the experts have validated the questionnaire, the value of IOC for each aspect was calculated. The results showed that most aspects gained above the target value of .6, which means they were congruent with the criteria set and the questionnaire can be used for the study. However, there were three statements items needed to be modified, which were statement items 18, 21, and 25. Furthermore, expert C has commented that each statement should be added “English reading” to avoid students’ confusion with reading Thai. From the experts’ comments, all the suggested items have been revised.

As the questionnaire was adopted from Henk and Melnick (1995), reliability was not performed in this study. However, the questionnaires were piloted with another class of grade 9 students in order to be sure that the statements translated can be clearly understood. The result from the pilot showed there was no problem or difficulty among the students and the

questionnaires were then used with the sample group of the study. In addition, the researcher explained to the students item-by-item when completing the questionnaire in order to help their understanding of the statements.

Reading strategies-use checklist.

The Reading Strategies-use Checklist was constructed to collect the data of what reading strategies the participants used while performing the test. This helped to explain the results from the research question 1—To what extent does the reading strategies instruction improve students' reading ability?—whether or not the students have effects from the seven reading strategies implemented. Six students were asked to perform the test individually using *think-aloud* technique. They were chosen from different reading ability achievement: high reading achiever, moderate reading achiever, and low reading achiever. Two students from each level were selected to participate in this stage. The selected group was asked to perform the test individually and think aloud while completing the test; the researcher checked the strategies they have used. They were then asked with one open-ended question. Before they started to do the test, they were informed that they were going to speak aloud of what they think while doing the test.

As the think-aloud technique was not an explicit teaching in this study, the researcher modelled performing this method for the first few questions. The students were then given 20 minutes for preparation before starting. They were also reminded that they should use all the reading strategies they have learnt during this test. The test used for the think-aloud method was the same test as the pre-test post-test and all six students had undertaken the pre- and post-test previously. Therefore, the procedure of thinking aloud in this study was to find out what reading strategies students used with their reading and for them to verbally describe how they carried out their post-tests. When they did not speak aloud, the researcher prompted them with questions to elicit which reading strategies they actually used.

According to Gass and Mackey (2012), think-aloud, or verbal reporting, which includes stimulated recall, are subsets of introspective methodology—a common, widely used source of data elicitation in L2 and EFL research. Stimulated recall methodology is used to explore students' thought processes or strategies while performing a task or activity. Students will be asked to report their thoughts after completing a task in order to gain information about their thinking, understanding, and decision making during the task. Stimulated recall is undertaken with support for their recollection, such as giving them a written task, or returning their original work, or showing them a recording of the video tape made. In addition, clear guidelines should be given to participants before they begin the stimulated recall interview and the procedure should be undertaken as soon as possible following the assigned task (Mackey & Gass, 2005; Schepens, Aelterman, & Van Keer, 2007).

Following the literature, the think-aloud method used in this study can be called a *stimulated recall interview,* where the teacher asks the student to recall the steps they took to complete the assigned task; and, prompts the student by eliciting their thought processes with direct, open-ended questions such as “What are you thinking right now?”, “Can I ask you, what you did next?”, to both encourage the participant to vocalize their thought processes, and also to help students to understand the kinds of questions they should be asking themselves during the procedure.

Validity.

The items were constructed and they were then validated. The Index of Item Objective Congruence (IOC) was developed and used to check whether the items were appropriate. Three IOC experts were asked to validate the checklist whether it was appropriate in terms of the format and questions used. The IOC index ranges from -1 to 1 as follows:

Congruent	=	1
Uncertain	=	0
Incongruent	=	-1

After the experts have validated the checklist, the value of IOC for each aspect was calculated. The results showed that most aspects gained below the target value of .6, which means they were not congruent with the criteria set. Expert C has suggested that the questions should be modified into the form of

a checklist as they were too general and inappropriate for collecting the data. From the expert's comments, the checklist has been revised. At the end of the implementation, the checklist was piloted with another group of grade 9 students who have similar characteristics as the participants in this study. This would help to be certain that the checklist is suitable for collecting the data and to prevent any problems that might occur while using it with the sample group. The results from the pilot showed there was no problem happened and the students completely understood the open-ended question at the end of the checklist.

Lesson plans.

Lesson plans in this study were based on the strategy-based reading instruction and includes the following 5 phases:

Phase 1, Reviewing: Teacher assists students to activate their prior knowledge and identify what they already know about the topic using the Using Background Knowledge strategy.

Phase 2, Modelling: Teacher presents how to use the reading strategies, including: Skimming, Using Context Clues, Scanning, and Goal Setting.

Phase 3, Coaching: Students perform tasks independently within the classroom, attend discussions, give feedback to each other, and receive feedback from the teacher using the Feedback strategy.

Phase 4, Evaluating: Students check their performance and what has been learned using the Self-evaluation strategy.

Phase 5, Expanding: Students apply the reading strategies independently outside of the classroom (refer to Appendix R).

There were eight lesson plans in this study and each lesson plan contains two periods (50 minutes per period). One passage was used for one lesson plan. Some of the eight passages were adopted and some were adapted from different sources which involve the content of geography, history, science and short stories. This would allow the students to experience different types of reading texts and strategies used. The topics for the lesson plans were chosen based on: (a) the students' background knowledge, they were informally interviewed whether they ever heard about the given topics; and, (b) the rating and difficulty of the Flesch reading ease and Flesch-Kincaid reading grade level. As the programme is suited for L1 readers, following the pilot study, the reading grade level was adjusted from 5 to 6 to allow for L2 readers within the context of this study. This is as follows:

Table 3.5: Readability Levels for Lesson Plans

Topics	**Flesch reading ease**	**Flesch-Kincaid reading grade levels**
Leonardo da Vinci	69.8	5.2
Rice	70.5	6.0
The Sun	77.3	5.0
Thunder and Lightning	70.5	6.0
Water	77.3	5.0

Maps	74.1	6.0
The Park	79.5	5.2
One Hundred Dollars	77.0	5.1

Reading strategies included in the lesson plans and were implemented with the students were Using Background Knowledge, Skimming, Scanning, Using Context Clues, Goal Setting, Self-evaluation, and Feedback. The seven reading strategies were selected based on the literature, content goals, learning objectives, and classroom. The students have practiced one strategy at a time from the first step of reading a passage. The seven reading strategies proposed would be able to assist the students to see the steps of reading clearly and when and how to apply them effectively and independently. The steps of teaching are presented as follows:

Validity.

Three IOC experts were asked to validate the lesson plans. The Index of Item Objective Congruence (IOC) was developed and used to check whether the lesson plans were appropriate in terms of the content, time, and strategy-based reading instruction learning. The IOC index ranges from -1 to 1 as follows:

Congruent = 1

Uncertain = 0

Incongruent = -1

After the experts have validated the lesson plan, the value of IOC for each aspect was calculated. The results showed that each aspect gained above the target value of .6, which means they were congruent with the criteria set; and, the lesson plan can be used for the study. However, expert A has suggested that each activity should be provided more time to allow for students to be able to complete the exercise. Furthermore, expert C has commented that the objectives of the lesson plan should have stated the name of the strategy which supports each objective. From the experts' comments, all the suggested aspects have been revised.

After the validation, one lesson plan was piloted with another class of grade 9 students who have similar characteristics as the participants so as to be certain that the teaching activities would go as plan. The teaching activity was conducted interchangeably in both Thai and English, however, when the teacher thought aloud it was performed in the Thai language. This would help the students to understand the process of thinking and obtaining information or answers to a question clearly. The result of the pilot was found no problems; the students understood the instructions of activities; and, they finished the exercise within the time provided.

Table 3.6: Summary of Research Instruments

Instruments	Aspects of IOC index	Value of IOC	KR-20	Number of items/lessons
Reading Ability Test	-Instructions -Time -Contents -Test items, Choices	.60	.75	30
Reading Strategies-use Checklist	-Format -Questions	.6	-	33
Reading Self-efficacy Questionnaire	-Instructions -Time -Language use -Translation	.60	.80	33
Lesson Plans	-Contents -Time -Objectives -Materials/Worksheets -Strategy-based reading instruction learning	.60	-	8 lesson plans, 2 periods per lesson

Data Collection Procedures

The data collection consists of three phases including: Phase I, before the implementation; Phase II, during the implementation; and, Phase III, after the implementation. This is as follows:

Phase I: Before the implementation.

After the instruments were validated, revised, and piloted, they were used with the sample group of students from grade 9, semester 2, and academic year 2013 at Krathiamwittaya School. The participants were informed that they were going to learn how to use different reading strategies for two periods of 100 minutes per week, for duration of 8 weeks, and they were not allowed to take any special lessons, do activities, or attend tutorials related to the English language during this period. They were then asked to take the pre-test for reading ability (Week 1). The objectives and instructions of the test were explained to the students in Thai. During week 1, in the second period, they took the pre-questionnaire for reading self-efficacy. The pre-test contains 30 items and the students have 60 minutes to complete it. The pre-questionnaire contains 33 items and the students have 20 minutes to complete it. They were also informed that the scores of the pre-test and pre-questionnaire were used to compare with the scores of the post-test and post-questionnaire in order to find the improvement of their reading ability and reading self-efficacy at the end of the 8 weeks of lessons.

Phase II: During the implementation.

The students participated in the reading classes using the strategy-based reading instruction for 2 periods per week for a total of 8 weeks (Weeks 2-9). In class, there were seven tables set for the students sitting in groups. The students were randomly selected to be in groups of five, A to G. For the first week, the students in group A were asked to sit at table number 1; group B students sat at table number 2; group C students sat at table number 3 and so forth. For the second week, group A students moved to table number 2; group B students moved to table number 3 and so on for the entire duration of the study.

Phase III: After the implementation

The post-test for reading ability was comprised of the same test and duration as the reading ability pre-test, and was distributed to the students in week 10. The post-questionnaire was then distributed in the second period of the same week. The same questionnaire and conditions was used for reading self-efficacy. Six students were asked to perform the test individually using *think-aloud* method in order to investigate the use of strategies.

Table 3.7: Summary of Data Collection

Before the implementation
Week 1: The pre-test for reading ability and pre-questionnaire for reading self-efficacy were distributed.
During the implementation
Week 2-9: The strategy-based reading instruction was implemented.
After the implementation
Week 10: The post-test for reading ability and post-questionnaire for reading self-efficacy were distributed. The Reading Strategies-Use Checklist was used to collect the qualitative data.

Data Analysis

The SPSS program was employed to analyse the quantitative data of the pre-test post-test for reading ability and pre- and post-questionnaire for reading self-efficacy as follows:

Research objective 1.

To investigate the improvement of students' reading ability following implementation of the strategy-based reading instruction.

Two-dependent sample t-test was used to find mean scores, standard deviations, and whether there was a significant difference of the scores between the pre-test and the post-test for reading ability so as to gain the result of the extent to which the strategy-based reading instruction helped improve reading ability. In addition, for in-depth information about the results and to understand

the magnitude of the effects presented in the data are, the effects size measure has been applied.

Research objective 2.

To investigate the effects of the strategy-based reading instruction on students' reading self-efficacy.

The arithmetic mean and standard deviation were used to calculate for each item of the questionnaire, a two-dependent sample t-test was then used to conducted to determine the differences between pre- and post-questionnaire for reading self-efficacy in order to investigate whether or not the strategy-based reading instruction used in this study helped enhance students' reading self-efficacy.

Research objective 3.

To examine the relationship between students' reading ability and reading self-efficacy.

Correlation coefficient was employed to find the relationship between reading ability and reading self-efficacy in the purpose of gaining information regarding whether or not they were related and positively or negatively.

Research objective 4.

To find out what implemented reading strategies students have used with their reading.

The information obtained was used to explain the results from research question 1 and to confirm that the improvement was as a direct result of the implemented reading strategies taught.

Table 3.8: Summary of Data Analysis

Research Objectives	Analysis Tools
1. To investigate the improvement of students' reading ability following implementation of the strategy-based reading instruction.	Two-dependent sample t-test, means, standard deviations, effect size
2. To investigate the effects of the strategy-based reading instruction on reading self-efficacy.	Arithmetic mean, standard deviation, two-dependent sample t-test
3. To examine the relationship between reading ability and reading self-efficacy	Correlation coefficient
4. To find out what implemented reading strategies students have used in their reading.	Content analysis

Summary

This study aimed to find the effects of strategy-based reading instruction on reading ability and reading self-efficacy of lower secondary school students as well as the relationship between reading ability and reading self-efficacy. The experimental research design was employed using one group pre-test post-test. The participants were grade 9 students who were studying in semester 2,

academic year 2013 at Krathiamwittaya School, Surin province. The data was analysed by using quantitative and qualitative data; quantitative data was used as the main source. Four instruments were used in this study: reading ability test, reading strategies-use checklist, reading self-efficacy questionnaire, and lesson plans which was used as a treatment instrument. Procedures of collecting the data consisted of three phases: before the implementation, during the implementation, and after the implementation. Inferential and descriptive statistics were used to analyse the data using means, standard deviations, two-dependent sample t-test, and correlation coefficient.

Chapter IV: Findings

This section provides the results of reading ability following implementation of the proposed instructional framework. The mean scores of the pre-test post-test and reading strategies used have been presented. Moreover, the scales of students' reading self-efficacy have been shown and the relationship between reading ability and reading self-efficacy has been analysed.

Reading Ability

Research question one explored the effect of the strategy-based reading instruction on students' reading ability. The pre-test scores were used to divide the participants into high reading achievers, moderate reading achievers, and low reading achievers; the post-test mean scores were then used to compare against the pre-test mean scores to find the extent to which the instruction improved students' reading ability. The question and results are presented below:

Research question 1: To what extent does the strategy-based reading instruction improve students' reading ability?

Research hypothesis 1: Students' post-test scores should be significantly higher than that of the pre-test scores for reading ability at a level of .05.

The reading ability test was used to evaluate the students' reading ability. The test evaluated the students in the aspects of vocabulary and comprehension and promoted students' comprehension process levels: remembering, understanding, applying, analysing, evaluating, and creating, based

on Bloom's Taxonomy. Table 4.1 shows the pre-test post-test mean scores, standard deviations, t-values, degrees of freedom, and significance levels for all participants.

Table 4.1: Results of Pre-test Post-test for Reading Ability of All Participants

Reading ability	N	$\bar{X}$	S.D.	Mean differences	t.	df.	Sig.
Pre-test	30	12.70	3.84	8.83	61.13	29	.000*
Post-test	30	21.53	3.84				

*p<.05

The results from Table 4.1 show the post-test mean score and the pre-test mean score of reading ability for all participants. The findings revealed that the post-test mean score ($\bar{X}$ = 21.53, S.D. = 3.84) was significantly higher than that of the pre-test mean score ($\bar{X}$ = 12.70, S.D. = 3.84) at a level of .000 (p<.05) with a mean difference of 8.80, t-value of 61.13, and degrees of freedom of 29. The results indicate that the strategy-based reading instruction helped to improve students' English reading ability. Therefore, the research hypothesis for question one was accepted. The results of pre-test post-test are also presented graphically in Figure 4.1:

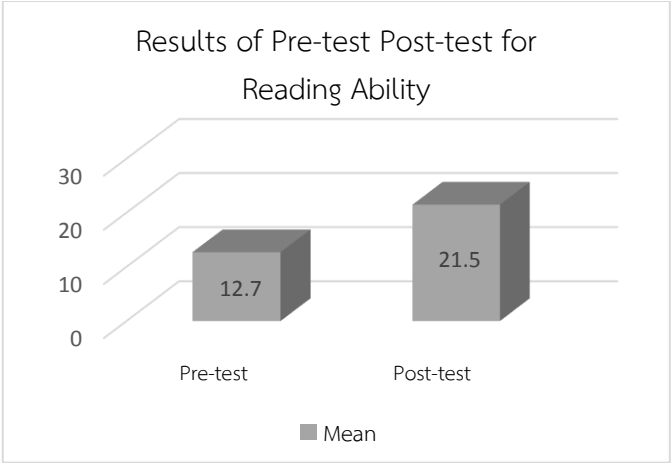

Figure 4.1: Results of Pre-test Post-test for Reading Ability of All Participants

As Figure 4.1 shows, the mean score of the post-test of the sample group was higher than that of the pre-test with a mean difference of 8.80.

The finding of the pre- and post-test for reading ability were also analysed in detail for each reading achievement level in order to investigate the improvement of the instruction. Table 4.2 shows the pre-test post-test mean scores, standard deviations, t-values, degrees of freedom, and significance levels of high reading achievers, moderate reading achievers, and low reading achievers at the different reading achievement levels.

Table 4.2: Results of Pre-test Post-test for Reading Ability at Different Reading Achievement Levels

Reading achievement levels	N	$\overline{X}$	S.D.	Mean differences	t.	df.	Sig.
High reading achievers	10			8.40	51.44	9	.000*
Pre-test		16.90	2.33				
Post-test		25.30	2.00				
Moderate reading achievers	13			9.39	52.02	12	.000*
Pre-test		12.00	.91				
Post-test		21.38	1.45				
Low reading achievers	7			8.43	28.34	6	.001*
Pre-test		8.00	2.31				
Post-test		16.43	2.70				

*p<.05

The results from Table 4.2 show the post-test mean score and the pre-test mean score of reading ability of all different reading achievement levels. The findings revealed that the post-test mean score of high reading achievers ($\overline{X}$ = 25.30, S.D. = 2.00) was significantly higher than that of the pre-test mean score ($\overline{X}$ = 16.90, S.D. = 2.33) at a level of .000 (p<.05) with a mean difference of 8.40, t-value of 51.44, and degrees of freedom of 9. In addition, the post-test mean score of moderate reading achievers ($\overline{X}$ = 21.38, S.D. = 1.45) was significantly higher than that of the pre-test mean score ($\overline{X}$ = 12.00, S.D. = .91) at a level of

.000 (p<.05) with a mean difference of 9.39, t-value of 52.02, and degrees of freedom of 12. Finally, the post-test mean score of low reading achievers ($\overline{X}$ = 16.43, S.D. = 2.70) was significantly higher than that of the pre-test mean score ($\overline{X}$ = 8.00, S.D. = 2.31) at a level of .000 (p<.05) with a mean difference of 8.43, t-value of 28.34, and degrees of freedom of 8. The results indicate that there were significant differences between the pre-test and post-test mean scores for reading ability of high reading achievers, moderate reading achievers, and low reading achievers at the level of .05. The results of pre-test post-test of the different reading achievement levels are also presented graphically in Figure 4.2:

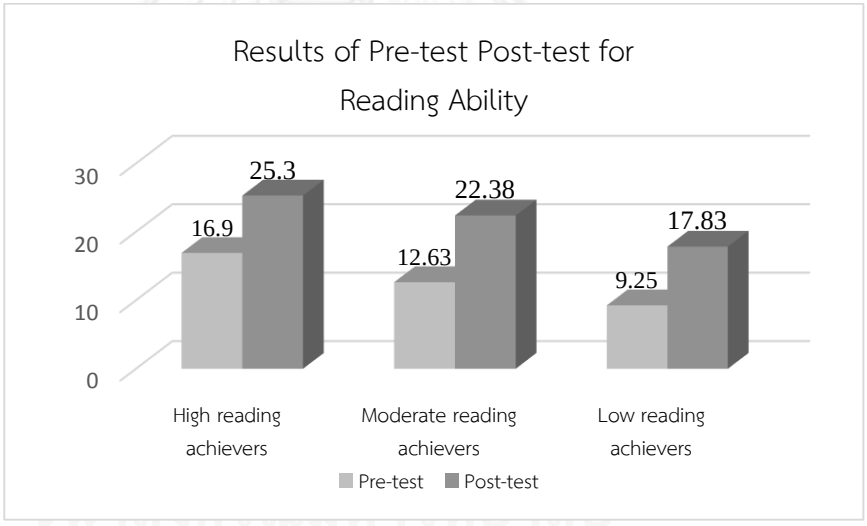

Figure 4.2: Results of Pre-test Post-test for Reading Ability at Different Reading Achievement Levels

Figure 4.2 shows that the students who had high reading ability have progressed further in their reading ability than the other two groups. The mean score of the post-test of high reading achievers was 25.30 (S.D. = 2.00), moderate reading achievers was 21.38 (S.D. = 1.45), and low reading achievers was 16.43 (S.D. = 2.70).

