THAI SECONDARY SCHOOL EFL READERS' PERCEPTIONS TOWARDS THE USE AND USEFULNESS OF THE QUANTUM LEARNING-AND-TEACHING MODEL IN READING INSTRUCTION

BY

MISS SIRILUK PUKDEYOTIN

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS IN ENGLISH LANGUAGE TEACHING

LANGUAGE INSTITUTE

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ENTITLED

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ABSTRACT

The quantum learning-and-teaching model founded by DePorter is considered to be an effective and practical model of learning encouragement. Various studies, especially in Indonesia, were conducted to investigate the effects of using the quantum learning-and-teaching model in reading instruction; however, there has been no such study conducted in the Thai context. The objectives of this study were to: i) investigate the perceptions of Thai secondary school EFL readers regarding their teachers' use of the quantum learning-and-teaching model in reading instruction, ii) investigate the perceptions of Thai secondary school EFL readers regarding the usefulness of the quantum learning-and-teaching model in reading instruction, and iii) investigate differences between the perceptions of more and less proficient Thai secondary school EFL readers regarding the usefulness of the quantum learning-and-teaching model in reading instruction. Two hundred fifty-six grade 9th students at a public school in Bangkok were chosen to participate in this study. The participants were categorized into more and less proficient readers based on their average English grades in English Reading 3 and English Reading 4 courses. Data were collected via a questionnaire and semi-structured interviews.

The research results reveal that the students' perceptions regarding their teachers' use and the usefulness of the quantum learning-and-teaching model in

reading instruction were both ranked at the high level. Looking at specific items in the questionnaire, the data show that while the students perceived all 49 teaching practices useful at the high level, they perceived their teachers used 5 teaching practices less at the moderate level. The results indicated that more and less proficient school EFL readers perceived the usefulness of some teaching practices differently. There was a statistically significant difference in the usefulness of 11 teaching practices (2 reading strategy instructions and 9 classroom activities) at the 0.01 and 0.05 levels.

It is recommended that teachers apply the quantum learning- and-teaching model in their reading instruction to encourage students to learn how to read and to provide a positive learning atmosphere in the classroom. In addition, teachers should consider choosing teaching practices that fit their students' proficiency levels in their lessons.

Keywords: quantum learning-and-teaching model, reading strategy instruction, Thai secondary school ELF students

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CHAPTER 1
INTRODUCTION

1.1 BACKGROUND OF THE STUDY

According to Phrarat (2011), English is the most essential and useful international language for all dimensions such as business, diplomacy, education, and culture. Teaching English in Thailand, however, is considered as teaching English as a Foreign Language (EFL) because there is limited opportunity for students to use English outside the classroom in their daily life (Noom-ura, 2013). Thais use Thai as an official language, and Thai is used as the medium of instruction in classrooms (Hayikaleng, Nair, & Krishnasamy, 2016). Still, in Thailand, English is considered to be a useful and precious tool for better careers and education. It is the reason why English plays a main role in Thai Education. According to the basic education core curriculum (Ministry of Education, 2008), English is one of the eight core subjects. English as a Foreign Language (EFL) is required to be taught 120 hours a year from Mattayoms 1 to 3, which is the same amount as the other four core subjects (Thai, math, science, and social science). This means that the Ministry of Education values English as equally important as other core subjects in Thai education.

Although there are four dominant skills in English language teaching - listening, speaking, reading and writing (Richards, Platt, & Platt, 1985) - reading is considered to be a complicated skill which requires a variety of competences such as eye movement and brain processing (Alderson & Bachman, 2001). Thai students have problems in all of the four skills, but they have problems with reading comprehension the most (Champaruang, 1999 as cited in Chawwang, 2008; Ponmanee & Sinsuwan, 2001 as cited in Chawwang, 2008; Purisodom, 1999 as cited in Chawwang, 2008; Thani, 1999 as cited in Chawwang, 2008; Yongsathien, 1999 as cited in Chawwang, 2008). Moreover, studies which have been conducted relating to teaching reading and reading proficiency of Thai EFL students (Chawwang, 2008; Hayikaleng et al., 2016; Lekwilai, 2014; Petchinalert & Aksornjarung, 2017; Sitthitikul, 2007; Tapinta, 2006; the Department of Educational Techniques, 1995 as cited in Yaemtui, 2015) indicate

that Thai EFL students have low English reading proficiency, and they have difficulties in English reading.

According to Tapinta (2006), in Thailand, a bottom-up reading approach is commonly used in reading lessons. Teachers usually introduce and develop students' vocabulary knowledge along with sentence structures in reading instruction. Moreover, most Thai teachers generally teach reading through vocabulary, grammar, and paragraph organization, and finding correct answers through multiple choice or short answer questions is one of the most common activities of reading comprehension. This is supported by Ekwall and Shanker (1998 as cited in Petchinalert & Aksornjarung, 2017), who state that teachers rarely teach their students to use reading strategies. In addition, Hayikaleng, Nair, and Krishnasamy's (2016) study reveals that Thai EFL teachers do not use appropriate reading instruction which causes boredom and lack of motivation among Thai students.

Not only teachers' teaching practices but also English reading exposure cause English reading difficulties among Thai students. Lekwilai (2014) states that Thai EFL students do not frequently read English passages in their daily life except in English lessons. In English lessons, teachers in the study mostly helped students comprehend the passages, facilitated them to read by finishing reading comprehension questions and taught students to do exams. This shows that Thai EFL students are not taught English reading effectively, and reading strategies are rarely taught although they are useful to improve readers' reading proficiency.

It can also be claimed that, in international comparison, Thai students are facing reading problems. TOEFL iBT test's score data summary shows the Thais' total mean score classified by examinees' native languages, 77 out of 120, is lower than Indonesians' total mean score which is 86 (Educational Testing Service, 2018). In terms of the reading section, Educational Testing Service found that the mean score of Thai examinees is 19 out of 30 while Indonesian examinees' reading mean score is 21. It seems interesting to find out why Indonesians, who are also EFL students have a higher mean score in reading section than Thais.

As mentioned above, it can be seen that Indonesian EFL students, have a higher English reading proficiency than Thais. From the review of related literature, the research has found that many studies in Indonesia have explored the implementation of

a quantum learning- and- teaching model and its effects on students' reading comprehension.

Bobbi DePorter, the founder of quantum learning and teaching, came up with this interesting model at "SuperCamp", an accelerated Quantum Leaning Program organized by Learning Forum, an international education company. Hundreds of teachers and over 25,000 students from nine years to 24 years were involved in this ten-day residential research program (DePorter, Reardon, & Singer-Nourie, 1999). The results reveal that the camp's participants improved their grades and learning processes; they were being more active in classroom lessons, and being proud of themselves (Vos-Groenendal, 1991 as cited in DePorter et al., 1999).

After the study at "SuperCamp," there were various studies (Abdulah, 2012; Fadillah, 2013; Fermanda, 2013; Khasanah, 2012; Koeswandi & Saleh, 2014; Martika & Hermayawati, 2016) conducted to investigate the effect of the quantum learning-and-teaching model on Indonesian EFL students' reading proficiency. The results of their studies were similar in finding that a quantum learning-and-teaching model has a positive effect on students' reading comprehension.