For in-depth information about the results and to understand the magnitude of the effects presented in the data are, the effects size measure has been applied and results are as shown in Figure 4.3:

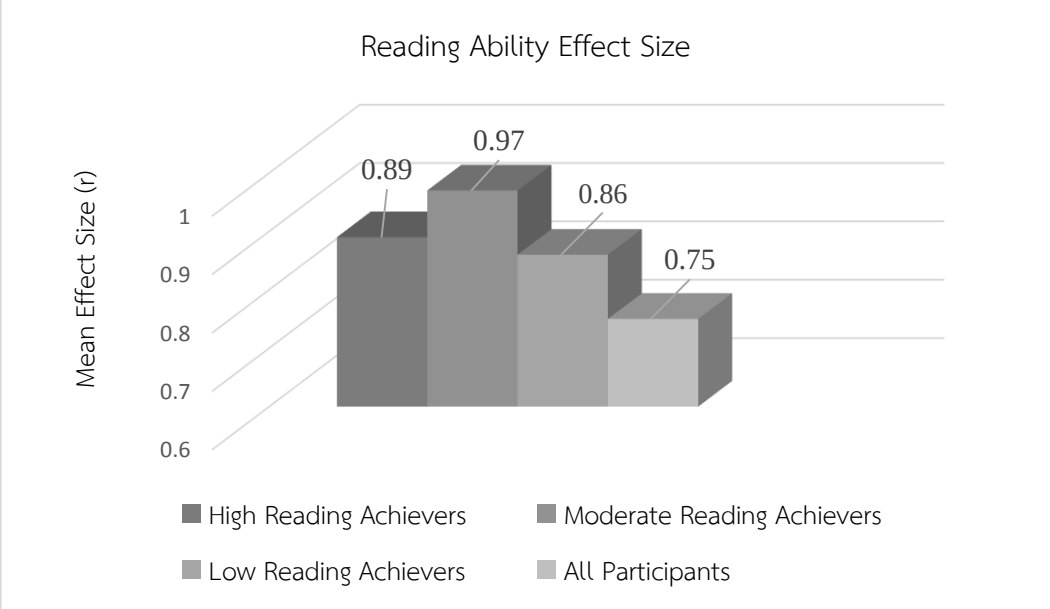

Figure 4.3: Reading Ability Effect Size

As Figure 4.3 shows, based on the correlation coefficient, the size of the effect for high reading achievers was *r* = 0.89, for moderate reading achievers was *r* = 0.97—which was the largest effect—and, for low reading achievers was *r* = 0.86. The results also showed that the effect size of all participants was *r* = 0.75. According to Cohen (1988), he suggested guidelines when comparing or interpreting results against these effect sizes, proposing that an *r* value of .1 signifies a 'small' effect size,.3 is 'medium', and .5 denotes a 'large' effect size; therefore, the results of the effect size in this study can be interpreted that students from all different reading achievement levels have large sizes effect results, meaning that the implemented strategy-based reading instruction was extremely effective.

Reading Self-efficacy

Research question two explored the effect of the strategy-based reading instruction on students' reading self-efficacy. The pre-questionnaire scores were used to categorise the participants into high reading self-efficacy, moderate reading self-efficacy, and low reading self-efficacy; the post-questionnaire scores were used to compare against the pre-questionnaire scores to find the extent to which the instruction improved students' reading self-efficacy. The question and results are presented below:

Research question 2: To what extent does the strategy-based reading instruction improve students' reading self-efficacy?

Research hypothesis 2: Students should have a higher post-questionnaire mean score than that of the pre-questionnaire for reading self-efficacy at a significance level of .05.

The reading self-efficacy questionnaire was used to assess the levels of students' reading self-efficacy. The questionnaire assessed the students in the following four aspects: progress, observational comparison, feedback, and physiological states.

Table 4.3 shows the pre- and post-questionnaire mean scores, standard deviations, t-values, and significance levels of all participants.

Table 4.3: Results of Pre- and Post-questionnaires for Reading Self-efficacy of All Participants

Reading self-efficacy	N	$\bar{X}$	S.D.	Reading self-efficacy levels	t.	Sig.
Pre-questionnaire	30	2.75	.32	Under Low	44.75	.000*
Post-questionnaire	30	3.70	.35	Low		

*p<.05

The results from Table 4.3 show the mean scores from the pre- and post- reading self-efficacy questionnaires for all participants. The results revealed that the mean score of the post-questionnaire ($\bar{X}$ = 3.70, S.D. = .32) was significantly higher than that of the pre-questionnaire ($\bar{X}$ = 2.75, S.D. = .35) at the level of .000 (p<.05) with a mean difference of .94, and t-value at 44.75. The results indicate that the strategy-based reading instruction helped to improve students' English reading self-efficacy. Before implementation, all participants have scored under low levels of reading self-efficacy, which mean that they had an indifferent perception of themselves as readers with respect to the four aspects of reading self-efficacy. However, following implementation, this was re-assessed and raised to a low level of reading self-efficacy. Therefore, the research hypothesis for question two was accepted. The results of pre- and post-questionnaires are also presented in Figure 4.4:

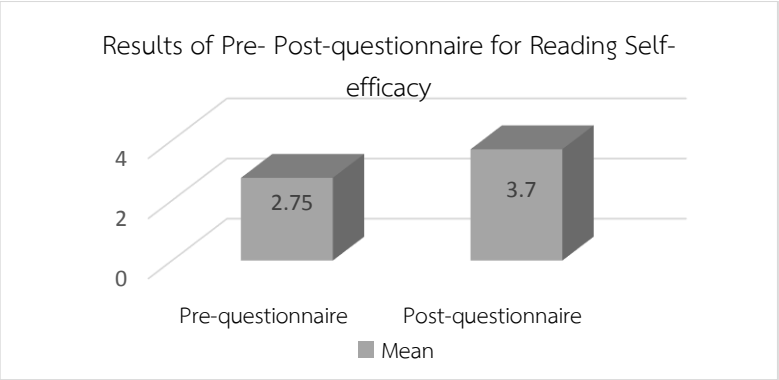

Figure 4.4: Results of Pre- and Post-questionnaires for Reading Self-efficacy of All Participants

Figure 4.4 shows that the mean score of the post-questionnaire of the sample group was higher than that of the pre-questionnaire with a mean difference of .94.

The finding of the pre- and post-questionnaires for reading self-efficacy were also analysed in detail for each reading achievement level in order to investigate the improvement of the instruction. Table 4.4 shows the pre- and post-questionnaire mean scores, standard deviations, t-values, and significance levels of high reading achievers, moderate reading achievers, and low reading achievers at the different reading achievement levels.

Table 4.4: Results of Pre- and Post-questionnaires for Reading Self-efficacy at Different Reading Achievement levels

Reading achievement levels	**N**	$\overline{X}$	**S.D.**	**Reading self-efficacy levels**	**t.**	**Sig.**
High Reading Achievers	10				24.75	.030*
Pre-questionnaire		3.08	.17	Under Low		
Post-questionnaire		4.09	.15	Moderate		
Moderate Reading Achievers	13				48.40	.000*
Pre-questionnaire		2.72	.16	Under Low		
Post-questionnaire		3.63	.14	Low		
Low Reading Achievers	7				18.98	.045*
Pre-questionnaire		2.35	.17	Under Low		
Post-questionnaire		3.24	.08	Low		

*p<.05

The results from Table 4.4 show the mean scores from the pre- and post- reading self-efficacy questionnaires of different reading achievement levels. The mean scores from the pre- and post- reading self-efficacy questionnaires of high reading achievers, moderate reading achievers, and low reading achievers were compared to analyse whether the strategy-based reading instruction helped improve students' reading self-efficacy. The results revealed that the

post-questionnaire mean score of high reading achievers ($\bar{X}$ = 4.09, S.D. = .17) was significantly higher than that of the pre-questionnaire ($\bar{X}$ = 3.08, S.D. = .15) at the level of .030 (p<.05) with a mean difference of 1.02 (N = 10), and t-value at 24.75. In addition, the post-questionnaire mean score of moderate reading achievers ($\bar{X}$ = 3.63, S.D. = .14) was significantly higher than that of the pre-questionnaire ($\bar{X}$ = 2.72, S.D. = .16) at the level of .000 (p<.05) with a mean difference of .91 (N = 13), and t-value at 48.40. Finally, the post-questionnaire mean score of low reading achievers ($\bar{X}$ = 3.24, S.D. = .08) was significantly higher than that of the pre-questionnaire ($\bar{X}$ = 2.35, S.D. = .17) at the level of .045 (p<.05) with a mean difference of .89 (N = 7), and t-value at 18.98. It can be seen that before implementation, high, moderate and low reading achievers have scored under low levels of reading self-efficacy, which mean that they had an indifferent perception of themselves as a reader with respect to the four aspects of reading self-efficacy. However, following implementation, the level of their reading self-efficacy rose to low level of reading self-efficacy. The results of the pre- and post-questionnaire at the different reading achievement levels are also presented in Figure 4.5:

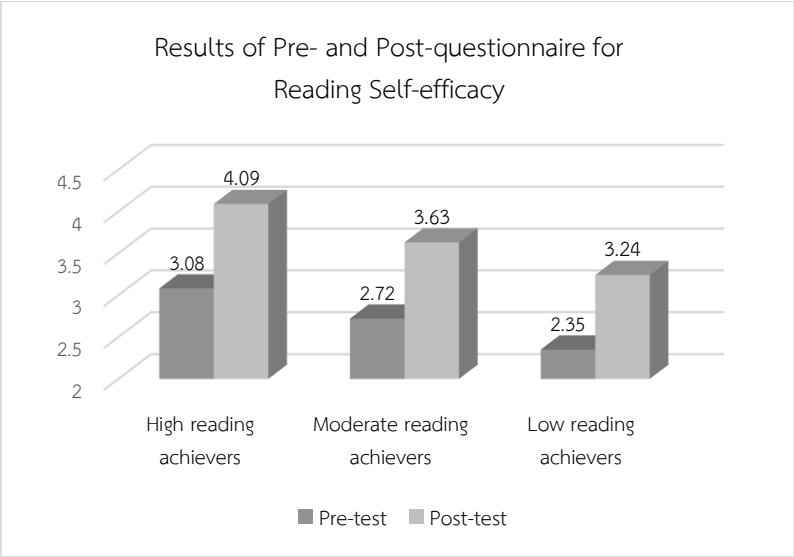

Figure 4.5: Results of Pre- and Post-questionnaires for Reading Self-efficacy at Different Reading Achievement Levels

According to Figure 4.5, it can be seen that all participants in the three different reading achievement levels had higher reading self-efficacy levels in English reading. Students in the high reading achievement group improved their reading self-efficacy the most with a mean score of 4.09 (S.D. = .15). Students in the moderate reading achievement group improved their reading self-efficacy slightly more than that of the low reading achievement group. The mean score of the moderate reading achievers was 3.63 (S.D. = .14) and the mean score of the low reading achievers was 3.24 (S.D. = .08).

The finding of the pre- and post-questionnaires for reading self-efficacy were also analysed in-depth for each aspect of reading self-efficacy. Table 4.5 compares the pre- and post-questionnaire mean scores, standard deviations, t-values, and significance levels of the three different reading achievements in the four aspect of reading self-efficacy.

Table 4.5: Comparisons of Pre- and Post-questionnaire Item Mean Scores for Reading Self-efficacy at Different Reading Achievement Levels in All Aspects

Reading Self-efficacy aspect	Reading achievement levels	N	Pre-questionnaire			Post-questionnaire			t.	Sig.
			$\overline{X}$	S.D.	Reading self-efficacy levels	$\overline{X}$	S.D.	Reading self-efficacy levels		
Progress	High	10	3.21	.32	Under Low	3.98	.25	Low	7.10	.394
	Moderate	13	3.03	.24	Under Low	3.50	.28	Under Low	6.81	.046*
	Low	7	2.63	.26	Under Low	3.38	.34	Under Low	5.16	.644
Observational Comparison	High	10	3.20	.45	Low	4.38	.43	High	5.84	.874
	Moderate	13	2.96	.36	Low	4.26	.38	Moderate	11.25	.247
	Low	7	2.46	.27	Under Low	3.14	.43	Low	2.76	.047*
Social feedback	High	10	2.90	.42	Under Low	3.87	.29	Moderate	8.51	.110
	Moderate	13	2.38	.34	Under Low	3.08	.33	Low	8.55	.023*

	Low	7	2.25	.21	Under Low	2.86	.14	Under Low	8.37	.295
Physiological States	High	10	3.04	.43	Under Low	4.26	.25	Moderate	8.54	.607
	Moderate	13	2.56	.45	Under Low	3.94	.36	Moderate	14.80	.011*
	Low	7	2.07	.39	Under Low	3.59	.24	Low	9.55	.703

For the progress aspect, the reading self-efficacy level for pre-questionnaire of all different reading achievement groups was under low—they had an indifferent view of themselves as a reader with respect to this aspects of reading self-efficacy; however, after the implementation, though the post-questionnaire showed that the high reading achievers group had improved to the low level, the level for moderate and low reading achievers remained the same. Despite there being no category change for the latter two groups, the results from the pre- and post-questionnaire mean score can be interpreted that the strategy-based reading instruction helped to improve the students' reading self-efficacy at all reading achievement levels. The results showed there was a significant difference between the pre- and post- questionnaires of reading self-efficacy of moderate reading achievers in this aspect.

For the Observational comparison aspect, though the reading self-efficacy levels for pre-questionnaire of high and moderate reading achievers were low, the reading self-efficacy level of low reading achievers was under low. In other words, the latter group had an indifferent perception of themselves as a reader with respect to the observational comparison aspects of reading self-efficacy. With regards to the reading self-efficacy levels, the high reading achievers group rose from low to high level, the moderate reading achievers group rose from low to moderate, and the low reading achievers group rose from under low to low. Therefore, though there were no significant differences between the pre- and post- questionnaires of reading self-efficacy for the high and moderate reading achievement groups, there was a significant difference for the low reading achievement group. The results can be interpreted that the

strategy-based reading instruction helped to improve the students' reading self-efficacy at all reading achievement levels in this aspect.

In the social feedback aspect, the high and moderate reading achievement groups of reading self-efficacy levels rose, with high reading achievers rising from under low to moderate, and moderate reading achievers rising from under low to low. With the low reading achievement group, even though the mean score of the post-questionnaire was higher than that of the pre-questionnaire but the level of reading self-efficacy remained the same. Therefore, the results can be interpreted that the strategy-based reading instruction helped to improve the students' reading self-efficacy across all reading achievement levels. The results also showed there was a significant difference between the pre- and post- questionnaires of reading self-efficacy of moderate reading achievers in this aspect.

All different reading achievement levels within the physiological states raised their reading self-efficacy levels: high and moderate reading achievers improved from under low to moderate; and, low reading achievers improved from under low to low. Therefore, the results can be interpreted that the strategy-based reading instruction helped to improve the students' reading self-efficacy at all reading achievement levels. The results showed there was a significant difference between the pre- and post- questionnaires of reading self-efficacy of moderate reading achievers in this aspect.

Relationship between Reading Ability and Reading Self-efficacy

Research question three explored the relationship between students' reading ability and reading self-efficacy. The post-test and post-questionnaire scores were used to find the correlation between the two variables. The question and results are presented as follows:

Research question 3: What is the relationship between students' reading ability and reading self-efficacy?

Research hypothesis 3: Students' reading ability and reading self-efficacy should have a positive relationship.

The reading ability test and reading self-efficacy questionnaire were used to investigate the correlation between students' reading ability and reading self-efficacy. Table 4.6 shows the relationship between post-test for reading ability and post-questionnaire for reading self-efficacy of all participants.

Table 4.6: Correlation between Reading Ability and Reading Self-efficacy of All Participants

Dependent Variables	N	$\overline{X}$	S.D.	Pearson Correlation	Sig. (2-tailed)
Post-test	30	21.53	3.85	.94	.000*
Post-questionnaire	30	3.70	.35	.94	.000*

*p<.05

The results from Table 4.6 show the post-test mean score and the post-questionnaire mean score of reading ability and reading self-efficacy for all

participants. A Pearson's correlation was run to determine the relationship between reading ability and reading self-efficacy values. The findings revealed a high positive relationship between the two variables, which means there was a very strong, positive correlation between reading ability ($\overline{X}$ = 21.53, S.D. = 3.85) and reading self-efficacy ($\overline{X}$ = 3.70, S.D. = .35) with a correlation coefficient value of .94 (N = 30, $p<.05$). The results indicate that reading ability and reading self-efficacy were strongly and positively related. In addition, based upon this sample, a significance test was performed to determine whether or not there was any evidence of a linear correlation present in the population. SPSS reported that the p-value for this test was .000; and, thus it signified a very strong evidence to believe H_1: that reading ability and reading self-efficacy were linearly correlated in the lower secondary school students. Therefore, it can be concluded that there was a statistically significant correlation between the two variables, meaning that an increase in reading ability significantly relates to an increase in reading self-efficacy, and vice versa; consequently, the research hypothesis for question three was accepted. The results of the relationship between reading ability and reading self-efficacy are also presented in Figure 4.6:

Figure 4.6: Correlations between Reading Ability and Reading Self-efficacy of All Participants

Figure 4.6 shows that reading ability and reading self-efficacy were positively related. Also, it should be noted that there appears to be a linear relationship between the two variables, indicating that students who had high reading ability also had high reading self-efficacy; and, students who had high reading self-efficacy also had high reading ability.

The finding of the post-test for reading ability and post-questionnaires for reading self-efficacy were also analysed in detail for each reading achievement level in order to investigate the improvement of the instruction. Table 4.7 shows the post-test and post-questionnaire mean scores, standard deviations, Pearson correlation, and significance levels of high reading achievers, moderate reading achievers, and low reading achievers.

Table 4.7: Correlations between Reading Ability and Reading Self-efficacy at Different Reading Achievement Levels

Reading achievement levels	**N**	$\overline{X}$	**S.D.**	**Pearson Correlation**	**Sig. (2-tailed)**
High reading achievers	10				
Reading ability		25.30	2.00	.96	.00*
Reading self-efficacy		4.10	.15	.96	.00*
Moderate reading achievers	13				
Reading ability		21.38	1.45	.91	.00*
Reading self-efficacy		3.63	.14	.91	.00*
Low reading achievers	7				
Reading ability		16.43	2.70	.46	.30*
Reading self- efficacy		3.24	.08	.46	.30*

*p<.05

The results from Table 4.7 show the post-test and post-questionnaire mean scores, standard deviations, Pearson correlation, and significance levels of high reading achievers, moderate reading achievers, and low reading achievers. A Pearson's correlation was run to determine the relationship between reading ability and reading self-efficacy values. The findings revealed a high positive relationship between the two variables and this indicates that there was a very strong, positive correlation between reading ability ($\overline{X}$ = 25.30, S.D. = 2.00) and

reading self-efficacy ($\bar{X}$ = 4.10, S.D. = .15) in the group of high reading achievers with a correlation coefficient value of .96 (N = 10, p<.05). SPSS also reported the p-value for this group as being .00; and, thus it could be said that there was a very strong evidence to believe H_1. In other words, there was an evidence to believe that reading ability and reading self-efficacy were linearly correlated in the high reading ability population; and, it can therefore be concluded that for the high reading achievement group there was a significant correlation between the two variables.

A high positive relationship was also found between the two variables in the group of moderate reading achievers, which means there was a very strong, positive relationship between reading ability ($\bar{X}$ = 21.38, S.D. = 1.45) and reading self-efficacy ($\bar{X}$ = 3.63, S.D. = .14) in this group with a correlation coefficient value of .91 (N = 13, p<.05). The p-value for this group was .00; and, thus it could be said that there was a very strong evidence to believe H_1. It could be concluded that there was also a significant correlation between the two variables for the moderate reading achievement group.

Despite the very strong, positive correlation for high and moderate reading achievers, there was only a moderate positive correlation between reading ability ($\bar{X}$ = 16.43, S.D. = 2.70) and reading self-efficacy ($\bar{X}$ = 3.24, S.D. = .08) in the group of low reading achievers with a correlation coefficient value of .46 (N = 7, p<.05). SPSS also reported the p-value for this group as being .30; and, thus it could be said H_0 cannot be rejected. As such, Pearson's correlation supported the hypothesis that there would be no linear relationship between reading ability and reading self-efficacy in the low reading ability population; and,

therefore, it could be concluded that there was no significant correlation between the two variables for the low reading achievement group.

Reading Strategies-use

Research question four investigated the reading strategies that the students used while performing the post-test. The results helped to identify whether the students applied the implemented reading strategies. The question and results are presented as follows:

Research question 4: How does the reading strategies-use checklist help to explain students' reading ability following implementation of the strategy-based reading instruction?

According to the research question, a decision was made to analyse the results of the reading strategies-use checklist based on the qualitative data. This would help to explore the in-depth information available about the strategies used by the samples in complementing the reading ability test. Two students from each reading achievement level completed the post-test using the think-aloud method. Each student was given 20 minutes for preparation before starting to do the test aloud. The results revealed that the selected group of students applied all seven implemented reading strategies, even though they did not use the strategy for every item. The group of high and moderate reading achievers took a similar and shorter time to complete the test, taking approximately 30 minutes; whereas, that of the low reading achievers took longer, taking almost 40 minutes. Furthermore, all of them indicated that the Feedback strategy helped to improve their reading *a lot*—the highest category. The results also

showed that high and moderate reading achievers had more confidence and made a quicker decision of what reading strategies to apply than the low reading achievement group. The six students from the high, moderate, and low reading achievement levels applied the implemented reading strategies with their reading ability test as follows:

Goal Setting—the students used the goal setting strategy to plan how long they have for completing the whole test and for each question. They set themselves 1 minute per item, which was 30 minutes for the whole test. They also recalled the reading strategies they have practiced. All of them set their goal after they had read the directions and looked through the test. When recalling this strategy, the sample sentences they spoke in Thai were:

"ข้อสอบมีทั้งหมด 30 ข้อ จะใช้กลวิธี Goal Setting ในการตั้งเป้าหมายในการทำข้อสอบ 30 นาที ซึ่งก็จะเป็น 1 ข้อ ต่อ 1 นาที".

"ข้อสอบมีทั้งหมด 30 ข้อ จะใช้ Goal Setting ในการตั้งเป้าหมายว่าทำข้อสอบให้เสร็จภายใน 30 นาที".

In English, this means:

"The test consists of 30 items. I will use the Goal Setting strategy to set goals to complete the test within 30 minutes, 1 item per 1 minutes".

"The test consists of 30 items. I will use Goal Setting to set goals to complete the test within 30 minutes".

Using Background Knowledge—as a result of the implementation, when the students started a new passage they recalled the using background knowledge strategy. They thought quickly about what they already knew about the topic and it was encouraging that all students, regardless of their reading achievement level, could recollect at least one item or fact they already knew about each topic. The topic that they could not recall a piece of information about was "How Water Affects our Weather". When recalling this strategy, the sample sentences they spoke in Thai were:

"จะใช้กลวิธี Using Background Knowledge เพื่อดูว่าเรารู้อะไรบ้าง เกี่ยวกับเรื่องนี้".

"จะใช้วิธี Using Background Knowledge เพื่อดูว่าเรารู้อะไรบ้าง".

In English, this means:

"I will use the Using Background Knowledge strategy to see what I already know about this topic".

"I will use the Using Background Knowledge method to see what I already know".

Skimming—as they have practiced in class, before the students looked at the test questions they each applied the skimming strategy by quickly reading the first sentence of each paragraph. However, for those passages where they did not get the main ideas from the first sentence, they then continued on to read the second sentence. For short stories, and as they have practiced, they skimmed through them by quickly reading only those words they knew. When recalling this strategy, the sample sentences they spoke in Thai were:

"จะใช้กลวิธีการ Skimming เพื่อหาใจความสำคัญ".

"จะใช้วิธีการ Skimming".

In English, this means:

"I will use the Skimming strategy to find the main ideas".

"I will use the Skimming method".

Scanning—for items 11-30, after they had skimmed through the passage, then they began to read the questions in order to look for key words. The scanning strategy was applied here by all students, regardless of the group or level they were in. Unsurprisingly, students from the high and moderate group could find the answer quicker than those in the low group. When recalling this strategy, the sample sentences they spoke in Thai were:

"เมื่อหาคีย์เวิร์ดเจอแล้วก็จะใช้กลวิธีการสแกน หรือ Scanning เพื่อหาคำตอบ".

"ต่อไปก็จะสแกนหาคำตอบ".

In English, this means:

"Once I found the key word I will then use the Scanning strategy or Scanning to look for the answer".

"Next, I will scan for the answer".

Using context clues—for items 1-10, the students showed they applied the using context clues strategy to guess the meaning of words they did not know or were unsure about, to obtain the correct answer. Furthermore, they

used this strategy throughout the test whenever they encountered an unknown word. Even though the Low reading achievers applied this strategy as best they could, it was apparent that they did not use this strategy effectively, which indicates that they are perhaps restricted by having a limited vocabulary; and, which could be rectified by having a wider and more varied vocabulary. When recalling this strategy, the sample sentences they spoke in Thai were:

"คำนี้ไม่รู้ความหมาย ก็จะใช้กลวิธีการเดาคำศัพท์ เพื่อหาความหมาย ซึ่งจะดูได้จากคำรอบๆ หรือบริบท".

"คำนี้จะเดาความหมายโดยใช้วิธี Using Context Clues".

In English, this means:

"I don't know the meaning of this word. I will use the Using Context Clues strategy to guess the meaning. I can guess from the surrounding words or context".

"I will guess the meaning of this word using the Using Context Clues method".

Self-evaluation—once the students finished the test they then applied the self-evaluation strategy to assess if they met the goal they set earlier: 1 minute per question, for the three reading achievement levels, totalling 30 minutes. The time allocation of the test was 60 minutes. As shown in the reading strategies-use checklist, high and moderate reading achievers set their expectations as per their abilities; and, low reading achievers set their expectation higher than their abilities. The results showed that students in the low group spent longer thinking about which strategy to use than the high and

moderate group did. When recalling this strategy, the sample sentences they spoke in Thai were:

"ทำข้อสอบเสร็จแล้วก็จะใช้กลวิธี Self-evaluation ในการประเมินตนเอง เพื่อดูว่าเราทำข้อสอบได้ตามที่ตั้งเป้าหมายไว้หรือไม่".

"ต่อไปจะประเมินตนเองโดยใช้วิธี Self-evaluation".

In English, this means:

"I finished doing the test. I will use the Self-evaluation strategy to assess myself to see if I meet the goals I have set".

"Next, I will assess myself using the Self-evaluation strategy".

Feedback—the students were questioned to obtain the result of the use of this strategy. The six students who participated from the different reading achievement levels were asked individually whether they thought that the feedback strategy had helped to improve their reading. It was encouraging to hear all of them state *Yes, a lot* – the highest category.

In conclusion, even though most students can use the implemented reading strategies correctly, they struggled when pronouncing the name of each strategy in English; and, this was particularly apparent for the low reading achievers who, lacking in confidence, lowered their voices when pronouncing the strategy names.

Summary

This chapter presented the findings which responded to the four research questions. The results were statistically analysed and used to test the hypotheses. According to research hypothesis one, the finding revealed that the students' post-test mean scores were significantly higher than that of the pre-test at the level of .05. The finding yielded results which were similar to research hypothesis two where the students had a higher post-questionnaire mean score than that of the pre-questionnaire. Considering the correlation between reading ability and reading self-efficacy in research hypothesis three, reading ability and reading self-efficacy had a very strong, positive relationship. Furthermore, the reading strategies-use checklist helped to ensure that the students from the high, moderate, and low reading achievement levels actually used all seven implemented reading strategies with their reading.

Chapter V: Discussions and Recommendations

This section begins with a summary of the study including the research objectives, research design, and research methodology; following which, the findings of the study are then concluded and discussed. Finally, pedagogical implications and suggested recommendations for teachers and further studies are addressed.

Summary of the Study

This study has explored the strategy-based reading instruction on reading ability and reading self-efficacy of lower secondary school students, and the relationship between the two dependent variables. The research objectives were: 1) To investigate the improvement of students' reading ability following implementation of the strategy-based reading instruction; 2) To investigate the effects of the strategy-based reading instruction on reading self-efficacy; 3) To examine the relationship between reading ability and reading self-efficacy; and, 4) To find out what implemented reading strategies students have used with their reading. The study employed an experimental research using pre-test post-test. The data was analysed using quantitative and qualitative data, with the former being used as the main source of the study. The participants were selected by the use of purposive sampling design, and randomization and blocking methods were then employed: randomization was used to randomly select students to be in groups of five (A to E) and the sequence of the topics to be taught in class; and, blocking was used to divide the experiment into different groups on different weeks. The total number of participants was 30,

with 25 female and 5 male students; and, the age range of the students was from 14 to 15 years old. The study took ten weeks: eight weeks for implementing the instruction and two weeks for distributing the test and questionnaire. There were four instruments in this study: three of which—reading ability test, reading strategies-use checklist, and reading self-efficacy questionnaire—were used to collect the data; and, the fourth—lesson plans—was used as the treatment instrument. The data collection procedures included three phases: the first phase concerned the distribution of the pre-test and pre-questionnaire; the second phase dealt with the implementation of the strategy-based reading instruction; and, the final phase concerned the distribution of the post-test and post-questionnaire.

Findings

The findings of this study revealed the effects of strategy-based reading instruction. The results have been divided into four elements according to the research questions: reading ability, reading self-efficacy, relationship between reading ability and reading self-efficacy, and reading strategies-use.

Reading ability.

In response to research question one, the students' post-test mean scores of high reading achievers, moderate reading achievers, and low reading achievers were significantly higher than that of the pre-test mean scores at a level of .05. This indicates that the strategy-based reading instruction had positive effects on the students and shows that the instruction helped improve students' reading ability.

Reading self-efficacy.

In response to research question two, the post-questionnaire mean scores of high reading achievers, moderate reading achievers, and low reading achievers were higher than that of the pre-questionnaire mean scores at a significance level of .05. In other words, following implementation of the strategy-based reading instruction, students' reading self-efficacy improved.

Relationship between reading ability and reading self-efficacy.

In response to research question three, the students' post-test mean score and post-questionnaire mean score were strongly and positively correlated. This means that students with high reading ability had high reading self-efficacy and that students with high reading self-efficacy also had high reading ability.

Reading strategies-use.

In response to research question four, the selected students were asked to perform the post-test for reading ability using the think-aloud technique. The findings showed that regardless of their different reading achievement levels, students used all seven implemented reading strategies. However, high reading achievers completed the test in a shorter time than the other two groups indicating an ability to make a quicker decision about what reading strategies to use.

Discussions

The effectiveness of the instruction was found following implementation of the strategy-based reading instruction. The findings were discussed on the following four elements: English reading ability, reading self-efficacy, the relationship between reading ability and reading self-efficacy, and the reading strategies-use.

Reading ability.

The results from the paired sample t-test revealed that the post-test mean score of reading ability of all participants was significantly higher than that of the pre-test mean score, indicating that the strategy-based reading instruction helped to improve reading ability of lower secondary school students. Two elements of the findings, different reading achievers and reading strategies, were discussed.

The first discussion part of reading ability concerns the different levels of reading achievers, namely: high, moderate, and low. After testing the hypothesis of the effectiveness of the strategy-based reading instruction on reading ability, it was found that—at a level of .05—the mean scores of the post-test of high reading achievers, moderate reading achievers, and low reading achievers were significantly higher than that of the pre-test. This means that the strategy-based reading instruction improved the reading ability of lower secondary school students at all levels.

The reading topics used in this present study were based on students' interest and needs, with meaningful and relevant content. For example, the

majority of the students' families are rice farmers and the second lesson chosen for the study was about rice: its history and the different ways of cooking it. Students were taught step-by-step how to read in order to comprehend the text based on the strategy-based instruction. Therefore, it could be explained that by using familiar, meaningful texts with effective instructional framework, students from all different reading achievement levels improved their reading ability.

With regards to the improvement of reading ability scores for the three different reading achievement levels, the report by Slavin, Lake, Davis, and Madden (2009), showed that though the provision of high-quality classroom instruction has a positive and strong effect on all students, it is particularly beneficial—and perhaps the best approach—for low, or struggling achievers. Though it helps to explain why the moderate reading achievement group achieved a greater level of improvement than that of the higher reading achievement group, the findings do not corroborate with them achieving greater improvement than that of the lower reading achievement group. However, Torgesen (2004), identified that there is no 'one size fits all' model and that students with lower levels of reading skill may benefit from smaller-group instruction; and, that different instruction is provided to different groups and classes based on specific needs. Indeed, Pfeifer (2006) identified that students with a lower social background require better family and institutional support and that discipline, structure and reading strategies can contribute to their achievement. For the higher reading level group, research by Duke (2013) identified that many high achievers in US schools slip over the course of their schooling; that one-third of all states showed a decline in high achievers between

2002-2009; and, according to the Center on Education Policy (2011), that though low achievers made significant progress, high achievers stagnated.

The findings of reading ability in this present study were consistent with several studies, such as those by Allington (2001); Heilman, Blair, and Rupley (2001), and Reutzel and Cooter (2003), where they have stated that with the correct materials and organisational support to teach reading, highly-motivated, flexible and professional teachers are principal elements in the successful outcome of student reading achievement. Furthermore, during the implementation, there were discussion activities on the key information of a text and students were allowed to ask questions if they did not understand therein; and, which, could help explain their increase in post-test mean score for reading ability. This finding was similar to that of Huang (2006), where it was found that three conditions which motivate students to read effectively include: (a) when teachers were available to answer the questions; (b) when key points were highlighted clearly in textbooks; and, (c) when reading skills were taught.

The second part of the discussion on reading ability concerns reading strategies. Direct, explicit strategy instruction can substantially improve learning achievement especially for reading comprehension, (Forness, 2001; Guthrie & Davis, 2003; Swanson, 1999). In this study, students have been taught to use reading strategies explicitly to help improve their reading ability. The reading strategies implemented were: Using Background Knowledge, Skimming, Scanning, Using Context Clues, Goal Setting, Feedback, and Self-evaluation. From the finding, it could be concluded that, based on the strategy-based reading

instruction, the seven implemented strategies helped to improved students' reading ability.

This is consistent with the findings of Van Keer and Verhaeghe (2005); and, Kashef, Viyani, Ghabool and Damavand (2012), who found that multiple reading strategies had positive effects on reading comprehension. Similarly, studies by Querol (2010); Chamot and O'Malley (1994); and, Simpson and Nist (1990), found that using select metacognitive and cognitive strategies in combination proved mutually supportive and often had more success than when the strategies are used individually. It has been stated that a strategy itself has less value than a combination of the cognitive and metacognitive processes involved within, and the results from the present study revealed that these strategies not only helped enhance students' reading ability but also raise the awareness of reading strategies available for students. Furthermore, it could also be concluded that the combination of metacognitive, cognitive, and social/affective strategies that were taught and implemented in this study helped to improve students' reading ability. To illustrate this point, it was shown that when students did exercises in classroom, they recognised when and how to use a particular strategy.

Reading self-efficacy.

The results from the paired sample t-test revealed that—at a level of .05—the mean score of the post-questionnaire of high reading achievers, moderate reading achievers, and low reading achievers were significantly higher than that of the pre-questionnaire. These results indicate that the strategy-based

reading instruction helped to improve reading self-efficacy of lower secondary school students at all reading achievement levels.

In this present study, the following seven reading strategies were used to help enhance students' reading self-efficacy: Using Background Knowledge, Skimming, Scanning, Using Context Clues, Goal Setting, Feedback, and Self-evaluation. As the levels of students' reading self-efficacy increased, this could indicate that the seven implemented reading strategies had a direct influence on reading self-efficacy. This finding is consistent with Schunk (2003), who found that instructional methods such as progress feedback, modelled strategies, goal setting, and self-evaluations, are all contributory in improving reading self-efficacy. Furthermore, he stated that by providing positive responses, teachers can help raise the level of students' self-efficacy. In this present study, students were praised and were given positive feedback throughout all lessons involving discussion or reading activities. The findings of reading self-efficacy were related to four particular elements: Progress, Observational Comparison, Social Feedback, and Physiological States.

The first discussion of reading self-efficacy—progress—relates to how present reading performance compares with past reading performance. There was a significant difference between the pre-questionnaire and the post-questionnaire of moderate reading achievers—at a level of .05 ($p<.05$). The results of the post-questionnaire also showed that, despite there being no significant difference between the pre-questionnaire and post-questionnaire of high reading achievers and low reading achievers, all participants improved their reading self-efficacy. The group which improved this aspect of reading self-

efficacy the most was the high reading achievers. This might be because they already feel they are good readers, already have confidence in their reading, and which then serves to further motivate them. Mallete, Henk, and Melnick (2004) found in their study that as students read more, they become better readers which then leads to increased efficiency at comprehending texts. They also stated that motivation is developed according to how students feel when they compare their previous performance with an activity to that of the present. From the findings, it could be claimed that the implemented reading strategies, including Using Background Knowledge, Using Context Clues, and Self-evaluation, helped enhance students' reading self-efficacy in this aspect as these strategies helped them to gauge their improvement in reading against their past performances.

The second discussion of reading self-efficacy—observational comparison—concerns how one's own reading performance compares with that of classmates. Though there was only a significant difference between the pre-questionnaire and the post-questionnaire in the low reading achievement group, the results showed the three different reading achievement levels improved their reading self-efficacy; and, the group that improved the most was the moderate reading achievers. As this aspect deals with the comparison of one's own reading performance with that of others, the students in this group might compare themselves with how well they did against both higher and lower reading achievers. Moreover, the process of classroom activities could enable them to observe how they performed in relation to their classmates. From the findings, it could be claimed that the implemented reading strategies, including

Skimming and Scanning, helped enhance students' reading self-efficacy in this aspect as they enabled them to compare their speed of reading against others.

The third discussion of reading self-efficacy—social feedback—relates to encouragement about reading from teachers, classmates, and family. There was a significant difference between the pre-questionnaire and the post-questionnaire of moderate reading achievers—at a level of .05 ($p<.05$). The results also showed the high reading achievers, moderate reading achievers, and low reading achievers improved this element of their reading self-efficacy despite there being no significant difference between the pre-questionnaire and the post-questionnaire of high and low reading achievers. The group which improved this aspect the most was the high reading achievers. As this group of students are already better readers, not only do they have a greater belief in their ability to master reading texts, but they know that the more they practice the more they will improve; and, they probably realise that having the confidence to read to others will then elicit feedback which will, in turn, elevate their reading self-efficacy. This finding could be supported by Schunk (2003), where he found in his study that by providing progress responses, teachers can help raise the level of students' self-efficacy. From the findings, it could be claimed that the implemented reading strategies, including Feedback, helped enhance students' reading self-efficacy in this aspect as this strategy helped them to gauge how well they performed in reading.

The fourth discussion of reading self-efficacy—physiological states—concerns internal feelings during reading. There was a significant difference between the pre-questionnaire and the post-questionnaire of moderate reading

achievers—at a level of .00 ($p<.05$). The finding also showed that high reading achievers, moderate reading achievers, and low reading achievers all improved their reading self-efficacy in this aspect. However, the group which improved this aspect of their reading self-efficacy the most was the low reading achievers; and, it could be argued that seeing both tangible results and an improvement in their reading ability led to this group feeling good about their progress and raised their individual self-efficacy. From the findings, it is not inconceivable that the implemented reading strategies, including Goal Setting, helped enhance students' reading self-efficacy in this aspect as it helped students to work toward their goals; and, when they subsequently met their targets, generated a positive feeling towards their reading.

Relationship between reading ability and reading self-efficacy.

The results from the Correlation coefficient revealed that reading ability and reading self-efficacy were positively related at the significance level of .05, indicating that those students who possessed high reading ability also possessed high reading self-efficacy; and, those students who possessed high reading self-efficacy also possessed high reading ability. The findings are discussed next.

In this present study, those students who had high reading ability were found to have high levels of reading self-efficacy and those students with low reading ability were found to have low reading self-efficacy: this revealed a relationship between reading ability and reading self-efficacy—they affect each other. Therefore, helping students to improve their reading ability would also improve their reading self-efficacy. These findings were consistent with a study

by Scott (1996), who found that there was a relationship between reading achievement and self-efficacy: when students' levels of reading self-efficacy rose, so did their reading proficiency. Furthermore, other studies by Bandura (1977), and Schunk and Pajares (2002), found that students with high self-efficacy performed better than students with low self-efficacy on assigned tasks. Their findings correlate with the results from this present study where high self-efficacy students were found to have high reading achievement and low self-efficacy students were found to have low reading achievement. This might be because, on the one hand, high reading achievers view a reading task as a challenge to be mastered; whereas on the other, the low self-efficacious group merely view it as difficult and to be avoided (Schunk, 2003).