Abdulah (2012) concluded that the quantum learning-and-teaching model provides an appropriate learning atmosphere in the reading classroom, including instructions, lesson plans, curriculum design, etc. Moreover, Abdulah also found that the quantum learning-and-teaching model could motivate students in English reading lessons. Khasanah (2012) illustrated that the quantum learning-and-teaching model was successful in aiding students' comprehension and retention and creating comfortable and enjoyable learning situation, motivating students' interests, and making reading lessons more creative. Fadillah (2013) found that the activities and characteristics of the quantum learning-and-teaching model give positive effects to students' reading proficiency because they encourage an enjoyable and comfortable learning atmosphere. Koeswandi and Saleh (2014) recommend that the quantum learning-and-teaching model should be applied in reading lessons because it improved students' reading proficiency. In addition, Martika and Hermayawati (2016) found that the quantum learning- and- teaching model supports students' motivation and comfort them in learning, which helps develop their reading skills.

Thus, it can be concluded that the quantum learning-and-teaching model can improve students' reading skill, and enhance more student-centeredness (Khasanah, 2012). In terms of characteristics, teachers who use the quantum learning-and-teaching model teach students' comprehension and remembering skills, makes content more meaningful and relevant to students' lives, ask questions, tell reading purpose, build excitement, feedback, and are their coaches (DePorter et al., 1999).

Apart from the quantum learning-and-teaching model's characteristics, its teaching framework (design, enroll, experience, label, demonstrate, review and celebrate) is related to reading instruction as well (Fermanda, 2013; Khasanah, 2012). To illustrate, teachers convince students to activate and recall their background knowledge to connect with the reading text in the enroll phase. Then, in the experience phase, teachers explain students' reading purposes to make them concentrate with the lesson. After that, teachers teach the concept and reading strategies by using keywords, concepts and models in the label phase. Next, students are given opportunity to apply their read information into other learning in the demonstrate phase. In the review phase, teachers confirm students' understanding by retelling relating keywords. Lastly, teachers entertain and make students enjoy learning new things in the celebrate phase.

Learner-centeredness or student-centeredness refers to the teaching approach focusing on students' needs and interests (Lak, Soleimani, & Parvaneh, 2017; McCombs & Whistler, 1997 as cited in Parker, 2011; The National Institute for Educational development, 1999 as cited in Matsau, 2007; Weimer, 2002 as cited in Matsau, 2007). In terms of learner-centeredness, the quantum learning-and-teaching model attempts to make students more active (Khasanah, 2012). According to Khasanah's study, the collaborative learning activity encouraged students to involve and participate in the lesson. The quantum learning-and-teaching model also creates a safe and friendly learning environment, activates learning responsibilities and enjoyment by using pictures, music, plants and colors, encourages learning aims, fulfills needs, stimulates learning through experiencing, gives acknowledgement for encouraging pride, and creates positive emotion by giving feedback and positive reinforcement (DePorter & Hernacki, 1992; DePorter et al., 1999).

Besides, the quantum learning-and-teaching model suggests how to create an appropriate learning atmosphere in the following six principles: (1) students learn

more when their classes are satisfying, challenging and friendly, (2) teachers should have good relationships with students, (3) teachers should acknowledge every effort, (4) safety is needed to support students, (5) students who feel the sense of belonging in the learning atmosphere mostly succeed in their learning goals, and (6) teachers should be their model (DePorter et al., 1999).

The results of the studies in Indonesia together with my own teaching experience encouraged me to believe that the quantum learning-and-teaching model is an effective way to teach reading lessons to my students. Having been an English teacher in a Thai public school in Bangkok for 3 years, I had noticed various challenges in the context such as a variety of English language proficiency, some negative attitudes towards English classes, etc. One day, with my attempt to solve those problems, I started to search for information concerning ELT methodology and techniques on the Internet. Fortunately, I found an interesting and informative book named *Quantum Teaching* written by DePorter et al. (1999). After I had finished reading the first few pages of the book, I could not stop reading it because the content touched my feeling and encouraged me to be a better teacher. Then I tried using some activities and adopting some ideas from the book in my reading instruction in a course I was assigned to teach named *Critical Reading*. I found that the quantum learning-and-teaching model was very useful and helpful to facilitate my students' reading comprehension.

Although it seems interesting to find out if the quantum learning-and-teaching model is used and is useful among Thai students in the Thai context, to the best of the researcher's knowledge, no studies can be found that have been conducted within this context. Most studies conducted in the Thai context have mostly focused on only reading strategy instruction (Akkakoson, 2013; Chumworatayee, 2017; Dorkchandra, 2013; Khaokaew, 2012; Whankhom, Phusawisot, & Sayankena, 2016; Wichadee, 2011). Therefore, this study aims to find out if the quantum learning-and-teaching model, which incorporates both reading strategy instruction and classroom activities, has been used and found useful to teach reading skills to Thai secondary school EFL readers. The study will be useful for Thai teachers to use as a guideline for their reading instruction in Thai classrooms.

1.2 RESEARCH OBJECTIVES

1.2.1 To investigate the perceptions of Thai secondary school EFL readers regarding their teachers' use of the quantum learning-and-teaching model in reading instruction.

1.2.2 To investigate the perceptions of Thai secondary school EFL readers regarding the usefulness of the quantum learning-and-teaching model in reading instruction.

1.2.3 To investigate differences between the perceptions of more and less proficient Thai secondary school EFL readers regarding the usefulness of the quantum learning-and-teaching model in reading instruction.

1.3 RESEARCH QUESTIONS

1.3.1 What are the perceptions of Thai secondary school EFL readers regarding their teachers' use of the quantum learning-and-teaching model in reading instruction?

1.3.2 What are the perceptions of Thai secondary school EFL readers regarding the usefulness of the quantum learning-and-teaching model in reading instruction?

1.3.3 Are there any differences between more and less proficient Thai secondary school EFL readers regarding the usefulness of the quantum learning-and-teaching model in reading instruction?

1.4 SCOPE OF THE STUDY

This study aimed to investigate Thai secondary school EFL readers' perceptions regarding the use and usefulness of the quantum learning-and-teaching model in reading instruction. A questionnaire and a semi-structured interview were used to collect data. The questionnaire was used to collect the data to find out the perceptions regarding the use and usefulness of the quantum learning-and-teaching model in reading instruction. The semi-structured interview was used to collect the qualitative information to triangulate with the data collected from the questionnaire and to further investigate the reasons behind the students' perceptions.

1.5 DEFINITIONS OF THE TERMS

In order to establish a common understanding, the following terms are operationally provided:

1.5.1 *Quantum learning-and-teaching model*: Quantum learning refers to a model of learning encouragement which gathers together elements like media and environment. It covers a number of educational and scientific theories such as accelerated learning (Lozanov, 1978), multiple intelligences (Gardner, 1993), elements of effective instruction (Hunter, 1982 as cited in DePorter et al., 1999), Socratic inquiry and cooperative learning (Johnson & Johnson, 1999), experiential learning (Hahn, 1974 as cited in DePorter et al., 1999), and neuro-linguistic programing (Grinder & Bandler, 1981). It draws student interests to the lessons by applying aspects of students' lives and providing meaningful experience. Quantum teaching refers to teachers' teaching practices of quantum learning to fulfill their students' educational and life goals. It is also the integration of various interactions in learning atmosphere. It covers preparation in creating lessons, how teachers manage their classroom, what content should be taught, how teachers use materials and create classroom environment, and how teachers give appropriate feedback (Abdulah, 2012; DePorter et al., 1999; Koeswandi & Saleh, 2014). In this study, the quantum learning-and-teaching model refers to teachers' practices of reading instruction in two aspects: reading strategy instruction and classroom activities.

1.5.2 *Reading Instruction:* In this study, the term *reading instruction* focuses on elements of the quantum learning-and-teaching model. This term refers two dimensions of reading instruction: reading strategy instruction and classroom activities. In term of reading strategy instruction, the quantum learning-and-teaching model relates to reading strategies in pre-, while-, and post-reading phases. Classroom activities in a reading class include all techniques including teaching materials, teaching practices, and teachers' behaviors used by teachers to deliver reading instruction. In this study, reading instruction refers to how teachers facilitate and help students to comprehend the text. It also includes both explicit instruction and implicit instruction. Explicit instruction refers to direct, intentional, and systematical reading strategy instruction (Oxford et al., 1990 as cited in Taki, 2017) while implicit instruction means teaching reading strategies through meaningful context (Alastuey & Agulló, 2015).

1.5.3 *Students' perceptions*: According to Taylor (2012), this term refers to how students perceive, believe, and understand things. Through the application of thoughts and cognitions, perceptions are built by interpreting a situation. In this study, students' perceptions refer to students' opinions regarding their teachers' use and usefulness of the quantum learning-and-teaching model in reading instruction.

1.5.4 *Thai secondary school EFL readers*: This term refers to students who were studying in year 9 in academic year 2019 at an extra-large Thai public secondary school in Bangkok with over 2,800 students. According the plan and educational policy department (2018), an extra-large public school has more than 2,500 students. The year 9 students had studied 4 Fundamental English courses and 4 English Reading courses in their year 7 and year 8.

1.5.5 *More proficient Thai secondary school EFL readers*: This term refers to Thai secondary school EFL readers who got an average grade 2.75 and above in English Reading 3 and English Reading 4 courses in their year 8 at the school.

1.5.6 *Less proficient Thai secondary school EFL readers*: This term refers to Thai secondary school EFL readers who got an average grade below 2.75 in English Reading 3 and English Reading 4 courses in their year 8.

1.5.7 *The use of the quantum learning-and-teaching model in reading instruction:* This term refers to Thai secondary school EFL readers' perceptions regarding their English teachers' reading instruction practices in English Reading 3 and English Reading 4 courses based on the use of the quantum learning-and-teaching model in reading strategy instruction and classroom activities.

1.5.8 *The usefulness of the quantum learning-and-teaching model in reading instruction:* This term refers to students' perceptions regarding the usefulness of their English teachers' reading instruction practices based on the usefulness of their English teachers' reading instruction practices based on the use of the quantum learning-and-teaching model in reading strategy instruction and classroom activities.

1.6 SIGNIFICANCE OF THE STUDY

The findings of the present study are a significant resource concerning reading instruction in EFL context in Thailand. The study aimed to discover an appropriate and useful reading instruction model in the Thai context. First of all, the

findings can provide educators and curriculum developers as well as teachers, in Thailand, an effective reading instruction model to effectively teach Thai secondary school EFL students to read English reading text. An effective curriculum can also be developed in order to improve English reading skills of Thai students. Secondly, this study is beneficial to EFL secondary students in terms of improving their reading skills. Finally, researchers who are interested in reading instruction can apply the findings of this study to conduct further research regarding the use and usefulness of the quantum learning-and-teaching model in other Thai contexts.

1.7 ORGANIZATION OF THE STUDY

The study is presented into 5 chapters. Chapter 1 is an introduction which consists of background of the study, research objectives, research questions, scope of the study, definitions of terms, and organization of the study. Chapter 2 is a literature review which includes definitions of reading, process of reading, strategies and skills of reading, reading instruction, quantum learning and teaching model, reading instruction and quantum learning and teaching model, and review of related studies. Chapter 3 is the methodology and provides information concerning: participants, instruments, research procedures, and data analysis. Chapter 4 gives results of the study which present participants' general information, participants' perceptions regarding the use and the usefulness of the quantum learning- and- teaching model in reading instruction from the questionnaire and from the semi- structured interviews, and a comparison between more and less proficient EFL readers' perceptions regarding the usefulness of the quantum learning-and-teaching model in reading instruction. Chapter 5 consists of conclusions, discussion, implications, and recommendations for further research.

CHAPTER 2
REVIEW OF LITERATURE

2.1 REVIEW ON READING

2.1.1 DEFINITION

There are many given definitions of reading from educators. “Reading is an exercise dominated by the eyes and the brain, the eyes receive message and the brain then has to work out of the significance of these messages,” (Harmer, 2007, p. 153). Reading refers to an activity of understanding meaning from written text. In order to comprehend the text, knowledge of the writing system, language, and the ability to interpret meaning from the text are necessary factors (Williams, 1996, as cited in Khasanah, 2012). In addition, Khasanah (2012) explains that reading is a complicated process of comprehending meaning since reading needs guessing, understanding information of the written forms and turning their background knowledge to understand the text.

Dechant (1982) defines reading into two major types which are reading with interpretation of experience and graphic symbols. She states that both have common characteristics. Putting the two together, reading is an interpretation of graphic symbols. Reading, thus, is required two large processes (1) identifying the symbols and (2) interpreting them appropriately.

Duffy and Roehler (1993) state that reading is a holistic component of various skills because of its required competencies to reach its ultimate goal. For physical dimension, reading contains alphabets, pictures, and symbols. Also, sounds of each syllable which create words, phrases, and sentences are gathered and pronounced by readers. This means that readers need to be able to interpret a reading passage by applying their reading abilities. To support the above definitions, reading does not only refer to ability in reading an alphabet, words, and even phrases, but it is also the understanding of the text (Dallmann, Rouch, Chang, & Deboer, 1974; Koeswandi & Saleh, 2014).

In conclusion, reading is a skill which requires various competences such as understanding of alphabet, words, phrases, and ability of translation written

symbols. Moreover, background knowledge is important for readers to comprehend the text. Readers who only read the written symbols without understanding do not comprehend the text.

2.1.2 PROCESS OF READING

In Alderson's (2001) view, reading is a complex skill since many activities are required during reading. Not only eye movement but also brain processing is needed for reading comprehension. When readers start to read written texts, their eyes focus on the photography and their brains work and think back and forth to link the read content with concepts already known and read. Apart from the mentioned situation, the reading process depends on the purpose of readers. Not only vision but also thinking process is necessary for a reading activity. While readers read written texts, signs, or even pictures, both sensory processes collaboratively work in order to interpret and comprehend those graphic symbols (Dechant, 1982).