Reading strategies-use.

According to the reading strategies-use checklist, the data was analysed qualitatively. The results revealed that the selected group of students applied all seven implemented reading strategies. Furthermore, all of them reported that the Feedback strategy helped to improve their reading *a lot*—the highest category. The findings were discussed as follow:

The reading strategies-use checklist was employed to find out whether the participants actually used the seven implemented strategies with their reading. Two students from different reading achievement levels were asked to do the reading ability test individually in front of the teacher using the think-aloud technique. Though the findings helped to explain that students from all different reading achievement levels applied all seven implemented reading

strategies with their reading, what was apparent between the groups was the difference in time and ability spent in trying to figure out which particular strategy to use. Not only did the high and moderate reading achievement groups complete the tests quicker than the low reading achievement group, but they also enunciated each strategy more correctly and confidently. From the results, it could be explained that as the first two groups are better readers, they have a greater confidence in being able to accomplish challenging reading tasks (Mallete, Henk, & Melnick, 2004) when compared with the low reading ability group.

The results of the think-aloud method also help to explain that students process their thoughts in different ways to achieve individual reading goals. For example, some students reported that they applied the strategy before they voiced the name of the strategy they used aloud; whereas, some said the name of the strategy first and then applied it to their reading; and, others spoke the name of the strategy they used at the same time as they actually applied the strategy. Furthermore, some students recalled the name of the strategy in Thai, some recalled the name of the strategy in English, and others used both Thai and English; however, what was apparent was that the students did not necessarily use just one method consistently. For example, just because a student voiced the name of the strategy in English before carrying out the reading task the first time, did not necessarily mean they repeated and applied it this same way on subsequent occasions. One explanation could be that because this method was new to them, and it was not yet an automatic practice;

and, another could be that they tried to think of different ways of accomplishing the particular test.

Limitation of the Study

Even though this study achieved its objectives, the main problem was time constraints. The study was implemented during a period where the school were devoting time and resources towards an assessment and award. Consequently, some students had to attend different activities and some classes had to be cancelled, both of which affected the continuity of the study. Another problem might be the participants, as even though they had been instructed not to take any special lessons, do activities, or attend any tutorials related to the English language during the course of the implementation, they might be exposed to these events outside of classroom.

Pedagogical Implications

This present study focused on exploring the effects of strategy-based reading instruction on reading ability and reading self-efficacy. The results showed the relationship between reading ability and reading self-efficacy, and the strategies students used with their reading. The researcher developed the new instruction based on three instructional frameworks: Patterson's (2010), Rosenshine's (1997), and the Cognitive Academic Language Learning Approach (CALLA) proposed by Chamot and O'Malley (1994). This new instruction aimed to assist students to read more effectively using seven reading strategies and the findings of this study offer some suggestions for the educational field.

First, teachers should select interesting and relevant topics from various subjects, such as: geography, science, history, or literature. As the contents should be relevant to students' interests and needs, teachers should conduct a needs analysis before developing a study or a course to survey the topics students are most interested. In addition, they should also gauge the difficulty of passages to the needs of their students' and implement accordingly. Needs analysis and readability levels were employed in this present study.

Second, based on the strategy-based reading instruction, teachers should design classroom activities that clearly help students to identify and exercise each individual reading strategy; and, which help promote students' comprehension process levels. The activities in this present study were designed to assist students in practicing reading strategies and to promote their comprehension process levels.

Third, dealing with reading strategies, teachers should always remind students to use the strategies while doing each exercise and keep asking what they are and when to use them. Moreover, teachers should themselves think-aloud when using these strategies in the classroom. As shown in the lesson plans of this study, the researcher always posed questions about what the strategies are called and when to use them.

Finally, teachers' roles are to coach and facilitate students while they are performing activities; and, based on the strategy-based reading instruction, teachers should provide sufficient time for students to practice reading strategies and work independently in classroom. In this study, the researcher gave students ample time and opportunities to work independently.

Recommendations

This study has investigated the effects of strategy-based reading instruction on reading ability and reading self-efficacy. The relationship between reading ability and reading self-efficacy has been shown and the strategies students used with their reading have been presented. The study established a new framework to help enhance students' reading ability and reading self-efficacy; and, the findings from this study generated some recommendations for both teachers and for further study.

Recommendations for teachers.

First, teachers should provide interesting materials for students in reading activities. For example, there should be pictures which illustrate the passage they are going to read; or, in order to assist students to comprehend the texts better, use different types of graphics organisers in reading exercises.

Second, teachers should praise students and give them positive feedback when they participate in activities, such as: answer the questions, ask questions, read aloud, or express ideas on a discussed topic. For example, teachers might ask students to use the *Scanning* strategy to look for a word and, when they find that word quickly, subsequently praise them. Not only would this make them feel good, but it also instils confidence and raises their reading self-efficacy.

Finally, it is recommended that teachers should encourage students to work collaboratively; to discuss; and, to share ideas within their group and to the

whole class. Teachers should point out to students that working with others enable them to understand and learn more from their peers.

Recommendations for further studies.

First, as the size of the sample group was small and the contents used in this study were selected based on the context, future research should explore the strategy-based reading instruction on reading ability and reading self-efficacy on a larger sized group; and, in order to gain better understanding of the instruction, in different contexts.

Second, after each lesson in this study students have independently produced a piece of work outside of the classroom. It is recommended that further study should include a log for students to document how they approach their work and which reading strategies they used as this could be very supportive for subsequent qualitative data analysis.

Finally, the present study revealed that as students improved both their reading ability and their reading self-efficacy, it is recommended that future research should investigate how effective strategy-based reading instruction is on other learning skills, such as composition.

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APPENDICES

Appendix A: Needs Analysis

Circle the number according to your interest to the topics that you would like to learn about.

Geography

Maps	Most interesting			Least interesting
	4	3	2	1
Water	Most interesting			Least interesting
	4	3	2	1
Houses	Most interesting			Least interesting
	4	3	2	1
How water affects weather	Most interesting			Least interesting
	4	3	2	1

History

Abraham Lincoln	Most interesting			Least interesting
	4	3	2	1
Leonardo da Vinci	Most interesting			Least interesting
	4	3	2	1
Umbrella	Most interesting			Least interesting
	4	3	2	1
Rice	Most interesting			Least interesting
	4	3	2	1

Science

The Sun	Most interesting _____ Least interesting 4 3 2 1
Seaweed	Most interesting _____ Least interesting 4 3 2 1
Thunder and Lightning	Most interesting _____ Least interesting 4 3 2 1
Volcanoes	Most interesting _____ Least interesting 4 3 2 1

Short Story

One Hundred Dollars	Most interesting _____ Least interesting 4 3 2 1
A Cold Day	Most interesting _____ Least interesting 4 3 2 1
Big City Noise	Most interesting _____ Least interesting 4 3 2 1
The Park	Most interesting _____ Least interesting 4 3 2 1

Do you have other topics that you would like to learn about?

.....

Appendix B: Results of Needs Analysis

Topics	Total Scores	N	$\overline{X}$	S.D.	Rank
Geography:					
Maps	4	130	3.02	1.08	2
Water	4	130	3.23	1.10	1
Houses	4	130	2.79	1.09	
How water affects weather	4	130	2.75	1.10	
History:					
Abraham Lincoln	4	130	2.61	1.04	
Leonardo da Vinci	4	130	3.29	.97	1
Umbrellas	4	130	2.62	.97	
Rice	4	130	3.02	1.16	2
Science:					
The Sun	4	130	3.30	1.05	1
Seaweed	4	130	2.67	1.15	
Thunder and Lightning	4	130	3.21	1.11	2
Volcanoes	4	130	2.56	1.13	
Short Story:					
One Hundred Dollars	4	130	3.16	1.13	2
A Cold Day	4	130	2.72	1.16	
Big City Noise	4	130	2.91	1.13	
The Park	4	130	3.35	1.07	1

Appendix C: Frequency Distribution for Pre-test Scores

	Scores	Frequency	Percentage of Frequency	Valid Per cent	Cumulative Per cent
Valid	4.00	1	3.3	3.3	3.3
	5.00	0	0	0	3.3
	6.00	1	3.3	3.3	6.6
	7.00	0	0	0	6.6
	8.00	2	6.6	6.6	13.2
	9.00	0	0	0	13.2
30th percentile	10.00	3	9.9	9.9	23.1
	11.00	5	16.5	16.5	39.6
	12.00	3	9.9	9.9	49.5
	13.00	5	16.5	16.5	66.0
70th percentile	14.00	2	6.6	6.6	72.6
	15.00	1	3.3	3.3	76.1
	16.00	2	6.6	6.6	82.7
	17.00	1	3.3	3.3	86.0
	18.00	1	3.3	3.3	89.3
	19.00	2	6.6	6.6	95.8
	20.00	0	0	0	95.8
	21.00	1	3.3	3.3	100
	Total	30	100	100	

Note: The results of five students were excluded as they missed some classes.

Appendix D: Randomization and Blocking Method

Randomization of the number of students sitting in a group	
Random Order	30, 27, 8, 29, 20, 6, 21, 3, 10, 18, 34, 32, 25, 1, 9, 23, 11, 19, 17, 24, 31, 7, 13, 5, 4, 14, 26, 33, 16, 22, 2, 35, 28, 12, 15
Group	Allocated Numbers
A	30, 27, 8, 29, 20
B	6, 21, 3, 10, 18
C	34, 32, 25, 1, 9
D	23, 11, 19, 17, 24
E	31, 7, 13, 5, 4
F	14, 26, 33, 16, 22
G	2, 35, 28, 12, 15

Randomization of the topics taught in class	
Initial Order	Leonardo da Vinci (1), Rice (2), The Sun (3), Thunder and Lightning (4), Water (5), Maps (6), The Park (7), One Hundred Dollars (8)
Random Order	1, 2, 6, 5, 4, 8, 3, 7
Topics Order	Leonardo da Vinci (1), Rice (2), Maps (6), Water (5), Thunder and Lightning (4), One Hundred Dollars (8), The Sun (3), The Park (7)

A Randomized Block Design							
Tables / Weeks	1	2	3	4	5	6	7
1	A	B	C	D	E	F	G
2	B	C	D	E	F	G	A
3	C	D	E	F	G	A	B
4	D	E	F	G	A	B	C
5	E	F	G	A	B	C	D
6	F	G	A	B	C	D	E
7	G	A	B	C	D	E	F
8	A	B	C	D	E	F	G

Appendix E: Lists of Experts Validating the Research Instruments

I. Pre-test post-test for reading ability

1. Assoc. Prof. Bahaudin Mujtaba, Ph.D.
   Special lecturer, Faculty of Arts, Ramkhamhaeng University
2. Assist. Prof. Kesinee Koolpluksee
   Faculty of Humanities, *Rambhai Barni Rajabhat University*
3. Prannapha Modhiran, Ph.D.
   Faculty of Education, Chulalongkorn University
4. Michela De Gennaro, Ph.D.
   Faculty of Arts, Ramkhamhaeng University

II. Pre- and post-questionnaire for reading self-efficacy

1. Assist. Prof. Nipa Wongpipatpong
   Faculty of Humanities, *Rambhai Barni Rajabhat University*
2. Assist. Prof. Kesinee Koolpluksee
   Faculty of Humanities, *Rambhai Barni Rajabhat University*
3. Prannapha Modhiran, Ph.D.
   Faculty of Education, Chulalongkorn University

III. Reading Strategies-use Checklist

1. Assoc. Prof. Bahaudin Mujtaba, Ph.D.
   Special lecturer, Faculty of Arts, Ramkhamhaeng University
2. Assist. Prof. Kesinee Koolpluksee
   Faculty of Humanities, *Rambhai Barni Rajabhat University*
3. Prannapha Modhiran, Ph.D.
   Faculty of Education, Chulalongkorn University
4. Michela De Gennaro, Ph.D.
   Faculty of Arts, Ramkhamhaeng University

IV. Lesson plans

1. Assist. Prof. Nipa Wongpipatpong
   Faculty of Humanities, *Rambhai Barni Rajabhat University*
2. Assist. Prof. Kesinee Koolpluksee
   Faculty of Humanities, *Rambhai Barni Rajabhat University*
3. Prannapha Modhiran, Ph.D.
   Faculty of Education, Chulalongkorn University

Appendix F: Pre-test Post-test for Reading Ability

Objective of the test:

This reading ability test was constructed in order to evaluate student's English reading ability; it consists of word recognition and reading comprehension. The test items promote students' use of the reading strategies: Goal Setting, Using Background Knowledge, Skimming, Scanning, Using Context Clues, Self-evaluation, and Feedback. Based on Bloom's Taxonomy, the test items support the students in both lower-order and higher-order thinking skills of comprehension process: remembering, understanding, applying, analysing, evaluating, and creating.

Directions:

1. This reading ability test is for grade 9 students.
2. This reading ability test contains 30 items and has 2 parts.

Part I: Word recognition	10 items
Part II: Reading comprehension	20 items

3. Each part has its own directions.
4. Students mark the correct answer on the answer sheet.
5. Time allocation is 60 minutes.

Part I: Word Recognition (Items 1-10) (Remembering, Understanding)

Directions: Read the passage carefully and choose the best word to fill in each blank.

Houses

There are houses all over the world. They come in a variety of sizes: some are large and some are small. Houses are also made from many different types of material: some are made of wood, some are made of rock, and some are made of cloth. In cold places, some houses are even made of ___1___ – frozen water! One key factor in deciding the materials is that people usually build their houses with something that is easy to find. For example, there are many trees in a forest, so people who live near, or have access to one, might build a house made of ___2___.

Houses are different sizes and have different numbers of rooms. Some will have one room and others will have many rooms. There is usually a bedroom for ___3___. There is often a ___4___ for cooking. There is usually a bathroom. There is often a living room for sitting and talking. Some houses have basements. The basement is ___5___ the main part of the house. Some houses have attics. The attic is ___6___ the main part of the house. Most houses have a door so people can ___7___ and exit the house. Most houses have windows so the people can ___8___ outside. Windows also let air into the house from outdoors.

Some houses are fancy. They are ___9___ bright colours and are very decorative. Some houses are not fancy and they are ___10___ and simple. Houses look very different in different parts of the world; but, people who live in a house probably all agree that there is no place like home!

Adapted from englishforeveryone.org

1.	a. earth	b. mud
	c. ice √	d. snow
2.	a. plants	b. grass
	c. sticks	d. logs √
3.	a. taking a shower	b. playing
	c. meeting	d. sleeping √
4.	a. kitchen √	b. bathroom
	c. bedroom	d. living room
5.	a. above	b. under √
	c. in front of	d. behind
6.	a. above √	b. under
	c. in front of	d. behind
7.	a. exercise	b. elect
	c. enter √	d. earn
8.	a. leave	b. lift
	c. look √	d. lay
9.	a. wanted	b. painted √
	c. needed	d. planted
10.	a. plain √	b. complex
	c. vivid	d. colourful

Part II: Reading Comprehension (Items 11-30)

Directions: There are four passages in this part. Read each passage carefully and choose the correct answer to each question.

Passages 1

Umbrellas

The umbrella is an old idea. It has not changed much over time. A sculpture is art made from clay. One particular sculpture from the Middle East shows the king carrying an umbrella. This sculpture is over 1,000 years old.

More than 2,000 years ago, in Ancient Greece, fashionable women carried umbrellas. In China, only royalty used umbrellas. At that time, common people did not have umbrellas. In old Chinese books, there are illustrations of umbrellas. These pictures were made with paint and blood. ***They*** were drawn using special tools. The umbrellas in these books look a lot like today's umbrellas.

There is not that much information about umbrellas in Europe in the Middle Ages. People used their coats to protect themselves from the rain. People in the South Pacific used umbrellas made of palm leaves to protect themselves from the sun and rain.

Umbrellas have been improved over the years. Modern umbrellas are better than the old umbrellas. The old umbrellas were often made of oiled silk. Modern umbrellas are made of cotton or plastic. Old umbrellas had ribbing made of wood. Modern umbrellas have steel ribs. Also, the trunk of the modern umbrella extends like a telescope. It can collapse and become shorter or extend and become longer.

Adapted from englishforeveryone.org

11. Who might be the first group of people that used umbrellas? (Understanding)
a. common people in China
b. people in royalty
c. fashionable women in Ancient Greece. √
d. Chinese women

12. What does the word "***They***" (line 7) refer to? (Understanding)
a. The kings in the Middle East
b. special tools
c. pictures of umbrellas √
d. Chinese books

13. In what area did people use umbrellas made of palm leaves?
a. the Middle East
b. ancient Greece
c. Europe in the Middle Ages
d. the South Pacific √

14. What makes modern umbrellas better than the old umbrellas?
a. palm leaves
b. oiled silk
c. wood ribs
d. steel ribs √

15. The group that contains the same items is _____. (Applying)
a. old umbrellas, wood, oiled silk √
b. old umbrellas, cotton, oiled silk
c. new umbrellas, cotton, wood
d. new umbrella, steel ribs, oiled silk

Passages 2

How Water Affects our Weather

Water gives off vapours. These water vapours are called gases. These gases are important to consider when studying the atmosphere. On average, the amount of water vapour found in the air remains the same. We call this a constant. However, this constant can vary greatly from one place to another. Some parts of the Earth are prone to lots of water vapour - high humidity; while other locations have less water vapour - very dry air. What affect does this water vapour have on the atmosphere? Much of what we call weather is caused by water vapour. The clouds in the sky are largely made up of it, and it is the condensation of this vapour into droplets that creates rain and snow. Water vapour also has a significant impact on temperature.

Consider your body. When your body becomes too hot, it has a natural built-in mechanism for cooling itself down. This mechanism is known as sweating. As the sweat evaporates off of your body, ***it*** carries the excess heat with it into the air. The same happens with the surface of the Earth. As water evaporates, heat is carried from the Earth's surface into the atmosphere. Likewise, as rain falls down, heat can be transferred from the atmosphere back to the ground.

Adapted from http://www.kidsgeo.com/geography-for-kids/0044-water-effects-weather.php

16. What creates rain and snow? (Remembering)

a. humidity

b. dry air

c. droplets √

d. condensation

17. When your body feels hot it produces _____. (Remembering)

a. temperature

b. sweat √

c. heat

d. rain

18. What does the word "***it***" (line 12) refer to? (Understanding)

a. the sweat √

b. your body

c. the heat

d. the air

19. Which is the correct sequence of how water affects our weather? (Analysing)

a. atmosphere, water evaporation, heat, rain

b. heat, water evaporation, atmosphere, rain

c. water evaporation, heat, atmosphere, rain √

d. atmosphere, heat, water evaporation, rain

20. The TRUE statement is _____. (Evaluating)

a. Water vapour affects the Earth's temperature. √

b. The clouds don't have an impact on rain and snow.

c. Water vapour and temperature don't relate to each other.

d. Every part of the Earth has the same level of humidity.

Passages 3

Volcanoes

The centre of the Earth is called the core. This core is very hot. The surface of the Earth has lots of cracks in it. Volcanoes form where these cracks are and the hot melted rocks in the core bubble up through these cracks to the surface. These rocks are called magma. Inside the Earth, this magma is under a lot of pressure. When this pressure becomes too great, it is released. The release of pressure shoots magma into the air. There are volcanoes on other planets, too.

Probably in the early years just after planet Earth formed, about four and a half billion years ago, there were a lot more volcanoes than there are now, and *they* erupted more often. It may be that the heat from these volcanoes warmed up the water in the oceans and got warm enough to convert proteins and start the beginning of life on Earth. Land may have been created by volcanoes shooting rocks up into the ocean that covered the whole Earth. Then, by piling those rocks up, eruption after eruption continued until the tops of the piles stuck out of the water and became islands.