In addition, Fadillah (2013, p. 2) explains that: "The various processes involved in reading are carried out simultaneously. While recognizing words very fast and keeping them active in working memories and also analyzing structure of sentences to assemble the most logical clause-level meanings, this process builds a main idea model of text comprehension in our heads, monitors comprehension and so on." This leads to one of the famous reading models in which readers need to comprehend reading by understanding words in the text in order to comprehend the whole reading (Khasanah, 2012). This model is called bottom-up model. When the writer or the written texts are not similar to readers' prior knowledge, small units such as vocabulary and sentence structure are absolutely crucial to teach. To comprehend the written passage, the readers' schemata is necessary for connecting new information with background knowledge. If the prior knowledge is relevant to the new content, reading is successful (Alderson & Bachmsn, 2001). This reading model starts by reading the smaller units (word) in the text, stepping up to recognizing them, decoding their sounds, and interpreting meaning. Decoding is an earlier strategy in this process (Richards, 1990). Gough (1972) proposes that reading process starts with a visual system in which readers read every single letter to comprehend text. Hudson (2007) supports this idea by stating that all sub-skills in the macro-level skill work automatically during reading.

While readers read written text, they combine the small components, and letters, together in order to understand the entire written text. The whole process of bottom-up model is to comprehend the whole text. In order to understand the text, the connection between single tiny information and the adjacent area is needed (Nuttall, 1982).

On the other hand, there is another side of reading process which totally differs from starting to read by decoding the smallest units. According to Dallmann et al. (1974), even though reading is a simple skill, many abilities are applied in it. The ability of understanding a gist or general information and narrowing it down into smaller and more specific details is necessary for reading skill. Besides, reading has always required readers' attention to particular reading purposes such as distinguishing facts and opinions, identifying causes and effects, and making references. According to Hudson (2007), prior knowledge and experiences play an essential role in reading because they give introductory information of the text. There is a reading model which needs readers' prior knowledge. This top-down model is a reading model that requests background knowledge of readers to comprehend the gist of the text.

According to Goodman (1967), the top-down model claims that readers keep reading passages to ensure their expectations and they apply prior knowledge, predict the text, assume, ask questions, and use vocabulary knowledge. The top-down model is directly related to readers' background knowledge. Goodman mentions that readers make guesses about the meaning of the text and samples the print to prove and disprove their guesses. This model requests the readers' intelligence, and experience to comprehend the text. While reading, readers try to see the general idea of text such as the writer's argument and aim. The model gives the sense of perspective and makes use of all the readers' schemata (Nuttall, 1982). In order to comprehend the text, readers need their background knowledge such as culture, language, and history which matches with the text. Readers apply this knowledge as a base for connecting new information from the text (Richards, 1990). Moreover, expectation and predication are commonly seen because they are useful tools to activate the schemata.

In practice, readers always apply both top-down and bottom-up models to comprehend the text. Hence, a large number of researchers suggest an interactive model. Richards (1990) states that when readers start to read, both top-down

and bottom-up processes are occurring. Readers choose any processes automatically depending on the type of text and their prior knowledge, language proficiency, motivation, strategy use and belief about the reading. Hudson (2007) characterizes the interactive model as the combination of bottom-up and top-down models. For this model, readers' focus is the product of interaction between the information in the text and their prior knowledge during comprehension. In this model, every component in the reading process can interact with any other component which might be higher up or lower down.

To sum up, reading process is complex and diverse because many sensory systems and process work together while reading. Physical sensory refers to eye movement which is the core receiving procedure of the text. Then, the information is transferred to the brain for codifying and interpreting the meaning. There are a number of reading process differences relating to readers' purpose.

2.1.3 SKILLS OF READING

The term "skill" is used in various areas. According to Oxford Advanced Learner's Dictionary (2015, p. 1441), skill refers to "the ability to do something well" and "a particular ability or type of ability." Harris and Hodges (1981, p. 298) define skill as "an acquired ability to perform well; proficiency." In addition, Richards, Platt, and Weber (1985) mention that language skills are the ways of people using language. There are four skills: listening, speaking, reading, and writing. Most skills consist of subskills such as identifying sounds or understanding relations within a sentence. Skill is goal-directed, well organized behavior that is acquired through practice and performed with economy of effort (Afflerbach, Pearson, & Paris, 2008; Proctor & Dutta, 1995). Often skills are divided into subskills such as discriminating sounds in connected speech or understanding relations within a sentence. Skills are developed unconsciously and almost used automatically through repetition and practice, represent a conscious, response to a specific problem arisen, such as a failure to understand the meaning of a word or find the information one was looking for (Dole et al., 1991, as cited in Manoli & Papadopoulou, 2012; Urquhart & Weir, 1998 as cited in Manoli & Papadopoulou, 2012).

It is difficult to define "skills" in reading since some scholars define them to two terms: reading skills and reading process. Reading skills refer to proficiency with is acquired through practice or training. Skill behavior is goal directed. Skill is said to have been acquired when the reading behavior is highly integrated and well organized. Cognitive demands are reduced as skill is acquired, freeing limited mental resources for other activities. When readers' knowledge is strong and they are given easy text and goals, students can apply their usual skills (Afflerbach et al., 2008). According to Manoli and Papadopoulou (2012), skills are consistently applied in a variety of texts without a reference to a specific goal Although skills can be taught, Manoli and Papadopoulou state that the goal of instruction is automatic application of skills in a number of texts including practice, feedback, and repetition until mastery of skills is achieved.

According to Proctor and Dutta (1995), practice develops skills. Practice of skill is goal directed. Reading skill occurs when readers integrate reading behavior in a well systematized way. When readers acquire skills, there is a decline in cognitive demands, freeing limited mental resources for other activities.

Hudson (2007) defines that there are two major skill categories. They are separability and hierarchy of skills.

2.1.3.1 SEPARABILITY OF SKILLS

The separability of skills is divided into 4 categories: word attack skills, comprehension skills, fluency skills, and critical reading skills (Hudson, 2007). First, word attack skills refer to the skills necessary to convert written symbols into language such as phonemes, syllables, and words. When readers develop the first skills, they begin comprehension skills which use context and background knowledge to interpret the meaning from what is read. Then, they see and read larger sentences and phrases quickly. While readers read passages quickly, they practice fluency skills. Finally, they analyze, synthesize, and evaluate what is read. This describes the critical reading skills.

2.1.3.2 HIERARCHY OF SKILLS

Hierarchy of skills refers to a change of lower-level skills to higher-level skills (Hudson, 2007). The hierarchy of skills is classified to three levels in the following table.

Table 2.1: The process of reading: three levels of description (Adapted from Hudson (2007))

Level 1	Level 2	Level 3
Decoding print	Identifying letters, words, phrases	Scanning, fixating, anticipating, categorizing, testing, matching, verifying
Making sense	Assigning meaning to phrases and sentences	Anticipating syntactic and semantic categories, matching, verifying
Questioning	Noting discrepancies between different statements or between what is read and what is known	Retrieving material from long-term memory, comparing, inferring

In addition, Davis (1944 as cited in Afflerbach et al., 2008) points out nine basic skills of reading. They are recalling word meaning, drawing inferences about the meaning of a word in context, following the structure of the reading, formulating the main thought of the passage, finding answers to questions answered explicitly or in paraphrase, weaving together ideas in the content, drawing inferences from the content, identifying a writer's technique, and following the structure of a passage.