Adapted from http://scienceforkids.kidipede.com/geology/volcanoes/

21. The melted rocks are called _____. (Remembering)

a. magma √

b. plates

c. surface

d. earth

22. What does the word "*they*" (line 8) refer to? (Understanding)

a. plates

b. planets

c. years

d. volcanoes √

23. What may have caused the beginning of life on Earth?

a. islands

b. heat √

c. land

d. rocks

24. Which is the correct sequence of how land may be formed?

a. becoming islands, volcanoes, shooting up rocks, covering the earth

b. covering the earth, becoming islands, volcanoes, shooting up rocks

c. shooting up rocks, covering the earth, becoming islands, volcanoes

d. volcanoes, shooting up rocks, covering the Earth, becoming islands

25. What would happen if volcanoes didn't erupt? (Evaluating)

a. There wouldn't be life. √

b. There wouldn't be oceans.

c. There wouldn't be the Earth.

d. There wouldn't be planets.

Passages 4

Big City Noise

My name is Olaf. I live in a big city and next to a very busy road. At all times during the day and at night the road has traffic on it: cars go by, buses go by, coaches go by, motorcycles go by, and trucks go by. It is quite a nice place to live as people do not seem to hear the noise during the day; however, at night, the ambient noise often makes it quite difficult to sleep. There are a lot of animals on the road as well. Most people keep their animals outside in their yards at night, and there is quite a mixture of cats and dogs. The cats aren't too bad, but the dogs make a lot of noise. To me, it seems like the dogs are just like the trucks, the cars, the coaches, the buses, and the motorcycles. All of them are equally loud!

The main problem for me is that one dog barks more than the others do. Its name is Simba, and it belongs to Mr Cheek.

"Your Simba is a very bad and annoying dog. His barking disrupts my sleep and keeps me awake at night", says Mr Lucas, the next-door neighbour of Mr Cheek. Mr Lucas makes Mr Cheek very mad by telling him, "You should give him away".

Mr Cheek simply replies with, "You should not sleep with your windows open."

"It's your dog," yells Mr Lucas, "You should take your dog inside at night."

"Dogs bark, Simba is a dog, Simba barks." retorts Mr Cheeks.

This is an on-going argument, and the two men argue continuously about Simba's barking almost every day. To me, this is funny but I do see that there are two sides to this. First, and I know Simba is as bad as the cars, the buses, the trucks, and all the other sounds which add to the noise pollution; but, you could argue that Mr Cheeks is being inconsiderate. On the other hand, this is the big city and in big cities, there is a lot of noise. Therefore, if you don't like the noise, don't live in a big city.

Adapted from englishforeveryone.org

26. How many characters are there in the story? (Remembering)
a. two
b. three
c. four √
d. five

27. What do dogs usually do? (Remembering)
a. sing
b. bark √
c. roar
d. cry

28. According to Olaf, what makes the noise pollution worse?
a. Cats and dogs which are kept in the yards
b. Cars, trucks, and motorcycles
c. Both animals and vehicles √
d. Mr Lucas and Mr Cheek

29. What is the difference between living in the big city and the (Analysing)
a. In the city is quieter than in the countryside.
b. In the countryside is quieter than in the city. √
c. There are less cars and buses in the city.
d. There are more cars and buses in the countryside.

30. What could be done to minimize the problem in the city? (Creating)
a. Stop private cars coming to the city.
b. Take public transportation when traveling in the city.
c. Control the number of animals living in the city.
d. Reduce the number of cars, animals, and use public

Appendix G: Evaluation Form for Reading Ability Test

Please rate (√) these following statements according to your opinions.

1 = Congruent 0 = Questionable -1 = Incongruent

Items	Reading Comprehension Aspects	1	0	-1	Comments
Does the test provide:					
I	-clear instructions				
II	-appropriate time				
III	-appropriate content				
Part I: Word Recognition (Items 1-10)					
1	-appropriate choices				
2	-appropriate choices				
3	-appropriate choices				
4	-appropriate choices				
5	-appropriate choices				
6	-appropriate choices				
7	-appropriate choices				
8	-appropriate choices				
9	-appropriate choices				
10	-appropriate choices				

Part II: Reading Comprehension (Items 11-30) **Does the test items assess comprehension processes:**					
11	-Understanding				
12	-Understanding				
13	-Remembering				
14	-Analysing				
15	-Applying				
16	-Remembering				
17	-Remembering				
18	-Understanding				
19	-Analysing				
20	-Evaluating				
21	-Remembering				
22	-Understanding				
23	-Understanding				
24	-Analysing				
25	-Evaluating				
26	-Remembering				
27	-Remembering				
28	-Understanding				
29	-Analysing				
30	-Creating				

Other suggestions:

.....

.....

.....

(.....)

Assessor

Appendix H: Results of IOC for Reading Ability Test

Items	Experts				Total	Meaning
	A	B	C	D		
I	1	1	1	1	1	Reserved
II	1	1	1	1	1	Reserved
III	1	1	1	1	1	Reserved
1	1	1	1	1	1	Reserved
2	1	1	1	1	1	Reserved
3	1	1	1	1	1	Reserved
4	1	1	1	1	1	Reserved
5	1	1	1	1	1	Reserved
6	1	1	1	1	1	Reserved
7	1	1	1	1	1	Reserved
8	1	1	1	1	1	Reserved
9	1	1	1	1	1	Reserved
10	1	1	1	1	1	Reserved
11	1	1	-1	1	.5	Revised
12	1	1	-1	1	.5	Revised
13	1	1	1	1	1	Reserved
14	1	1	1	1	1	Reserved
15	1	1	1	1	1	Reserved
16	1	1	-1	1	.5	Revised
17	1	1	1	1	1	Reserved
18	1	1	1	1	1	Reserved
19	1	1	0	1	.75	Reserved
20	1	1	1	1	1	Reserved
21	1	1	1	1	1	Reserved
22	1	1	1	1	1	Reserved
23	1	1	1	1	1	Reserved
24	1	1	1	1	1	Reserved
25	1	1	1	1	1	Reserved
26	1	1	1	1	1	Reserved
27	1	1	1	1	1	Reserved
28	1	1	-1	1	.5	Revised
29	1	1	-1	1	.5	Revised
30	1	1	-1	1	.5	Revised

Appendix I: Results of Item Analysis for Reading Ability Test

Items	Difficulty Index	Discrimination Index
1	.80	.27
2	.40	.27
3	.57	.20
4	.57	.20
5	.30	.33
6	.33	.27
7	.23	.33
8	.50	.33
9	.27	.40
10	.37	.33
11	.63	.20
12	.40	.27
13	.50	.33
14	.50	.20
15	.27	.27
16	.23	.20
17	.23	.33
18	.47	.27
19	.37	.33
20	.33	.27
21	.33	.27
22	.33	.27
23	.33	.40
24	.37	.20
25	.37	.20
26	.40	.27
27	.50	.20
28	.30	.20
29	.47	.27
30	.30	.33

Appendix J: Pre- and Post-questionnaire for Reading Self-efficacy

The Reader Self-Perception Scale (For students)

แบบสอบถามการรับรู้ความสามารถด้านการอ่านภาษาอังกฤษของตนเอง

คำแนะนำ

1. แบบสอบถามเพื่อวัดการรับรู้ความสามารถด้านการอ่านภาษาอังกฤษของตนเองนี้ใช้สำหรับนักเรียนชั้น
   มัธยมศึกษาปีที่ 3
2. แบบสอบถามนี้แปลมาจากแบบสอบถามวัดความสามารถของตนเองด้านการอ่านของ Henk and Melnick (1995)
3. คำถามเกี่ยวกับการรับรู้ความสามารถด้านการอ่านภาษาอังกฤษของตนเองนี้มี 33 ข้อ
4. นักเรียนมีเวลาตอบแบบสอบถามนี้ 20 นาที
5. ให้นักเรียนทำเครื่องหมาย (√) ในช่องตัวเลขที่นักเรียนเห็นด้วยว่าตรงกับลักษณะของนักเรียนมากที่สุด โดยกำหนดให้

1	หมายถึง	ไม่เห็นด้วยมากที่สุด
2	หมายถึง	ไม่เห็นด้วย
3	หมายถึง	ตัดสินใจไม่ได้
4	หมายถึง	เห็นด้วย
5	หมายถึง	เห็นด้วยมากที่สุด

6. ให้นักเรียนตอบตามความรู้สึกของตัวเองให้มากที่สุด และคำตอบจะไม่มีผลต่อคะแนนในการเรียนภาษาอังกฤษ

แบบสอบถามการรับรู้ความสามารถด้านการอ่านภาษาอังกฤษ**ของตนเอง**

ข้อ	ข้อความ	เห็นด้วยมากที่สุด (5)	เห็นด้วย (4)	ตัดสินใจไม่ได้ (3)	ไม่เห็นด้วย (2)	ไม่เห็นด้วยมากที่สุด (1)
1.	ฉันคิดว่าฉันเป็นนักอ่านภาษาอังกฤษที่ดี					
2.	ฉันบอกได้เลยว่าคุณครูชอบฟังฉันอ่านภาษาอังกฤษ					
3.	คุณครูคิดว่าฉันอ่านภาษาอังกฤษดี					
4.	ฉันอ่านภาษาอังกฤษได้เร็วกว่าเด็กคนอื่น					
5.	ฉันชอบอ่านออกเสียงภาษาอังกฤษ					
6.	. เวลาฉันอ่านภาษาอังกฤษ ฉันสามารถเข้าใจคำศัพท์ได้ดีกว่าเด็กคนอื่น					
7.	เพื่อนร่วมชั้นชอบฟังฉันอ่านภาษาอังกฤษ					
8.	ฉันรู้สึกดีเวลาฉันอ่านภาษาอังกฤษ					
9.	เพื่อนร่วมชั้นคิดว่าฉันอ่านภาษาอังกฤษค่อนข้างดี					
10.	เวลาฉันอ่านภาษาอังกฤษ ฉันไม่ต้องพยายามมากเหมือนเมื่อก่อน					
11.	ฉันรู้คำศัพท์มากกว่าเด็กคนอื่น เวลาฉันอ่านภาษาอังกฤษ					
12.	คนในครอบครัวของฉันคิดว่าฉันเป็นนักอ่านภาษาอังกฤษที่ดี					
13.	ฉันอ่านภาษาอังกฤษดีขึ้นเรื่อยๆ					
14.	ฉันเข้าใจในสิ่งที่ฉันอ่านเหมือนกับเด็กคนอื่น					
15.	เวลาฉันอ่านภาษาอังกฤษ ฉันต้องการความช่วยเหลือน้อยกว่าเมื่อก่อน					
16.	การอ่านภาษาอังกฤษทำให้ฉันมีความสุข					
17.	คุณครูคิดว่า ฉันเป็นนักอ่านภาษาอังกฤษที่ดี					
18.	การอ่านภาษาอังกฤษง่ายสำหรับฉันมากขึ้นกว่าเมื่อก่อน					
19.	ฉันสามารถอ่านภาษาอังกฤษได้เร็วกว่าเมื่อก่อน					
20.	ฉันอ่านภาษาอังกฤษดีกว่าเด็กคนอื่นในชั้นเรียน					
21.	ฉันรู้สึกเย็นใจเวลาฉันอ่านภาษาอังกฤษ					
22.	ฉันอ่านภาษาอังกฤษมากกว่าเด็กคนอื่น					

23.	ฉันสามารถเข้าใจในสิ่งที่ฉันอ่านดีขึ้นกว่าเมื่อก่อน					
24.	ฉันสามารถเข้าใจคำศัพท์ได้ดีขึ้นกว่าเมื่อก่อน					
25.	ฉันรู้สึกสบายใจเวลาฉันอ่านภาษาอังกฤษ					
26.	ฉันคิดว่าการอ่านภาษาอังกฤษคือการผ่อนคลาย					
27.	ฉันสามารถอ่านภาษาอังกฤษได้ดีขึ้นกว่าเมื่อก่อน					
28.	เวลาฉันอ่านภาษาอังกฤษ ฉันจำคำศัพท์ได้มากกว่าเมื่อก่อน					
29.	การอ่านภาษาอังกฤษทำให้ฉันรู้สึกดี					
30.	เด็กคนอื่นคิดว่าฉันเป็นนักอ่านภาษาอังกฤษที่ดี					
31.	คนในครอบครัวของฉันคิดว่าฉันอ่านภาษาอังกฤษค่อนข้างดี					
32.	ฉันชอบการอ่านภาษาอังกฤษ					
33.	คนในครอบครัวของฉันชอบฟังฉันอ่านภาษาอังกฤษ					

Appendix K: Evaluation Form for Reading Self-efficacy Questionnaire

The Reader Self-Perception Scale (Experts' evaluation form)

Please rate (√) these following statements according to your opinions.

1 = Congruent 0 = Uncertain -1 = Incongruent

Part I: Instructions

Elements		1	0	-1	Comments
I. The instructions are clear.					
II. The time is appropriate.					
III. The language used is appropriate:	Strongly Agree เห็นด้วยมากที่สุด				
	Agree เห็นด้วย				
	Undecided ตัดสินใจไม่ได้				
	Disagree ไม่เห็นด้วย				
	Strongly Disagree ไม่เห็นด้วยมากที่สุด				

Part II: Translation of Statements

Items	Statements	1	0	-1	Comments
1.	I think I am a good reader. ฉันคิดว่าฉันเป็นนักอ่านภาษาอังกฤษที่ดี				
2.	I can tell that my teacher likes to listen to me read. ฉันบอกได้เลยว่าคุณครูชอบฟังฉันอ่านภาษาอังกฤษ				
3.	My teacher thinks that my reading is fine. คุณครูคิดว่าฉันอ่านภาษาอังกฤษดี				
4.	I read faster than other kids. ฉันอ่านภาษาอังกฤษได้เร็วกว่าเด็กคนอื่น				

5.	I like to read aloud. ฉันชอบอ่านออกเสียงภาษาอังกฤษ				
6.	When I read, I can figure out words better than other kids. เวลาฉันอ่านภาษาอังกฤษ ฉันสามารถเข้าใจคำศัพท์ได้ดีกว่าเด็กคนอื่น				
7.	My classmates like to listen to me read. เพื่อนร่วมชั้นชอบฟังฉันอ่านภาษาอังกฤษ				
8.	I feel good inside when I read. ฉันรู้สึกดีเวลาฉันอ่านภาษาอังกฤษ				
9.	My classmates think that I read pretty well. เพื่อนร่วมชั้นคิดว่าฉันอ่านภาษาอังกฤษค่อนข้างดี				
10.	When I read, I don't have to try as hard as I used to. เวลาฉันอ่านภาษาอังกฤษ ฉันไม่ต้องพยายามมากเหมือนเมื่อก่อน				
11.	I seem to know more words than other kids when I read. ฉันรู้คำศัพท์มากกว่าเด็กคนอื่นเวลาฉันอ่านภาษาอังกฤษ				
12.	People in my family think I am a good reader. คนในครอบครัวของฉันคิดว่าฉันเป็นนักอ่านภาษาอังกฤษที่ดี				
13.	I am getting better at reading. ฉันอ่านภาษาอังกฤษดีขึ้นเรื่อยๆ				
14.	I understand what I read as well as other kids do. ฉันเข้าใจในสิ่งที่ฉันอ่านเหมือนกับเด็กคนอื่น				
15.	When I read, I need less help than I used to. เวลาฉันอ่านภาษาอังกฤษ ฉันต้องการความช่วยเหลือน้อยกว่าเมื่อก่อน				
16.	Reading makes me feel happy inside. การอ่านภาษาอังกฤษทำให้ฉันมีความสุข				
17.	My teacher thinks I am a good reader. คุณครูคิดว่า ฉันเป็นนักอ่านภาษาอังกฤษที่ดี				

18.	Reading is easier for me than it used to be. การอ่านภาษาอังกฤษง่ายสำหรับฉันมากขึ้นกว่าเมื่อก่อน				
19.	I read faster than I could before. ฉันสามารถอ่านภาษาอังกฤษได้เร็วกว่าเมื่อก่อน				
20.	I read better than other kids in my class. ฉันอ่านภาษาอังกฤษดีกว่าเด็กคนอื่นในชั้นเรียน				
21.	I feel calm when I read. ฉันรู้สึกเย็นใจเวลาฉันอ่านภาษาอังกฤษ				
22.	I read more than other kids. ฉันอ่านภาษาอังกฤษมากกว่าเด็กคนอื่น				
23.	I understand what I read better than I could before. ฉันสามารถเข้าใจในสิ่งที่ฉันอ่านดีขึ้นกว่าเมื่อก่อน				
24.	I can figure out words better than I could before. ฉันสามารถเข้าใจคำศัพท์ได้ดีขึ้นกว่าเมื่อก่อน				
25.	I feel comfortable when I read. ฉันรู้สึกสบายใจเวลาฉันอ่านภาษาอังกฤษ				
26.	I think reading is relaxing. ฉันคิดว่าการอ่านภาษาอังกฤษคือการผ่อนคลาย				
27.	I read better now than I could before. ฉันสามารถอ่านภาษาอังกฤษได้ดีขึ้นกว่าเมื่อก่อน				
28.	When I read, I recognize more words than I used to. เวลาฉันอ่านภาษาอังกฤษ ฉันจำคำศัพท์ได้มากกว่าเมื่อก่อน				
29.	Reading makes me feel good. การอ่านภาษาอังกฤษทำให้ฉันรู้สึกดี				
30.	Other kids think I'm a good reader. เด็กคนอื่นคิดว่าฉันเป็นนักอ่านภาษาอังกฤษที่ดี				
31.	People in my family think I read pretty well. คนในครอบครัวของฉันคิดว่าฉันอ่านภาษาอังกฤษค่อนข้างดี				
32.	I enjoy reading. ฉันชอบการอ่านภาษาอังกฤษ				

33.	People in my family like to listen to me read. คนในครอบครัวของฉันชอบฟังฉันอ่านภาษาอังกฤษ				

Other suggestions:

.....

.....

.....

(.....)