Not only the basic skills but also "required skills" for teaching reading are mentioned. Harmer (1998) recommends scanning, skimming, reading for pleasure, and reading for detailed comprehension. Scanning is the skill where readers read bits of information that they are searching for. While reading, readers wander their

eyes to find the thing they are looking for such as name, date, etc. (Grellet, 1981). In this skill, they do not read every single word. Brown (1994) also explains scanning is a quick reading process for searching for some specific information in a text. Scanning skill's purpose is to find particular details and information without reading every single word. On the other hand, skimming refers to when readers move their eyes through the passage roughly for understanding the main idea of the passage. Brown states that skimming skill requests quickly moving eyes through whole text in order to get the main idea. While readers move their eyes, they also collect some important information to conclude the general idea. Brown mentions that the skimming skill advantage is prediction of the text purpose and identification of supporting ideas. Reading for pleasure is slower and like free time activity. Readers choose the reading freely and continue to read it until the end. The last reading skill is reading for detailed comprehension. All of readers' concentration focuses on the reading passage or language.

It can be concluded that reading skills are goal-directed and well-organized reading practices. Reading skills can be developed through continuous practices until readers are able to use them in various kinds of texts. In order to teach reading skills, there are four suggested skills which should be taught in reading lessons: scanning, skimming, reading for pleasure, and reading for detailed comprehension.

To sum up, skill is goal directed. Skills can be developed through practice, feedbacks, and repetitions. Readers use skills of reading when they integrate reading behavior systematically. Skills of reading are classified into two major categories as follow: separability of skills and hierarchy of skills. Word attack skills, comprehension skills, fluency skills, and critical reading skills are four categories in separability of skills. Hierarchy of skills defines development of skills from fundamental to advanced level. In addition, reading instruction requires not only basic reading skills but also required skills. Scanning, skimming, reading for pleasure, and reading for detailed comprehension are recommended in reading lessons.

2.1.4 STRATEGIES OF READING

According to Hornby (2015, p. 1547), strategy refers to "a plan that is intended to achieve a particular purpose" and "the process of planning something or

putting a plan into operation in a skillful way." Reading strategies refer to conscious processes which deal with reading comprehension problems and facilitate readers' comprehension (Enciso, 2015). In the same way, Manoli and Papadopoulou (2012) define strategies to be flexible and adaptable. When there is a problem, strategies are used to solve the problem or to complete a goal. In addition, Alexander, Graham, and Harris (1998) describe strategies as aware and selected actions. Oxford and Crookall (1989) define that strategies are learning techniques, behaviors, problem-solving or study skills. Strategies help students learn more effectively and efficiently; for instance, reading strategies such as rereading complicated reading texts, using context clues to guess the meanings of unknown words, and connecting reading texts to background knowledge. Based on the definitions mentioned, strategies are actions which are applied to handle problems and reach goals. Besides, in order to use strategies, consciousness is a dominant characteristic.

When readers' knowledge is not complete and not very useful, for example, texts are difficult, and reading tasks are complex, more strategic reading is required (Afflerbach et al., 2008). In addition, Aarnoutse (1998, p. 24) suggests a reading strategy is "a coherent whole of cognitive activities readers can use to understand a text well." Arabsolghar and Elkins (2001, as cited in Cekiso, 2007) state that a package of activities which facilitates readers to comprehend the text is called reading strategy. Reading strategies illustrate how readers form an idea of a task, how they comprehend what they read, and how they react when they do not understand (Block, 1986; Carrell, 1991; Lee, 2012). When readers apply strategies during reading activities, they consciously plan and adopt them in order to reach a goal such as searching for some information in a text quickly (Manoli & Papadopoulou, 2012).

The use of reading strategies for helping and finding a practical way to solve reading problems can support reading comprehension and overcome comprehension failure at both the word and sentence levels (Aarnoutse & Schellings, 2003). "Strategic readers are motivated to demonstrate control over reading processes with both ability and effort" (Afflerbach et al., 2008, p. 9). According to Brown (1994), there are a plenty of reading comprehension strategies for second language teaching: stating the reading purpose, using patterns to facilitate in bottom-up decoding, applying efficient silent reading techniques for relatively rapid comprehension, skimming,

scanning, semantic mapping, guessing, analyzing vocabulary, distinguishing between literal and implied meanings, and capitalizing on discourse markers to process relationship.

In conclusion, strategies of reading refer to aware readers' behaviors used to facilitate and solve reading comprehension difficulties at both the word and sentence level together with completing a reading goal. Reading strategies are also flexible and adaptable. While reading difficult texts, readers tend to use more reading strategies to comprehend them. Furthermore, strategies of reading are mentioned in second language teaching as a key to help readers overcome comprehension failure.

2.1.4.1 TYPES OF READING STRATEGIES

Ozek and Civelek (2006) suggest two main types of reading strategies which are called cognitive and metacognitive strategies. According to Carrell, Pharis, and Liberto (1989, p. 650), cognitive strategies are used during reading while metacognition is "one's understanding of any cognitive process"; it is a mental processing mechanism, which helps readers accomplish cognitive tasks.

Cognitive strategies refer to "a certain combination of goal-directed thinking activities" (Van Hout-Wolter, 1992, p. 7 as cited in Ghahari & Basanjideh, 2017). According to Cohen and Weaver (2005), the strategies of mental processes and manipulation for going through in dealing with new information are called cognitive strategies. These strategies are applied to obtain, storage, retrieval, or use of information (Williams & Burden, 1997). In addition, cognitive strategies consciously facilitate readers comprehension (Sari, 2016). There are various types of cognitive strategies including predicting, visualizing, inference making, questioning, skimming, making connections, and paraphrasing (Ghahari & Basanjideh, 2017).

Brown (2007, p. 35) suggests nine dominant cognitive strategies: interpretation (using mother tongue language as a basis for making sense or producing a target language), grouping (reordering and reclassifying the material to be learned based on common attributes), note-taking (writing down the main ides, important points, outline or summary), deduction (consciously applying rules to produce or understand the topic), imagery, keyword (remembering a new word in the second language by identifying a familiar word in the first language that sounds like or

otherwise resembles the new word and generating easily recalled images of some relationship between the new word and the familiar word), contextualization (placing a word or phrase in a meaningful language sequence), elaboration (relating new information to other concepts in memory) and inferencing (using available information to guess meanings of new items and predict outcomes).

According to Anderson (2003), metacognitive strategies refer to actions of preparing and organizing, naming, tracking, orchestrating, and assessing strategy use. Sari (2016) states that metacognitive strategies are used when readers check their cognitive strategies use and reading comprehension along with evaluating it. In addition, metacognitive strategies request readers to use a higher level of critical thinking skills in order to achieve awareness of their comprehension (Yükselir, 2014). Vandergrift (2002) suggests some examples of metacognitive strategies which relate to realizing learning procedure and overseeing, regulating, and directing language learning tasks are identifying aims of reading, acknowledging different perspectives of a text, ensuring understanding by monitoring reading activities, asking questions to manage the reading purpose, and employing compensatory action when comprehension fails. Bishop, Boke, Pflaum, and Kirsch (2005) suggests that metacognitive strategies are imagining by using various kinds of senses, making connections (connect readers' background with the information from the text), analyzing text structure, recognizing words and understanding sentences, exploring inferences, asking questions, determining important ideas and themes, and evaluating summarizing and synthesizing (contains the competence of pausing while or after reading to construct meaning).

To conclude, there are two major types of reading strategies: cognitive strategies and metacognitive strategies. Cognitive strategies are defined as the strategies consciously applied while reading texts, whereas metacognitive strategies refer to the strategies which readers use to check their comprehension and evaluate it.