Assessor

Appendix L: Results of IOC for Reading Self-efficacy Questionnaire

Items	Experts			Total	Meaning
	A	B	C		
I	1	1	1	1	Reserved
II	1	1	1	1	Reserved
III	1	1	1	1	Reserved
1	1	1	1	1	Reserved
2	1	1	1	1	Reserved
3	1	1	1	1	Reserved
4	1	1	1	1	Reserved
5	1	1	1	1	Reserved
6	1	1	1	1	Reserved
7	1	1	1	1	Reserved
8	1	1	1	1	Reserved
9	1	1	1	1	Reserved
10	1	1	1	1	Reserved
11	1	1	1	1	Reserved
12	1	1	1	1	Reserved
13	1	1	1	1	Reserved
14	1	1	1	1	Reserved
15	1	1	1	1	Reserved
16	1	1	1	1	Reserved
17	1	1	1	1	Reserved
18	1	1	-1	.5	Revised
19	1	1	1	1	Reserved
20	1	1	1	1	Reserved
21	1	1	-1	.5	Revised
22	1	1	1	1	Reserved
23	1	1	1	1	Reserved
24	1	1	1	1	Reserved
25	1	1	-1	.5	Revised
26	1	1	1	1	Reserved
27	1	1	1	1	Reserved
28	1	1	1	1	Reserved
29	1	1	1	1	Reserved
30	1	1	1	1	Reserved
31	1	1	1	1	Reserved
32	1	1	1	1	Reserved
33	1	1	1	1	Reserved

Appendix M: Results of Pre- and Post-questionnaire Item Mean Scores for Reading Self-efficacy of All Participants

Table M.1: Comparisons of Pre- and Post-questionnaire Item Mean Scores for Reading Self-efficacy of All Participants in the Progress Aspect

Progress aspect	Pre-questionnaire		Post-questionnaire		t.	Sig.
	$\overline{X}$	S.D.	$\overline{X}$	S.D.		
10. When I read, I don't have to try as hard as I used to.	2.70	.65	3.47	.63	6.71	.003*
13. I am getting better at reading.	2.87	.57	3.50	.51	6.24	.008*
15. When I read, I need less help than I used to.	2.90	.55	3.47	.57	6.16	.001*
18. Reading is easier for me than it used to be.	3.07	.52	3.70	.70	4.54	.192
19. I read faster than I could before.	2.90	.31	3.83	.59	8.76	.125
23. I understand what I read better than I could before.	3.17	.59	3.73	.53	4.96	.043*
24. I can figure out words better than I could before.	3.20	.48	3.73	.64	5.11	.004*
27. I read better now than I could before.	3.00	.53	3.57	.58	4.96	.007*
28. When I read, I recognize more words than I used to.	3.20	.48	3.67	.55	4.48	.033*
Total	**3.00**	**.06**	**3.63**	**.04**	**13.46**	**.083**

*p<.05

Table M.2: Comparisons of Pre- and Post-questionnaire Item Mean Scores for Reading Self-efficacy of All Participants in the Observational Comparison Aspect

Observational Comparison Aspect	Pre-questionnaire		Post-questionnaire		t.	Sig.
	$\overline{X}$	S.D.	$\overline{X}$	S.D.		
4. I read faster than other kids.	2.93	.64	4.17	.75	8.27	.092
6. When I read, I can figure out words better than other kids.	2.97	.72	4.23	.82	7.64	.098
11. I seem to know more words than other kids when I read.	3.07	.74	3.87	.73	6.60	.001*
14. I understand what I read as well as other kids do.	2.90	.55	3.97	.81	7.44	.038*
20. I read better than other kids in my class.	2.50	.78	3.87	.90	8.41	.014*
22. I read more than other kids.	3.17	.70	4.13	.77	5.71	.261
Total	**2.92**	**.23**	**.40**	**.16**	**12.84**	**.376**

*p<.05

Table M.3: Comparisons of Pre- and Post-questionnaire Item Mean Scores for Reading Self-efficacy of All Participants in the Social Feedback Aspect

Social Feedback Aspect	Pre-questionnaire		Post-questionnaire		t.	Sig.
	$\overline{X}$	S.D.	$\overline{X}$	S.D.		
2. I can tell that my teacher likes to listen to me read.	2.57	.57	3.43	.68	6.97	.023*
3. My teacher thinks that my reading is fine.	2.43	.68	3.37	.72	8.76	.000*
7. My classmates like to listen to me read.	2.43	.57	3.20	.71	8.33	.000*
9. My classmates think that I read pretty well.	2.57	.68	3.30	.84	5.81	.000*
12. People in my family think I am a good reader.	2.60	.67	3.40	.81	7.18	.000*
17. My teacher thinks I am a good reader.	2.50	.51	3.20	.69	6.19	.032*
30. Other kids think I'm a good reader.	2.63	.49	3.27	.58	7.08	.001*
31. People in my family think I read pretty well.	2.47	.57	3.20	.71	7.71	.000*
33. People in my family like to listen to me read.	2.53	.57	3.17	.65	6.24	.001*
Total	**2.53**	**.02**	**3.28**	**.03**	**22.96**	**.343**

*p<.05

Table M.4: Comparisons of Pre- and Post-questionnaire Item Mean Scores for Reading Self-efficacy of All Participants in the Physiological States Aspect

Physiological States Aspect	Pre-questionnaire		Post-questionnaire		t.	Sig.
	$\bar{X}$	S.D.	$\bar{X}$	S.D.		
5. I like to read aloud.	2.63	.72	3.93	.52	9.50	.106
8. I feel good inside when I read.	2.47	.82	3.90	.55	11.56	.001*
16. Reading makes me feel happy inside.	2.63	.81	4.07	.74	9.61	.014*
21. I feel calm when I read.	2.60	.67	4.10	.61	16.16	.000*
25. I feel comfortable when I read.	2.47	.63	4.00	.64	13.36	.004*
26. I think reading is relaxing.	2.67	.66	3.90	.61	9.28	.063
29. Reading makes me feel good.	2.67	.61	3.97	.49	11.95	.019*
32. I enjoy reading.	2.70	.53	3.83	.70	8.50	.082
Total	**2.61**	**.09**	**3.96**	**.09**	**27.47**	**.627**

*p<.05

Appendix N: Results of Pre- and Post-questionnaire Item Mean Scores for Reading Self-efficacy at Different Reading Achievement Levels

Table N.1: Comparisons of Pre- and Post-questionnaire Item Mean Scores for Reading Self-efficacy at Different Reading Achievement Levels in the Progress Aspect

Progress aspect	Reading achievement levels	N	Pre-questionnaire			Post-questionnaire			t.	Sig.
			$\overline{X}$	S.D.	Reading self-efficacy levels	$\overline{X}$	S.D.	Reading self-efficacy levels		
10. When I read, I don't have to try as hard as I used to.	High	10	3.00	.82		3.90	.32		3.86	.214
	Moderate	13	2.69	.48		3.38	.65		3.96	.164
	Low	7	2.29	.49		3.00	.58		3.87	.162
13. I am getting better at reading.	High	10	3.00	.47		3.70	.48		4.58	.153
	Moderate	13	2.92	.64		3.54	.52		3.41	.193
	Low	7	2.57	.53		3.14	.38		2.82	.437
15. When I read, I need less help than I used to.	High	10	3.10	.57		3.70	.67		3.67	.035*
	Moderate	13	2.85	.55		3.31	.48		3.21	.078
	Low	7	2.71	.49		3.40	.53		3.87	.203
	High	10	3.20	.42		4.40	.52		6.0	.779

18. Reading is easier for me than it used to be.	Moderate	13	3.15	.38		3.38	.51	1.90	.057
	Low	7	2.57	.53		3.29	.49	2.50	.846
19. I read faster than I could before.	High	10	3.00	.00		3.10	.57	6.13	-
	Moderate	13	2.92	.28		3.77	.60	5.50	.193
	Low	7	2.7	.49		3.57	.53	3.29	.846
23. I understand what I read better than I could before.	High	10	3.30	.48		3.80	.42	3.00	.356
	Moderate	13	3.31	.48		3.69	.63	2.74	.026*
	Low	7	2.71	.76		3.71	.49	3.24	.677
24. I can figure out words better than I could before.	High	10	3.50	.53		4.20	.42	4.58	.141
	Moderate	13	3.15	.38		3.46	.52	2.31	.113
	Low	7	2.86	.38		3.57	.79	2.50	.484
27. I read better now than I could before.	High	10	3.20	.42		4.00	.67	4.58	.141
	Moderate	13	3.15	.38		3.38	.51	1.90	.057
	Low	7	2.43	.53		3.29	.76	3.29	.286
28. When I read, I recognize more words than I used to.	High	10	3.50	.53		4.00	.00	3.00	-
	Moderate	13	3.15	.38		3.53	.52	2.74	.182
	Low	7	2.86	.38		3.43	.79	1.92	.604
Total	**High**	**10**	**3.21**	**.32**	**Under Low**	**3.98**	**.25**	**Low**	**7.10**	**.394**
	Moderate	**13**	**3.03**	**.24**	**Under Low**	**3.50**	**.28**	**Under Low**	**6.81**	**.046***
	Low	**7**	**2.63**	**.26**	**Under Low**	**3.38**	**.34**	**Under Low**	**5.16**	**.644**

*p<.05

Table N.2: Comparisons of Pre- and Post-questionnaire Item Mean Scores for Reading Self-efficacy at Different Reading Achievement Levels in the Observational Comparison Aspect

Observational comparison aspect	Reading achievement levels	N	Pre-questionnaire			Post-questionnaire			t.	Sig.
			$\overline{X}$	S.D.	Reading self-efficacy levels	$\overline{X}$	S.D.	Reading self-efficacy levels		
4. I read faster than other kids.	High	10	3.20	.63		4.40	.52		4.413	.447
	Moderate	13	3.00	.58		4.38	.77		6.50	.206
	Low	7	2.43	.53		3.40	.53		3.24	.721
6. When I read, I can figure out words better than other kids.	High	10	3.30	.95		4.70	.48		5.25	.180
	Moderate	13	2.92	.49		4.46	.20		7.15	.567
	Low	7	2.57	.53		3.14	.69		1.55	.576
11. I seem to know more words than other kids when I read.	High	10	3.40	.70		4.00	.67		2.25	.507
	Moderate	13	3.08	.64		4.15	.55		7.87	.013*
	Low	7	2.57	.79		3.14	.69		2.83	.054
14. I understand what I read as well as other kids do.	High	10	3.00	.47		4.30	.48		6.10	1.000
	Moderate	13	3.15	.38		4.23	.73		4.50	.645
	Low	7	2.29	.49		3.00	.58		2.50	1.000

20. I read better than other kids in my class.	High	10	2.90	.74		4.30	.67		5.25	.416
	Moderate	13	2.38	.87		4.15	.69		7.67	.123
	Low	7	2.14	.38		2.71	.49		2.83	.576
22. I read more than other kids.	High	10	3.40	.97		4.60	.70		3.09	.857
	Moderate	13	3.23	.44		4.15	.55		6.74	.064
	Low	7	2.71	.49		3.83	.79		1.70	.257
Total	**High**	**10**	**3.20**	**.45**	**Low**	**4.38**	**.43**	**High**	**5.84**	**.874**
	Moderate	**13**	**2.96**	**.36**	**Low**	**4.26**	**.38**	**Moderate**	**11.25**	**.247**
	Low	**7**	**2.46**	**.27**	**Under Low**	**3.14**	**.43**	**Low**	**2.76**	**.047***

*p<.05

Table N.3: Comparisons of Pre- and Post-questionnaire Item Mean Scores for Reading Self-efficacy at Different Reading Achievement Levels in the Social Feedback Aspect

Social feedback aspect	Reading achievement levels	N	Pre-questionnaire			Post-questionnaire			t.	Sig.
			$\overline{X}$	S.D.	Reading self-efficacy levels	$\overline{X}$	S.D.	Reading self-efficacy levels		
2. I can tell that my teacher likes to listen to me read.	High	10	2.90	.57		4.20	.42		6.09	.799
	Moderate	13	2.54	.19		3.15	.38		3.41	.915
	Low	7	2.14	.38		2.86	.38		3.87	.721
3. My teacher thinks that my reading is fine.	High	10	2.80	.79		4.10	.74		6.09	.061
	Moderate	13	2.23	.60		3.00	.41		6.33	.010*
	Low	7	2.29	.49		3.00	.00		3.87	-
7. My classmates like to listen to me read.	High	10	2.80	.63		3.70	.82		5.01	.018*
	Moderate	13	2.31	.48		3.08	.49		6.32	.032*
	Low	7	2.14	.38		2.71	.49		2.83	.576
9. My classmates think that I read pretty well.	High	10	3.00	.67		3.90	.57		3.86	.410
	Moderate	13	2.38	.65		3.15	.90		4.63	.003*
	Low	7	2.29	.49		2.71	.49		1.44	.513

12. People in my family think I am a good reader.	High	10	3.00	.82		4.10	.74	6.13	.015*
	Moderate	13	2.46	.52		3.15	.69	3.96	.094
	Low	7	2.29	.49		2.86	.38	2.83	.576
17. My teacher thinks I am a good reader.	High	10	2.70	.48		3.70	.48	4.74	.896
	Moderate	13	2.54	.52		3.31	.63	3.83	.479
	Low	7	2.14	.38		2.57	.53	2.12	.437
30. Other kids think I'm a good reader	High	10	3.00	.00		3.70	.48	4.58	-
	Moderate	13	2.46	.52		3.15	.55	5.20	.030*
	Low	7	2.43	.53		2.86	.38	2.12	.437
31. People in my family think I read pretty well.	High	10	2.90	.57		3.90	.57	6.71	.040*
	Moderate	13	2.31	.08		2.77	.44	3.21	.220
	Low	7	2.14	.38		3.00	.38	6.00	.046*
33. People in my family like to listen to me read.	High	10	3.00	.47		3.50	.53	3.00	.159
	Moderate	13	2.23	.44		2.90	.49	5.20	.102
	Low	7	2.43	.53		3.14	.90	2.50	.206
Total	**High**	**10**	**2.90**	**.42**	**Under Low**	**3.87**	**.29**	**Moderate**	**8.51**	**.110**
	Moderate	**13**	**2.38**	**.34**	**Under Low**	**3.08**	**.33**	**Low**	**8.55**	**.023***
	Low	**7**	**2.25**	**.21**	**Under Low**	**2.86**	**.14**	**Under Low**	**8.37**	**.295**

*p<.05

Table N.4: Comparisons of Pre- and Post-questionnaire Item Mean Scores for Reading Self-efficacy at Different Reading Achievement Levels in the Physiological States Aspect

Physiological states aspect	Reading achievement levels	N	Pre-questionnaire			Post-questionnaire			t.	Sig.
			$\overline{X}$	S.D.	Reading self-efficacy levels	$\overline{X}$	S.D.	Reading self-efficacy levels		
5. I like to read aloud.	High	10	3.10	.57		4.20	.42		4.71	.799
	Moderate	13	2.62	.65		3.92	.49		7.48	.154
	Low	7	2.00	.58		3.58	.53		4.26	.211
8. I feel good inside when I read.	High	10	3.00	.82		4.10	.57		3.97	.505
	Moderate	13	2.46	.66		4.00	.41		10.69	.024
	Low	7	1.71	.49		3.43	.53		9.30	.203
16. Reading makes me feel happy inside.	High	10	3.20	.79		4.60	.52		4.58	.881
	Moderate	13	2.54	.66		4.00	.71		6.79	.231
	Low	7	2.00	.58		3.43	.53		4.84	1.00
21. I feel calm when I read.	High	10	3.10	.57		4.50	.53		8.57	.094
	Moderate	13	2.54	.52		4.08	.49		10.69	.100
	Low	7	2.00	.58		3.58	.53		7.78	.211

25. I feel comfortable when I read.	High	10	2.80	.63		4.40	.52	7.24	.447
	Moderate	13	2.46	.66		3.9	.64	7.98	.093
	Low	7	2.00	.00		3.57	.53	7.78	-
26. I think reading is relaxing.	High	10	3.10	.57		4.20	.42	4.71	.799
	Moderate	13	2.62	.65		3.84	.69	6.12	.159
	Low	7	2.14	.38		3.58	.53	4.8	.286
29. Reading makes me feel good.	High	10	3.10	.32		4.20	.42	6.13	.645
	Moderate	13	2.54	.52		3.92	.49	9.86	.081*
	Low	7	2.29	.76		3.71	.49	4.80	.576
32. I enjoy reading.	High	10	2.90	.32		3.90	.737	3.78	.896
	Moderate	13	2.69	.63		3.78	.73	5.11	.202
	Low	7	2.43	.53		3.86	.69	7.07	.117
Total	**High**	**10**	**3.04**	**.43**	**Under Low**	**4.26**	**.25**	**Moderate**	**8.54**	**.607**
	Moderate	**13**	**2.56**	**.45**	**Under Low**	**3.94**	**.36**	**Moderate**	**14.80**	**.011***
	Low	**7**	**2.07**	**.39**	**Under Low**	**3.59**	**.24**	**Low**	**9.55**	**.703**

*p<.05

Appendix O: Reading Strategies-use Checklist

Student Name: _____Date: __/__ / 2014 Time spent ___

Test Items	Strategies used						Comments
	Goal Setting	Using Background Knowledge	Skimming	Scanning	Using Context Clues	Self-evaluation	
1							
2							
3							
4							
5							
6							
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29							
30							

Do you think the Feedback strategy helps improve your reading?

☐ Yes, a lot. ☐ Yes, somewhat. ☐ Yes, a little. ☐ No.

Appendix P: Evaluation form for Reading Strategies-use Checklist

Please rate (√) these following statements according to your opinions.

1 = Congruent 0 = Uncertain -1 = Incongruent

Aspects	1	0	-1	Comments
Format:				
1. The format is appropriate for collecting the data.				
Questions:				
2. The question is clear.				
3. The question is relevant to the research question.				
4. The question is appropriate for the students' level.				

Other suggestions:

.....

.....

.....

(.....)

Assessor

Appendix Q: Results of IOC for Reading Strategies-use Checklist

Items	Experts				Total	Meaning
	A	B	C	D		
1	1	1	1	1	1	Reserved
2	1	1	-1	1	.5	Revised
3	1	1	-1	1	.5	Revised
4	1	1	-1	1	.5	Revised

Appendix R: Long-Range Planning for the Strategy-based Reading Instruction

Units	Content Areas	Objectives	Phases	Reading Strategies	Activities/Tasks	Materials	Vocabulary
1/ Leonardo da Vinci (LdV)	The life and work of Leonardo da Vinci	-List information relating to Leonardo da Vinci -Tell the main ideas of the text -Determine the meaning of words within the context -tell Leonardo da Vinci's careers -list LdV's work -set goals for their reading -give and receive feedback within a group -evaluate their reading	Reviewing		Understand objectives		-inventor -musician -mathematician -architect -building -solar -talented -famous -to plan -to finish
				Using Background Knowledge	Write what they know about LdV or related words to him	-A picture of LdV -Graphic Organizer: Star	
			Modelling	Skimming	Read through the text quickly to find the main ideas	The passage	
					Listen to the CD recorded by an English native speaker reading the passage and read along	CD	
				Using Context Clues	Learn new vocabulary: try to guess the meaning of new words	Graphic Organizer: Vocabulary	
				Scanning	Look for words to find the sample sentences of new vocabulary; identify LdV's profession and achievements	Graphic Organizer: Spider	
				Goal Setting	Make a commitment to reading		
			Coaching	Feedback	In a group, complete a comprehension check, discuss, give feedback to each other, and receive feedback from the teacher	Comprehension check	
			Evaluating	Self-evaluation	Complete a learning log	Learning log	
			Expanding	Apply strategies independently	Create a spider graphic organizer of a biography of their favourite person 'My favourite person'		

Units	Content Areas	Objectives	Phases	Reading Strategies	Activities/Tasks	Materials	Vocabulary
2/ Rice	The origin of rice and its world-wide appeal	-to list information relating to rice -tell the main ideas of the text -determine the meaning of words within the context -identify the era that rice was introduced to each area -set goals for their reading -give and receive feedback within a group -evaluate their reading.	Reviewing		Understand objectives		-grain -paddy -weed -slave -artificial -to plant -to prevent -to spread -to sweeten -to crush
				Using Background Knowledge	Write what they know about rice or related words to it	-A picture of rice -Graphic Organizer: Star	
			Modelling	Skimming	Read through the text quickly to find main ideas	The passage	
					Listen to the CD recorded by an English native speaker reading the passage and read along	CD	
				Using Context Clues	Learn new vocabulary: try to guess the meaning of new words	Graphic Organizer: Vocabulary	
				Scanning	Look for words to find the sample sentences of new vocabulary; fill in the blanks in the charts about the era that rice was introduced to each area and how rice is cooked	Graphic Organizer: Brainstorming Charts	
				Goal Setting	Make a commitment to reading		
			Coaching	Feedback	In a group, complete a comprehension check, discuss, give feedback to each other, and receive feedback from the teacher	Comprehension check	
			Evaluating	Self-evaluation	Complete a learning log	Learning log	
			Expanding	Apply strategies independently	Create a brainstorming chart of an article to show the steps of growing rice 'The steps of growing rice'		

Units	Content Areas	Objectives	Phases	Reading Strategies	Activities/Tasks	Materials	Vocabulary
3/ Maps	An introduction to maps, their uses and benefits	-to list information relating to a map -tell the main ideas of the text -determine the meaning of words within the context -inform what is included in the map -describe types of maps -tell the benefits of maps -set goals for their reading -give and receive feedback within a group -evaluate their reading	Reviewing		Understand objectives		-treasure -instruction -direction -tool -destination -visual -popular -distribution -population -to describe
				Using Background Knowledge	Write what they know about a map or related words to it	-A picture of the map of Thailand -Graphic Organizer: Star	
			Modelling	Skimming	Read through the text quickly to find main ideas	The passage	
					Listen to the CD recorded by an English native speaker reading the passage and read along	CD	
				Using Context Clues	Learn new vocabulary: try to guess the meaning of new words	Graphic Organizer: Vocabulary	
				Scanning	Look for words to find the sample sentences of new vocabulary; find information about what include in the map, types of maps and benefits of it	Summary Worksheet	
				Goal Setting	Make a commitment to reading		
			Coaching	Feedback	In a group, complete a comprehension check, discuss, give feedback to each other, and receive feedback from the teacher	Comprehension check	
			Evaluating	Self-evaluation	Complete a learning log	Learning log	
			Expanding	Apply strategies independently	Create a map of a given description 'Direction to the park'	Description: Direction to the park	