2.1.5 READING INSTRUCTION

2.1.5.1 READING STRATEGIES INSTRUCTION

According to Bimmel, Bergh, and Oostdam (2001), reading strategy instruction refers to a useful approach to improve reading comprehension skill. Cekiso (2007) supports that reading strategy instruction is an important tool for foreign

language and second language students. Broen and Palincsar (1984 as cited in Qanwal & Karim, 2014) mention that reading strategy instruction also develops native English speakers' reading skill. In addition, a large number of scholars state that reading strategy instruction aids readers in various terms as follows: reading proficiency improvement (Bimmel et al., 2001; Cekiso, 2007; Enciso, 2015; Fu, Chen, Wey & Chen, 2014; Klapwijk, 2012; Martínez & Zarobe, 2017; Qanwal & Karim, 2014; Shin & Reynolds, 2015), decoding ability improvement (Van den Bos, Brand-Gruwel & Aarnoutse, 1998 as cited in Klapwijk, 2012), improving autonomous learning (Fu et al., 2014), and positive attitude development toward reading (Ballou, 2012; Chamot & Ei-Dniary, 1999; Cohen, 1998 as cited in Fu et al., 2014).

Reading strategy instruction also aids readers in four areas: to have awareness of currently used strategies, to use task-specific strategies in order to help readers decrease their worry, oblivion, and waiting time, to observe effective strategies, and to select appropriate strategies by using metacognitive functions (Chamot & Kupper, 1989 as cited in Cekiso, 2007; Nyikos, 1991, as cited in Cekiso, 2007; Wenden, 1985 as cited in Cekiso, 2007). According to Brown (1994), readers who were trained in these four following strategies (summarizing, self-questioning, clarification, and predictions) had a significant improvement in reading comprehension. It is highly recommended that teachers should teach students to use reading strategies while reading (Chamot & Ei-Dniary, 1999; Chumworatayee, 2017; Shih & Reynolds, 2015). In order to achieve better reading comprehension skill, it is important that readers spend plenty of time to practice the skill in many reading situations (Ballou, 2012; Carrell, 1998 as cited in Manoli et al., 2016; Enciso, 2015; Ness, 2011).

To sum up, reading strategy instruction is an effective and helpful method for teachers to develop students' reading proficiency. Not only reading proficiency but also other learning abilities can be improved through reading strategy instruction such as autonomous learning, decoding ability, and positive attitude toward reading. Moreover, four recommended strategies which are useful to improve reading comprehension are summarizing, self-questioning, clarification, and predictions. To develop reading comprehension skill, readers should practice using reading skill with various reading situations.

2.1.5.2 TYPES OF READING STRATEGY INSTRUCTION

There are two types of reading strategy instruction: implicit instruction and explicit instruction (Alastuey & Agulló, 2015; Ballou, 2012; Cekiso, 2007; Enciso, 2015; Lencioni, 2013; Manoli et al., 2016; Moballegh & Saljooghian, 2012; Ness, 2011; Oxford et al., 1990 as cited in Taki, 2017).

(1) IMPLICIT READING STRATEGY INSTRUCTION

It is believed that students can develop their skill and learning by themselves (Griffiths, 2004 as cited in Alastuey & Agulló, 2015). Hence, implicit instruction was created. Implicit or indirect reading strategy instruction is teaching reading strategies through meaningful context. Chiko (2007 as cited in Cekiso, 2007) and Wender (1987 as cited in Cekiso, 2007) believe that students learn how to use reading strategy more effectively by using context. In second language learning, Kellerman (1992, as cited in Alastuey & Agulló, 2015) suggests that the strategies from students' first language are transferred automatically.

(2) EXPLICIT READING STRATEGY INSTRUCTION

Explicit or direct reading strategy instruction refers to a way of giving instruction directly such as explaining, providing examples, and giving clues. In addition, explicit instruction also refers to direct, intentional, and systematical strategy teaching (Enciso, 2015; Oxford et al., 1990 as cited in Taki, 2017). Explicit instruction is comprised of mentioning strategy value, describing strategy usage, practicing using strategy, and evaluating strategy using (Duffy & Roehler, 1989 as cited in Ness, 2011; Flaitz and Feyten, 1996 as cited in Cekiso, 2007). Together with readers' cognitive awareness, explicit reading strategy instruction also provides them particular strategies for different types of texts.

Explicit reading strategy instruction is the most useful and helpful strategy teaching in language classroom (Alastuey & Agulló, 2015; Ballou, 2012; Cohen, 2011 as cited in Taki, 2017). A large number of studies reveal that explicit reading strategy instruction improves reading comprehension skill (Alastuey & Agulló, 2015; Ballou, 2012; Enciso, 2015; Lencioni, 2013; Mobalegh & Saljooghian, 2012; Ness, 2011; Taki, 2017). To facilitate and monitor poor level students' reading comprehension, teachers instruct them reading strategy explicitly and intentionally

(Alastuey & Agulló, 2015; Duffy, 2002 as cited in Ness, 2011; Enciso, 2015). Enciso mentions that teaching readers reading strategies develops their strategies into skills. Moreover, by doing independent practice and instructing reading strategies directly, students become strategic readers (Enciso, 2015; Manoli et al., 2016). Comparing with untrained readers, readers who are trained or received reading strategy training by direct explanation get higher proficiency (Graham & Macaro, 2008 as cited in Alastuey & Agulló, 2015; Ness, 2011).

In brief, there are two types of reading strategy instruction. First, teachers let students use reading strategies through using context clues called implicit reading strategy instruction. Second, on the other hand, teachers tell about the value of strategy, explain how to use strategy, practice using strategy, and evaluate strategy using called explicit reading strategy instruction. Besides, it is also mentioned as the most effective method to improve reading comprehension in classrooms.

2.1.5.3 PHRASES IN READING INSTRUCTION

Many educators present three main teaching reading phrases of reading lessons: pre-reading, while-reading, and post-reading (Aebersold & Field, 1997; Arce, 2000; Ibrakhimovna, 2016; Ontario Ministry of Education, 2004; Wallace, 2010; William, 1984).

(1) PRE-READING

Pre-reading or lead-in phase is the beginning of teaching receptive skills. The objectives of this phrase are recalling prior knowledge about the reading text, arousing interest in the topic, providing reasons for reading a text, and preparing required language for the text in order to facilitate the while-reading phrase (Aebersold & Field, 1997; Arce, 2000; Gower, Phillips & Walters, 2005; Ibrakhimovna, 2016; Ringler & Weber, 1984 as cited in Cekiso, 2007). Readers can improve their reading skill through pre-reading activities (Graves, Cooke, & Laberge, 1983 as cited in Aebersold & Field, 1997). In this phrase, teachers should plan and decide carefully about important ideas, necessary language points, and unknown words. Moreover, the teacher's aim is to prepare the students in areas of language and background knowledge before they read the text (Arce, 2000; Williams, 1984).

Reading strategies in the pre-reading phrase have been mentioned by many scholars. This section will present the reading strategies in the pre-reading phrase which have been proposed by scholars such as Aebersold and Field (1997), Arce (2000), Duffy and Roehler (1993), Gower et al. (2005), Ibrakhimovna (2016), Ontario Ministry of Education (2004), Peaty (2012), and Wallace (2010). Some particular reading activities are helpful to prepare: discussion, showing pictures, and predication (Harmer, 2015).