Units	Content Areas	Objectives	Phases	Reading Strategies	Activities/Tasks	Materials/ Worksheets	Vocabulary
4/ Water	Important facts and usefulness of water	-to list information relating to water -tell the main ideas of the text -determine the meaning of words within the context -state where to find water -name the different forms of water -list the living things that need water -set goals for their reading -give and receive feedback within a group -evaluate their reading	Reviewing		Understand objectives		-liquid -solid -vapour -sleet -hail -cause -preventable -unsanitary -to contain -to freeze
				Using Background Knowledge	Write what they know about water or related words to it	-A picture of water -Graphic Organizer: Star	
			Modelling	Skimming	Read through the text quickly to find main ideas	The passage	
					Listen to the CD recorded by an English native speaker reading the passage and read along	CD	
				Using Context Clues	Learn new vocabulary: try to guess the meaning of new words	Graphic Organizer: Vocabulary	
				Scanning	Look for words to find the sample sentences of new vocabulary; find information about different forms of water, usefulness of water and where to find water	Summary Worksheet	
				Goal Setting	Make a commitment to reading		
			Coaching	Feedback	In a group, complete a comprehension check, discuss, give feedback to each other, and receive feedback from the teacher	Comprehension check	
			Evaluating	Self-evaluation	Complete a learning log	Learning log	
			Expanding	Apply strategies independently	Create a summary worksheet of an article they're interested in 'A summary worksheet of my favourite article''		

Units	Content Areas	Objectives	Phases	Reading Strategies	Activities/Tasks	Materials	Vocabulary
5/ Thunder and Lightning	How thunder and lightning are formed	-to list information relating to thunder and lightning -tell the main ideas of the text -determine the meaning of words within the context -complete process of what makes thunder and lightning -set goals for their reading -give and receive feedback within a group -evaluate their reading	Reviewing		Understand objectives		-lightning -thunder -particle -electricity -pressure -flash -horizontal -vertical -to release -to balance
				Using Background Knowledge	Write what they know about thunder and lightning or related words to them	-A picture of lightning -Graphic Organizer: Star	
			Modelling	Skimming	Read through the text quickly to find main ideas	The passage	
					Listen to the CD recorded by an English native speaker reading the passage and read along	CD	
				Using Context Clues	Learn new vocabulary: try to guess the meaning of new words	Graphic Organizer: Vocabulary	
				Scanning	Look for words to find the sample sentences of new vocabulary; find information to complete the process of what makes thunder and lightning	Graphic Organizer: Chain of Events	
				Goal Setting	Make a commitment to reading		
			Coaching	Feedback	In a group, complete a comprehension check, discuss, give feedback to each other, and receive feedback from the teacher	Comprehension check	
			Evaluating	Self-evaluation	Complete a learning log	Learning log	
			Expanding	Apply strategies independently	Create a chain of events of an article about where rain comes from 'Where rain comes from'		

Units	Content Areas	Objectives	Phases	Reading Strategies	Activities/Tasks	Materials	Vocabulary
6/ One Hundred Dollars	The story of a homeless, honest man	-to list key information they would do with $100 -tell the general ideas of the story -determine the meaning of words within the context -tell who the characters are -tell the time and where the story takes place -describe what happens in the story -describe the problem and solution in the story -identify what the moral of the story is -set goals for their reading -give and receive feedback within a group -evaluate their reading	Reviewing		Understand objectives		-wallet -pocket -homeless -excited -honest -to shave -to believe -to reach
				Using Background Knowledge	Write what they would do with $100.	-A picture of one hundred dollars -Graphic Organizer: Star	
			Modelling	Skimming	Read through the story quickly	A short story	
					Listen to the CD recorded by an English native speaker reading the story and read along	CD	
				Using Context Clues	Learn new vocabulary: try to guess the meaning of new words	Graphic Organizer: Vocabulary	
				Scanning	Look for words to find the sample sentences of new vocabulary; find information to tell who the characters are, then read the story and tell the time and where the story takes place, what happens in the story, problem and solution in the story	Graphic Organizer: A story map	
				Goal Setting	Make a commitment to reading		
			Coaching	Feedback	In a group, complete a comprehension check, discuss, give feedback to each other, and receive feedback from the teacher	Comprehension check	
			Evaluating	Self-evaluation	Complete a learning log	Learning log	
			Expanding	Apply strategies independently	Create a story map of a given short story 'A story map: The interview'	A short story: The Interview	

Units	Content Areas	Objectives	Phases	Reading Strategies	Activities/Tasks	Materials	Vocabulary
7/ The Sun	The characteristics and advantages of the sun	-to list information relating to the sun -tell the main ideas of the text -determine the meaning of words within the context -identify size and heat of the sun -describe how the sun's heat affects human's life -set goals for their reading -give and receive feedback within a group -evaluate their reading	Reviewing		Understand objectives		-centre -mass -core -heat -sunlight -largest -necessary -to hurt -to live -to breathe
				Using Background Knowledge	Write what they know about the sun or related words to it	-A picture of the sun -Graphic Organizer: Star	
			Modelling	Skimming	Read through the text quickly to find main ideas	The passage	
					Listen to the CD recorded by an English native speaker reading the passage and read along	CD	
				Using Context Clues	Learn new vocabulary: try to guess the meaning of new words	Graphic Organizer: Vocabulary	
				Scanning	Look for words to find the sample sentences of new vocabulary; find information in the passage about size, heat of the sun and how the sun's heat affects life to complete the T-chart	Graphic Organizer: T-Chart	
				Goal Setting	Make a commitment to reading		
			Coaching	Feedback	In a group, complete a comprehension check, discuss, give feedback to each other, and receive feedback from the teacher	Comprehension check	
			Evaluating	Self-evaluation	Complete a learning log	Learning log	
			Expanding	Apply strategies independently	Create a T-chart to take notes of an article they're interested in. 'A T-Chart notes of my favourite article'		

Units	Content Areas	Objectives	Phases	Reading Strategies	Activities/Tasks	Materials	Vocabulary
8/ The park	The story of a girl who loves to keep the park clean	-to list information relating to the park -tell the general ideas of the story -determine the meaning of words within the context -tell who the characters are -tell the time and where the story takes place -describe what happens in the story -describe the problem and solution in the story -identify what the moral of the story is -set goals for their reading -give and receive feedback within a group -evaluate their reading	Reviewing		Understand objectives		-trash -provision -creation -audience -proud -excited -tidy -to admire -to rush -to pick up
				Using Background Knowledge	Write things can be seen at the park	-A picture of the park -Graphic Organizer: Star	
			Modelling	Skimming	Read through the story quickly	A short story	
					Listen to the CD recorded by an English native speaker reading the story and read along	CD	
				Using Context Clues	Learn new vocabulary: try to guess the meaning of new words	Graphic Organizer: Vocabulary	
				Scanning	Look for words to find the sample sentences of new vocabulary; find information to tell who the characters are, then read the story and tell the time and where the story takes place, what happens in the story, problem and solution in the story	Graphic Organizer: A story map	
				Goal Setting	Make a commitment to reading		
			Coaching	Feedback	In a group, complete a comprehension check, discuss, give feedback to each other, and receive feedback from the teacher	Comprehension check	
			Evaluating	Self-evaluation	Complete a learning log	Learning log	
			Expanding	Apply strategies independently	Create a story map of a given short story 'A story map: Talia's special day'	A short story: Talia's Special Day	

Appendix S: Sample of Lesson Plans

Lesson plan 1 Topic: **Leonardo da Vinci**		
Subject: **English Foundation 5** Date: **25-26 November 2013**	Level: **Mattayom 3 (Grade 9)** Time: **100 minutes**	**30 Students** Period 1-2

Terminal Objectives: Students will be able to use reading strategies to understand and identify the life and work of Leonardo da Vinci.

Enabling Objectives: Students will be able to use reading strategies to:

1. List information relating to Leonardo da Vinci. (Using Prior Knowledge)
2. Tell the main ideas of the text. (Skimming)
3. Determine the meaning of words within the context. (Using Context Clues)
4. Tell Leonardo da Vinci's career. (Scanning)
5. List Leonardo da Vinci's work. (Scanning)
6. Set goals for their reading. (Goal Setting)
7. Give and receive feedback about their reading performance. (Feedback)
8. Evaluate their reading. (Self-evaluation)

Background Knowledge: Vocabulary related to Leonardo da Vinci, Careers, and Past Simple Tense

Materials: A picture of Leonardo da Vinci, CD, Worksheets, Reading Strategies: Key-chain Cue-cards, Projector, and Internet

Evaluation: Students complete worksheets and assignments.

Reading strategies: Using Background Knowledge, Skimming, Using Context Clues, Scanning, Goal Setting, Feedback, and Self-evaluation

Procedures:

Teacher	Students	Time (Minutes)
Period 1 (Greeting) **<u>Reviewing</u>** -Class, you are going to practice reading strategies for different tasks in order to improve your reading ability. After this lesson you will be able to use reading strategies to list information relating to Leonardo da Vinci, tell the main idea of the text, determine the meaning of words within the context, tell Leonardo da Vinci's career, list Leonardo da Vinci's work, set goals for your reading, give and receive feedback about your reading performance, and evaluate your reading. -Before we start, I would like to give you a key-chain cue-card of reading strategies. These are the seven reading strategies we're going to practice for the next eight weeks. At the front is the name of strategies and on the back is the description of each strategy. -Are you ready for the lesson? - (Show a picture of Leonardo da Vinci) First of all, I would like you to look at this picture.	(Greeting) -Yes, we are.	50 3

-Who is he? Can you guess?	-Can be various or Leonardo da Vinci	
-Yes, it is. This is a picture of Leonardo da Vinci. -Do you know anything about him? - (Lead a discussion to elicit Ss's background knowledge) Do you know who first had ideas for the tank, helicopter and calculator?	-Yes/No. -Ss think about the answers.	1
-It's him, Leonardo da Vinci. -Now, I'm going to give you a hand-out. Please look at exercise 1. It is a star graphic organizer.	-Ss look at exercise 1.	3
-Everyone, please read the instructions together.	-Ss read the instructions.	
-Very good. What you have to do is to think about things or words related to Leonardo da Vinci that you know and write them down in the circle. - (Think-aloud to be a model for students) I think I heard about him in the science class and by looking at the picture, he must have something to do with these small pictures surrounded. He might invent a calculator, tank	-Ss think along.	

and all of these. So, I will write what I know about him and all of the words related to him in the circles. For my first circle, I will write 'science', the next one I will write 'calculator'. *(Speak in Thai for think-aloud)* -Class, when you use your existing knowledge and experience to link to the topic you're going to read, it is called *Using Background Knowledge* strategy. -Please look at the first strategy in your key chain and repeat after me, *Using Background Knowledge.* - Before starting to read any texts, please think what you already know about the topic. This strategy helps you have ideas and to understand the text you are going to read better. -You have 2 minutes to finish exercise 1. (Monitor students) -Okay, time's up. - (Nominate Ss' names) Could you share with the class what you know about Leonardo da Vinci and what words you've got? -Well done. -Class, this is our topic for reading today. It is about 'Leonardo da Vinci'.	-Ss repeat after the teacher. -Ss complete exercise 1. -Ss share ideas.	2

Modelling -Now, look at the text in exercise 2. I would like you to read the title first and then read through the text quickly. -When you read through the text quickly to get the main ideas of the text, it is called *Skimming* strategy. -Please look at the second strategy in your key chain and repeat after me, *Skimming.* -This strategy helps you to read with more understanding. You can skim through the text by first starting with the title, then reading first sentence of each paragraph. The main ideas are usually there; or, second, by looking for words you know and skip the words you don't know. -Okay, you can start now and please underline the main ideas as well. (Monitor students) -After you've skimmed through it, can you tell me what information on Leonardo da Vinci is contained in the text?	-Ss read the title and skim the text. -Ss repeat after the teacher. -Leonardo da Vinci's careers and work.	3 2

-Very good. -Now, I'm going to play a CD recorded by an English native speaker reading the passage and please read your own text as you listen.	-Ss listen to the CD and read along.	3
-I will play it one more time and please read along again.	-Ss listen to the CD and read along.	3
- (Nominate Ss' names) Could you read aloud one sentence of the main idea please? -You read very well. Thank you.	-Ss read aloud the main idea.	2
-Are there any words you don't know? -Don't be worried if there are, we will go through it together. -Now, I would like you all to look at exercise 3 and try to guess the meanings of these new words together. -When you use surrounding words, sentences or pictures to guess the meaning of unknown words, it is called *Using Context Clues* strategy. -Please look at the third strategy in your key chain and repeat after me, *Using Context Clues.*	-Yes/No. -Ss repeat after the teacher.	13

-An example for this strategy use is the word 'inventor', which you can see in the first paragraph. You can guess the meaning of it by looking at the words surrounding it. The word or sentence that comes after the dash always describes the word or sentence before the dash. -So, what do you think 'inventor' means in this context? -Very good. -Let's try to guess the meaning of one more word together. -Without looking in the dictionary, I would like you to tell me the meaning of 'architect' in the same paragraph. What does it mean? -Very good. Now I would like you to try to do the rest by yourselves or use a dictionary as a tool if you have to. -Class, you might find that in the dictionary there are many meanings in Thai for just one English word. What you can do is to think about the topic and surrounding	-Someone who makes new things. -Someone who plans the construction of buildings. -Ss try to guess the meanings	

words, and then choose the best word that relates to them. -Also, use a dictionary to find the types of words there are, how to pronounce them, and then put them in the boxes. -You can work with your classmates or in a group by dividing work up between group members. You can then share your answers with them. Doing it this way will help you finish the task quicker. (Monitor students)		
-Class, have you finished finding the meanings, types, and how to pronounce the words? -Well done. -Now, I would like you to scan for those words in the text, and then take the sentence that contains the word you look for and write it in the box as the example presents you. -When you scan or look for a specific word or information within the text, it is called *Scanning* strategy. -Please look at the fourth strategy in your key chain and repeat after me, *Scanning.*	-Yes/No. -Ss scan for the words and take the sample sentence to fill in the box. -Ss repeat after the teacher.	8

-Class, you don't have to read the text properly. You just have to scan through it quickly and stop when you find the word you are looking for. You then read that sentence carefully and write the whole sentence in the box. (Monitor students)		
-Have you finished? - (Nominate Ss' names) How many words have you got for nouns, verbs, and adjectives?	-Yes/No. -5 nouns, 2 verbs, and 3 adjectives	3
-Can you tell me one word with its meaning, type, and the sample sentence? -Well done.	-Ss answer the question.	
-Now, please look at exercise 4. After practicing the four strategies, you are going to set goals for your reading. This strategy is called *Goal Setting.* Please look at the fifth strategy and repeat after me, *Goal Setting.* *Goal Setting* helps you to make a commitment to your reading. For example, the grade of the English course you expect to achieve, you may promise to remember the meaning of new vocabulary for 10 words in this lesson or you may promise to use all the reading strategies with your	-Ss repeat after the teacher.	4

reading, and the time you need to complete the assigned exercise. -Right, now you are going to set your reading goals for this lesson. We will go through it one by one. Let's start with item 1. - (Nominate Ss' names) What grade do you plan to get for this subject? -How many new words do you plan to study them? -How many reading strategies do you plan to remember their names and to use them with your reading exercises? -How long do you plan to complete exercise 5? -Well done. -Okay, that's all for today. I would like you to practice the reading strategies you've learned and try to remember their names and when to use them. -Thank you for today. See you next time.	-It can be any from 1-4. -All the ten words. -All the seven strategies. -It can be 6, 8, or 10 minutes.	

Period 2 (Greeting) **Coaching** -Class, could you tell me what topic you learned last time?	(Greeting)	50 1

	-Leonardo da Vinci	
-What are the reading strategies you've practiced?	-Using Background Knowledge, Skimming, Using Context Clues, Scanning, and Goal Setting	
-Very good. Could you tell me how you use these strategies? Let's start with *Using Background Knowledge.*	-To think about what I already know about the topic.	4
-Right, now you're going to practice another strategy, it is called *Feedback.* Feedback in this reading exercise is the reflection of what others think how you do on your reading performance. This includes reading aloud, finding main ideas, finding specific information, and guessing the meanings of words.	-Ss receive and give feedback about their reading performance to each other.	6

-Receiving feedback helps to see how you did on a task and you can take those feedback to improve your reading. Either positive or negative feedback helps you to improve your reading. Please look at the sixth strategy in your key chain and repeat after me, *Feedback.* -Please mark in exercise 4 the feedback you've got from yourself, classmate, me, and your family. -Right, you can start now. (Monitor students) -Are you finished? - (Nominate Ss' names) Can you tell me the feedback about your reading performance from yourself? How about from your classmate? - (Teacher gives feedback to the nominated student about his or her reading performance) -Today when you go back home, read for your family and ask them how well they think about your reading performance and then mark their feedback in the exercise. -Now, I would like you to read the passage again in detail and then find the information needed to complete the spider graphic organizer in exercise 5.	-Yes/No. -It could be very good, good, okay, or poor.	

-As you see the sample answers in the mind-map, there are oval and rectangular shapes. Could you tell me what kind of information you need to put in the ovals and what kind of information you need to put in the rectangular shapes? -Very good. Now you know the purpose of your reading that you have to pay attention to the careers and work of Leonardo da Vinci.	-Ovals are for LdV's careers and rectangular shapes are for his work.	2
-For this exercise you can also use the *Scanning* strategy to look for the answers. -You have already set goals of the time you would spend for this exercise. So, you need to plan how to work in order to meet your goals. (Monitor students)	-Ss read the text and complete the mind-map. -Ss plan how to work toward their goals.	10
-Are you finished? -Well done. Let's share the answers.	-Yes/No. -Ss share the answers with the whole class.	
- (Pose a high-level question) Class, what might happen if Leonardo da Vinci didn't have these technological ideas? -Well done.	-Can be varied.	

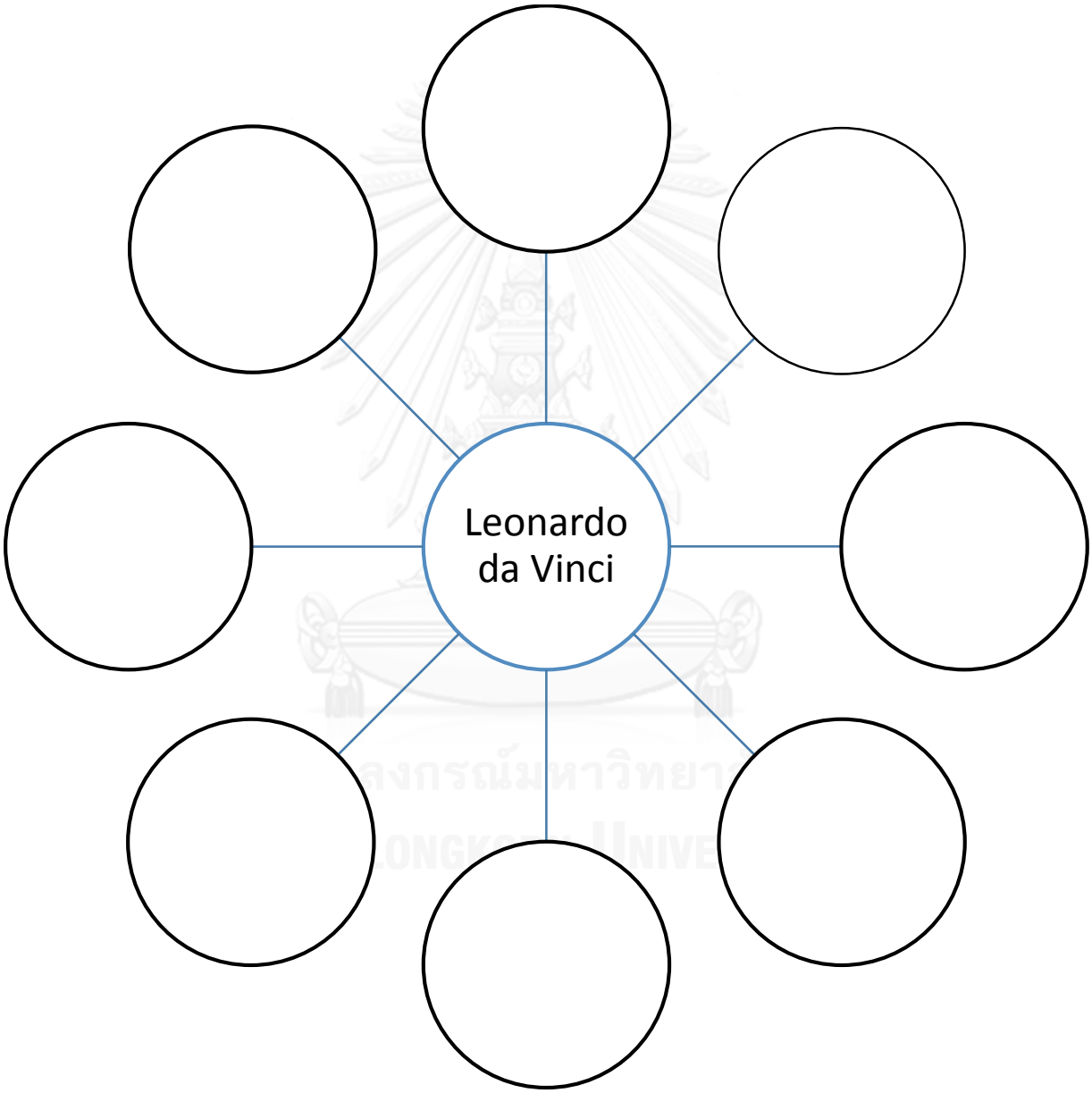
-Class, please look at exercise 6. You are going to complete a comprehension check in a group of 5, using the strategies you've practiced to find the answer for each question. -You have 10 minutes to finish this exercise. (Monitor students)	-Ss complete a comprehension check.	11
-Class, are you finished? -Well done. -Now, we are going to share ideas how you've got the answers for each question, and then we discuss about it.	-Yes/No.	6
- (Nominate Ss' names) Could you share what reading strategies you used to complete this task? Start with exercise A. -Very good. You all did a good job.	-Ss share ideas.	
- (Pose a high-level question) Class, if you can, what would you like to invent? Why? -Well done.	-Answers varied	

Evaluating -Class, please look at exercise 6. You are now going to evaluate your reading using the strategy called *Self-evaluation.* *Self-evaluation* helps you to reflect on what you've learned and whether or not you meet the goals you have set and the objectives of the lesson. -Please look at the seventh strategy in your key chain and repeat after me, *Self-evaluation.* -We are going to do it together item by item. Are you ready?	-Ss complete a learning log. -Ss repeat after the teacher. -Yes/No.	8

Expanding -Class, for your homework, I would like you to find a biography of your favourite person and then create a spider graphic organizer about him or her. They might be a singer, a movie star, a politician, or a writer. Tell who they are, for example, his or her name, age, family, education, and work. You can use colour and design as you like in order to make your work standout and look nice. Look at exercise 5 as an example of a spider graphic organizer. Try to use the strategies we've learned today and in the previous class to create your work. Also,	-Ss jot down their homework.	2

please tell what you like about your work by writing a few sentences on the back of the paper. -Class, be confident and keep telling yourselves that you can produce a quality piece of work. -Enjoy working on this task and please submit this work next week. -That's all for today. Don't forget to practice the reading strategies we've learned. See you next time.		