Readers should always examine the written text to predict the content before reading. In order to predict the written text, there are pre-reading strategies needed. According to Duffy and Roehler (1993), initial strategies or pre-reading strategies can be divided into three sources: topic clue, text clue, and the reading purpose. Topic clue refers to readers using the title and their prior knowledge to make predictions about the author's messages. On the other hand, teachers might use text structure to give readers some text clues. Readers make predictions from observing the text clues; for example, a story always describes characters at the beginning. Another source of clues is telling readers reading purpose. By informing of reading purpose, readers can set their reading goal in order to comprehend the reading passages such as newspapers, short stories, and assignments.

Gower et al. (2005) introduce two main categories of reading strategies for establishing interests and prediction together with introducing important vocabulary. Teachers need to motivate readers to think and discuss about reading passages and teach key words.

According to Aebersold and Field (1997), reading strategies in the pre-reading phrase are divided into three main categories which are strategies for establishing a purpose, activating, and previewing the text to build expectations.

The first category is comprised of recalling their prior knowledge about the topic, motivating readers to read the text, and introducing related vocabulary. The second category consists of establishing readers' expectations about the information they are going to read and the way that information will be organized, and helping them to comprehend the information. They suggest pre-reading strategies such as reading the introduction, reading the conclusion paragraph carefully, and skimming the text.

The activities in this phrase also facilitate readers to comprehend the text and provide their self-confidence (Arce, 2000). Arce demonstrates four main pre-reading phrase activities: 1) introducing grammar and vocabulary, 2) activating background knowledge, 3) answering oral questions, and 4) observing organizational patterns. In addition, she also mentions seven pre-reading strategies:

i. Asking readers' what they know about the passage is one means to develop readers' prior knowledge.

ii. Previewing is comprised of the observation of features, such as title, headings, introduction, highlighted information, numbers, pictures, charts, graphs, and tables. Readers use the information from them to guess the main ideas of a text.

iii. Guessing what the reading will be can be done by creating questions or hypotheses based on title, headings, and subheadings. Moreover, readers might guess the author's purpose and observe organizational patterns to improve better understanding of text. One important factor in guessing is time since guessing should be done in limited time.

iv. Skimming is a strategy to help readers to get the main idea or general overview of reading. Readers read the passage quickly without worrying about unknown words. While readers are skimming the passage, they find out key words in order to look up the right meanings in the dictionary. Stoller (1994, as cited in Arce, 2000) recommends that readers should skim the first and last paragraph to get the general idea.

v. Scanning is a rapid reading strategy to get specific information. Stoller (1994, as cited in Arce, 2000) states that asking readers to answer questions, which ask for specific information such as dates, times, and places, helps them find out the information through rapid reading.

vi. Structure presentation refers to teaching grammar and structure when readers have a language barrier affecting comprehension of the reading. It means that this strategy is not a main concern of pre-reading strategies.

vii. Vocabulary presentation focuses on teaching basic vocabulary and other words that are related to texts. Some key words from scanning cannot be easily inferred from the given contexts.

Wallace (2010) suggests five pre-reading activities: answering reading comprehension questions, scanning, introducing linguistic barriers (vocabulary and language structures) , recalling prior knowledge, and using context clues for guessing word meanings. According to Harmer (2015), teachers might ask students to answer some reading comprehension questions to set the goal of their reading activity after preparing students.

Peaty (2012) suggests that pre-reading strategies are classified into four main categories: encouraging readers' curiosity, recalling related background, describing the task, and helping the task.

i. Encouraging readers' curiosity can be done by asking questions about the topic and establishing prediction about the text. Readers should be asked questions based on fact, opinion, or individual experience. In order to predict the text, interpreting pictures and looking at the title and the first sentence are useful means.

ii. Recalling related background helps readers use their schema for improving reading skills. Teachers might facilitate students to explore the theme both individually and together.

iii. Describing the task refers to explanations of reading purposes and conditions. Readers should be told reading goals and conditions so they can select suitable reading strategies and prepare to read text.

iv. Helping the task means that teachers provide necessary information for readers to comprehend texts when there are linguistic and cultural difficulties.

Ibrakhimovna (2016) also states nine pre-reading strategies: 1) predicting new knowledge based on the title, 2) predicting text meaning based on the vocabulary, 3) predicting content based on true or false questions, 4) skimming, 5) scanning, 6) eliciting new words, 7) word spider, 8) discussions, and 9) brainstorming.

According to the Ontario Ministry of Education (2004), there are three pre-reading phrase goals: using schema to think about the topic, establishing predictions about reading passages, and using skimming and scanning to preview the text. Also, they suggest six strategies in the pre-reading phrase. Reviewing a reading passage aims to familiarize readers with texts. Analyzing the pattern of a text focuses on examining and determining how the text organization helps readers comprehend

texts. Identifying organizational patterns is an effective way to help readers understand the authors' ideas and textual connections. This strategy aims to facilitate readers to practice other reading strategies (skimming, scanning, rereading, making prediction, and making connection) and make them familiar with the organizational patterns. In addition, anticipation guide is a strategy for recalling readers' background knowledge which helps them integrate new information and background knowledge. Finding signal words focuses on helping readers to link the ideas and familiarize readers with the organizational patterns. They also suggest that introducing useful words is an essential pre-reading strategy. Readers can practice their skimming and scanning in order to make sense of the text meaning before reading it.

In conclusion, the purpose of the pre-reading phrase is to prepare readers for the following phrase, the while-reading phrase, through a variety of reading strategies. These strategies are categorized into two main categories: the strategies for establishing readers' expectation and the strategies for negotiating both linguistic and cultural barriers. In order to establish expectations, there are many reading strategies as follows: activating prior knowledge, previewing, guessing, skimming, scanning, asking questions, describing reading purposes, discussing, brainstorming, and finding signal words. Additionally, there are various reading strategies for negotiating both linguistic and cultural barriers: presenting key vocabulary, introducing grammar, using context clues for guessing meanings of unknown words, eliciting vocabulary, making a word spider, observing and identifying text organizational patterns.

(2) WHILE-READING

The aims of the while-reading or reading phrase are to help in comprehending the writer's purpose and text structure, and clarifying text content (Ibrakhimovna, 2016). The while-reading procedure begins with general information and follows with specific information. Moreover, the while-reading phrase also provides readers opportunity to check their comprehension about text through answering questions, and show reflection about the text (Ontario Ministry of Education, 2004). Readers also use while-reading strategies to check and modify the predication of readers (Duffy & Roehler, 1993). Answering questions is one of the effective means

to assist readers to follow the reading path and understand the writer's idea in the text. During this phase, students try to answer the questions asked in the pre-reading phrase and teachers play an important role by giving feedback to their students. In addition, collaborative work encourages the students' understanding of the text (Harmer, 2015).

In the while-reading phrase, various educators mention many reading strategies in this phrase. Duffy and Roehler (1993) state that there are two purposes of using while-reading strategies: to understand author's messages and to go beyond the writer's messages. They also suggest some while-reading strategies to determine author's messages such as identifying details, finding main idea, and author purpose.