Exercise 1: Look at the star below. Use the strategy *'Using Background Knowledge'* by thinking about what you know about Leonardo da Vinci or words related to him, and then write them down in the circles.



Exercise 2: Use the strategy *'Skimming'* to read through the text quickly to get the main ideas of what the text is about.

Leonardo da Vinci

Leonardo da Vinci was born in 1452 in the area of Florence, Italy. He did many things. He was a scientist. He was an inventor - he made new things. He was a musician. He was a mathematician. He was an architect – he knew how to plan the construction of buildings. He knew about animals. He knew about plants. He could do many things well. He was very talented.

He was famous for his paintings. He painted the Mona Lisa and The Last Supper. They are his most famous paintings. Many people know about them. He started working on The Last Supper in 1495 in Milan. He finished it in 1498. He started working on the Mona Lisa in 1503 in Italy. He finished it a short time before he died. It is now in France.

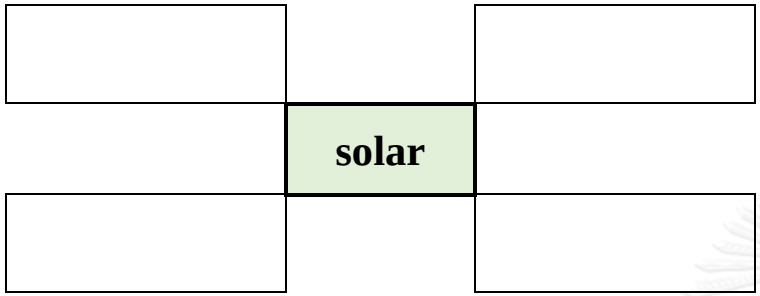
Leonardo's paintings were very good. He understood how bodies worked. He knew how happy or sad people looked. He knew how emotion looked on people's faces. He understood nature, light, and shadow. His paintings looked real.

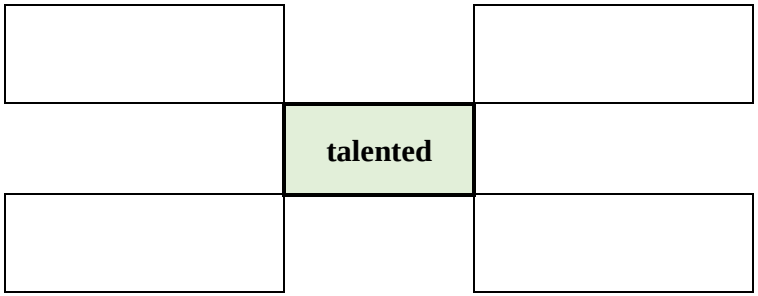
Leonardo had many ideas for inventions. He drew plans for a helicopter. He drew plans for a tank. He had an idea for a calculator. He had an idea for making solar power, which is power that comes from the sun.

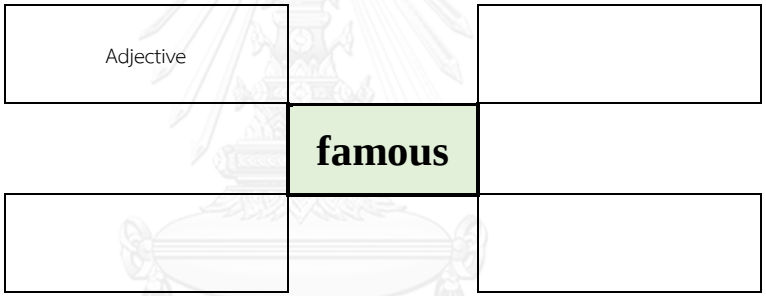
Leonardo lived at the same time as Michelangelo and Raphael. He was 27 years older than Michelangelo. He was 31 years older than Raphael. Leonardo died in 1519.

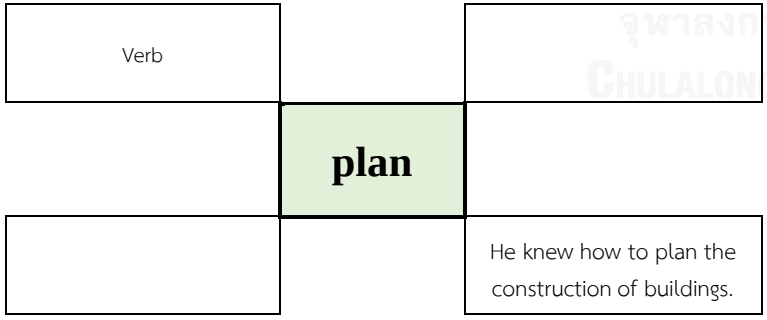
Adopted from englishforeveryone.org

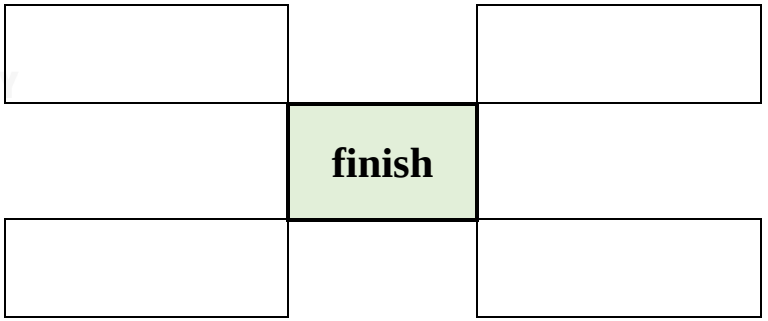
Exercise 3: Use the strategy *'Using Context Clues'* to guess the meanings of unknown words and use the strategy *'Scanning'* to look for the sample sentences.



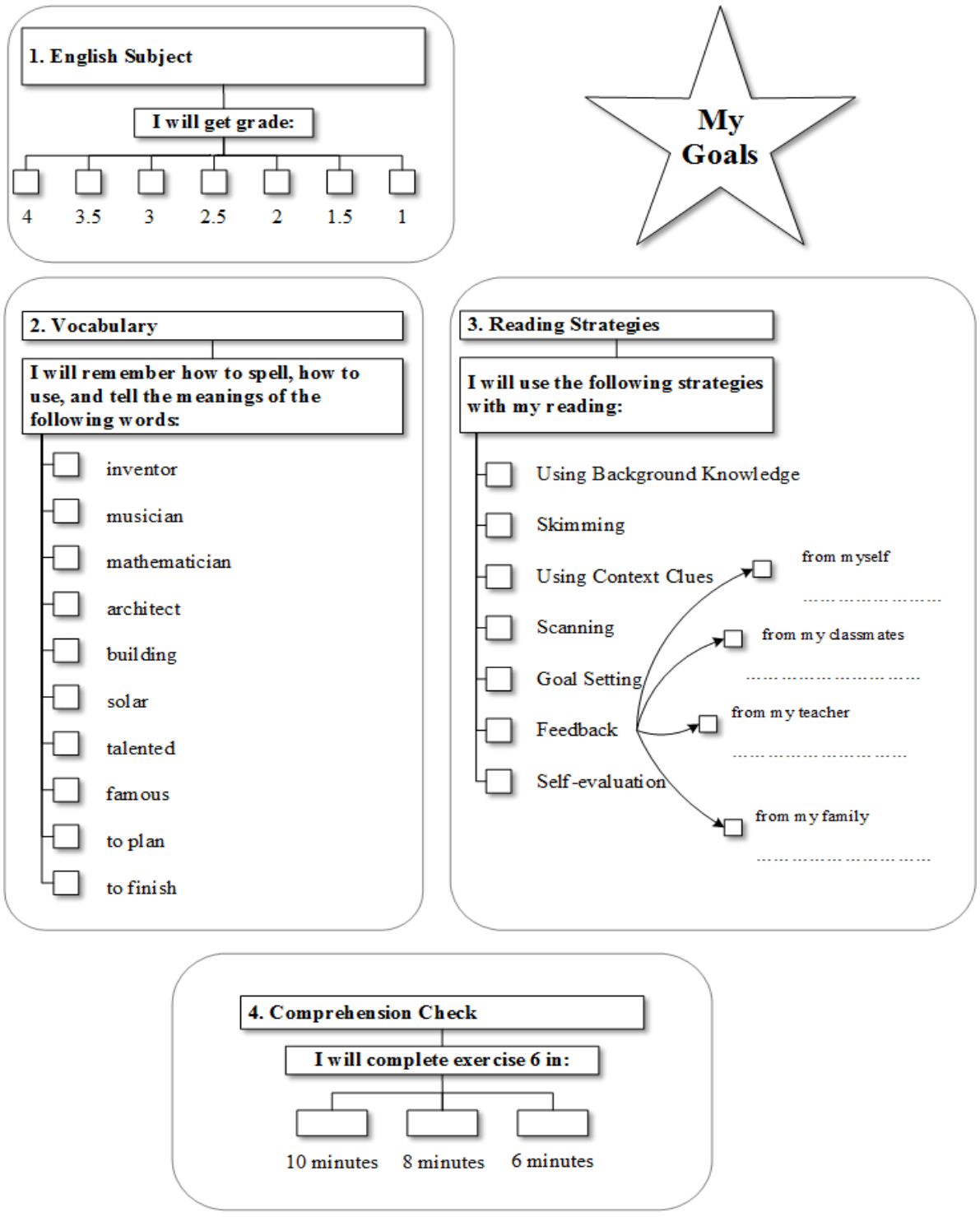






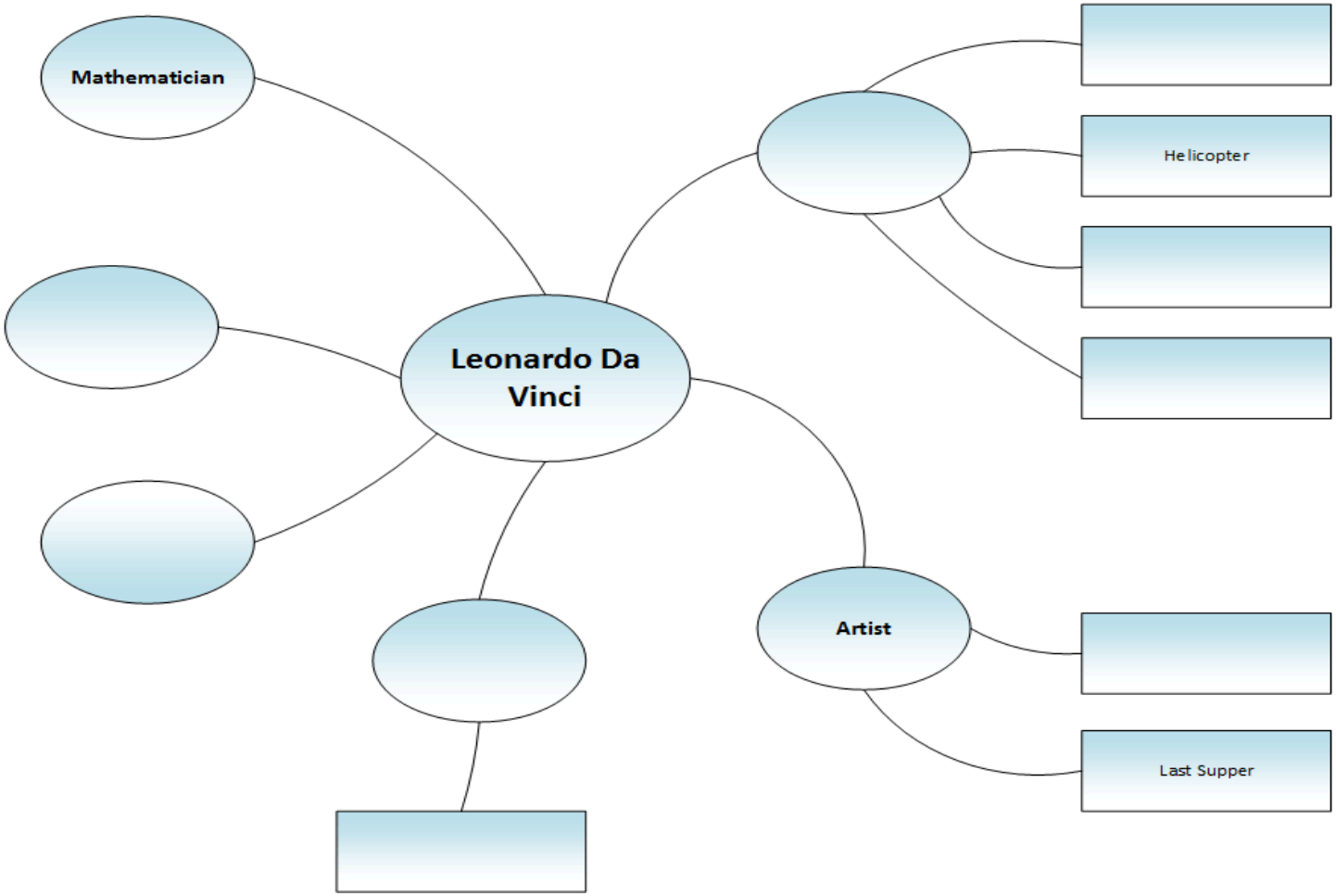


Exercise 4: Use the strategy *'Goal Setting'* to identify your reading achievements.



To improve my reading, I have to ……..……

Exercise 5: Read the passage carefully and then use the strategy *'Scanning'* to find the answers to fill in the spider graphic organizer.



Exercise 6: In a group of 5, complete a comprehension check.

Comprehension Check

Leonardo da Vinci

A. **Information in the passage**

1. **The topic of this passage is: .....**
2. **The number of paragraphs in this passage is: .....**
3. **The main ideas of this passage are: .....**

.....

.....

B. **Thinking about the passage**

1. **How do you know that Leonardo da Vinci was an artist?**

.....

2. **Was Leonardo da Vinci talented? Why or why not?**

.....

3. **What do you think would happen if Leonardo da Vinci didn't have the idea of a tank?**

.....

C. **Vocabulary in context**

Read the sentences and discuss with the group about the meaning of the underlined words within the context. Then write down the group's ideas.

1. He was an inventor - he made new things.

.....

2. He knew how emotion looked on people's faces.

.....

3. He had an idea for making solar power, which is power that comes from the sun.

.....

Adapted from Chamot and O'Malley (1994)

Exercise 7: Use the strategy '*Self-evaluation*' to complete a learning log.

Learning Log

Leonardo da Vinci

A. VOCABULARY

I can explain the meanings of these words:

☐	inventor	☐	solar
☐	musician	☐	talented
☐	mathematician	☐	famous
☐	architect	☐	plan
☐	building	☐	finish

B. KNOWLEDGE ABOUT LEONARDO DA VINCI

I can:

- ☐ Tell Leonardo da Vinci's careers.
- ☐ List Leonardo da Vinci's work.

C. LANGUAGE

I can:

- ☐ Listen to and read the passage.
- ☐ Discuss about the passage.
- ☐ Write answers to complete the exercises.

D. READING STRATEGIES

I can:

- ☐ Use my background knowledge about Leonardo da Vinci.
- ☐ Skim through the text to get the main ideas.
- ☐ Use context clues to guess the meanings of unknown words.
- ☐ Scan for words and specific information.
- ☐ Set goals for my reading.
- ☐ Give and receive feedback with my classmates.
- ☐ Evaluate my reading.

Appendix T: Evaluation Form for Lesson Plans

Please rate (√) these following statements according to your opinions.

1 = Congruent 0 = Uncertain -1 = Incongruent

Aspects	1	0	-1	Comments
Contents:				
1. The contents are appropriate for the students.				
2. The contents are relevant to the conceptual theme.				
Time:				
3. The time is appropriate for the lesson.				
Objectives:				
4. The objectives are clear.				
5. The objectives are relevant to the lesson.				
Materials/Worksheets:				
6. The materials and worksheets are appropriate for the students.				
7. The materials and worksheets are relevant to the lessons.				
Strategy-based Reading Instruction Learning:				
8. The activities are appropriate for the students.				
9. Reading strategies are introduced to the students appropriately.				
10. Reading strategies are taught explicitly by naming the strategy, telling students what the strategy does and providing ample instructional supports.				
11. The steps of teaching are in appropriate sequence.				

Other suggestions:

.....

.....

.....

.....

.....

.....

.....

(.....)

Assessor

Appendix U: Results of IOC for Lesson Plans

Item	Experts			Total	Meaning
	A	B	C		
I	1	1	1	1	Reserved
II	1	1	1	1	Reserved
III	1	1	1	1	Reserved
1	1	1	1	1	Reserved
2	1	1	1	1	Reserved
3	1	1	1	1	Reserved
4	1	1	1	1	Reserved
5	1	1	1	1	Reserved
6	1	1	1	1	Reserved
7	1	1	1	1	Reserved
8	1	1	1	1	Reserved
9	1	1	1	1	Reserved
10	1	1	1	1	Reserved
11	1	1	1	1	Reserved

VITA

Duangta Mondi was born in Surin, Thailand. She obtained her Bachelor, majoring in English from the Faculty of Education, Rambhai Barni Rajabhat University, Thailand in 2004. She studied in the English programme at Cardiff University, Wales in 2010 and received the award of most excellent student. She is the co-author of 4 books to help teach English-speaking foreigners to learn Thai. The brand name for the books is Quest – Quick, Easy, Simple Thai, and the books are: Learning Thai, Your Great Adventure (ISBN 978-1-908203-13-7), Learn Thai Alphabet with Memory Aids to Your Great Adventure (ISBN 978-1-908203-14-4), The Perfect Thai Phrasebook (ISBN 978-1-908203-15-1), and How to Read Thai (ISBN 978-1-908203-07-6). In 2011, she began her Master degree in Teaching English as a Foreign Language at the Faculty of Education, Chulalongkorn University, Thailand. Duangta is currently working as an English teacher at Krathiamwittaya School, a state school in Surin province.