Gower et al. (2005) divide the while-reading phrase into two different situations. Readers who read a text for the first time should be asked to get a general idea by answering gist questions, read the text in limited time, and discuss answers. For the second time, they should be given a task which needs more detailed understanding. Obviously, different types of readers need different reading strategies in the while-reading phrase. However, they have the same objectives. The purpose of the while-reading phrase is to comprehend a reading passage effectively. To understand a text requires appropriate and helpful reading strategies. As mentioned in the previous section, a variety of reading strategies are used to facilitate and improve readers' understanding of text. There are some suggested reading strategies in while-reading phrase such as Aebersold and Field (1997), Chacón (2002), Ibrakhimovna (2016), Ontario Ministry of Education (2004) and Peaty (2012).

Aebersold and Field (1997) state that readers' thoughts involve various processes while readers are reading texts. They suggest that there are two main reading strategies during reading: top-down and bottom-up strategies. Readers should always use both reading strategies back and forth in order to comprehend the text. The bottom-up strategy engages in sentential level understanding while a top-down strategy helps readers comprehend larger pieces of text. In addition, they explain useful while-reading strategies in four substages: reading process, building text comprehension, monitoring text comprehension, and adapting reading strategies. To establish text comprehension needs reading strategies such as highlighting key words of the first sentence of each paragraph, justifying the meaningful words, and finding out the

relation between this piece of information and the previous one. In the monitoring text comprehension stage, readers usually check their strategies and how they are using them. If the used strategies help readers comprehend texts effectively, they continue to use them. If not, they adapt other strategies.

Six while- reading strategies in the Ontario Ministry of Education's (2004) classification consists of guessing word meaning from context, inferences, identifying important ideas and information, using concept maps to manage ideas, understanding visuals, and making notes. When readers do not know meanings of unknown words, they guess the meanings from contexts such as definitions, examples, descriptions, illustrations, clarifications parenthetical notes, comparisons, elaborations, and typographical cues. The aim of using context is to facilitate readers to infer the meanings and general ideas from provided cues. Inferences or reading between the lines refers to the connection between the text and readers' mind in order to critical guess (Beers, 2003 as cited in Ontario Ministry of Education, 2004).

It is also a good means to apply readers' background knowledge to the text with greater awareness. To justify the meaningful information is an effective way to find a text's main idea. It can be done by distinguishing between the most and the least essential information. Not only identifying the main idea but also the relationship between the main idea and supporting details is necessary for comprehending the text clearly. A concept map is a useful tool for sorting ideas from the text hence using concept maps helps readers to understand the relationship between the main idea and supporting details. Moreover, pictures and other visualizing texts aid readers to concentrate, recognize, and use their knowledge to comprehend the text. Making notes is another reading strategy which helps readers to check their understanding, and to organize and summarize information.

Peaty (2012) states that there are three main objectives of the while-reading phrase, which are reading, monitoring comprehension, and facilitating comprehension. For reading, he mentions four reading strategies used by readers in this phrase. If a text is easy and quite short, teachers should let students continue reading it silently. On the other hand, students should read chunks or short segments with pauses when the reading passage is too difficult. When readers pause their reading activity, they can monitor their understanding and resolve the problems. Moreover, readers

should comprehend a text by reading sentence by sentence. To adjust reading rate, readers should read aloud which prevents them from using ineffective reading strategies such as skipping and rereading.

In order to monitor comprehension, it can be done by these three strategies: answering questions, taking notes, and translating a text. By answering questions, readers should be able to locate the answer from a specific sentence or word. While taking notes, it encourages readers to focus on the main idea of a text. Translating a written text is an effective strategy for monitoring comprehension of a segment. However, this strategy should not be done for the whole text.

In reading lessons, teachers play a very important role especially that of a facilitator. To help readers comprehend a text, teachers should perform these five helpful strategies as follows: simplification, guide, explanation, translation, and referring a gloss (Peaty, 2012).

According to Ibrakhimovna (2016) , there are seven recommended while- reading strategies which are reading discussion, answering questions, establishing prediction, matching, jigsaw reading, reading puzzle, and true/false activities.

In ‘The English Reading Comprehension Class: In-Reading and Post-Reading Strategies’, Chacón (2002) describes ten key while-reading strategies which teachers use to facilitate students in the while-reading phrase as follows:

i. Guessing can be developed by reading a text in small amounts of information or chunks and stop to talk about the main ideas.

ii. Self-questioning is an effective strategy to monitor readers’ understanding.

iii. Silent reading provides an opportunity to help readers in text understanding, and increasing their extensive reading. Besides, it helps poor readers to extend their prior knowledge for inferring more information.

iv. Text organization such as cause/ effect, time order, and definition assists readers with analyzing information and relationship of ideas from the text. It improves better readers’ understanding of the passage. There are some recommended text components which should be focused on: size and format of letter, repetition of certain words, introductory and closing words, and text structure.

v. Graphic organization or semantic map is a strategy for sorting ideas and putting them together in order to build relationships among facts and comprehend the text. Readers can use text organization to create graphic organization.

vi. Developing vocabulary knowledge involves readers' reading skill because vocabulary is a key component of comprehension. Teachers should teach readers how to identify key words of the reading passages: title, headings, and topic sentences.

vii. Dictionary is the tool which gives readers meanings of unknown words in the text so teachers should encourage and teach readers to use a dictionary effectively.

viii. Facts and opinions refers to a strategy which aids readers differentiate between related and unrelated information. Readers go from the literal meaning to interpretative meaning.

ix. Highlighting important information from note enhances reading comprehension which are classified into two types: textual storage mechanisms and encoding mechanisms during the reading process. Paraphrasing is a gained skill from using this reading strategy.

x. Inference engages in comprehension questions like true and false, matching, multiple-choice, and cloze exercise which are used to monitor readers' understanding of a text. To answer inference questions needs information from a reading passage.

To sum up, the while-reading phrase aims to help readers comprehend text, structure, and author's purpose. By using reading strategies, readers will have a clear picture of a reading passage. The while-reading strategies are classified into five main categories: reading process, building reading comprehension, monitoring reading comprehension, adapting reading strategies, and facilitating comprehension (Aebersold & Field, 1997; Chacón, 2002; Ibrakhimovna, 2016; Ontario Ministry of Education, 2004; Peaty, 2012). The reading strategies in the reading process are top-down, bottom-up, guessing meaning from contexts, establishing expectation, jigsaw reading, and reading puzzle. To establish text comprehension, teachers can employ multiple types of reading strategies as follows: identifying important ideas, using concept maps, understanding visuals, matching, silent reading, understanding text

organization, understanding graphic organization, differentiating facts and opinions, and highlighting key information.

Furthermore, monitoring reading comprehension strategies consist of inferences, making notes, answering questions, translating a text, reading discussion, true/ false activities, and self- questioning. While readers read a text, they use reading strategies which might be effective or ineffective to comprehend a text. Hence, readers need to adjust and adapt their used strategies in order to understand a text clearly. In addition, the teachers' role in reading class is to facilitate readers' comprehension. Simplification, guide, explanation, translation, referring to a glossary, developing vocabulary knowledge, and using dictionary help readers understand a text.

(3) POST-READING

In order to check the student's comprehension, post-reading or a text-related task phase offers this opportunity. The goals of the post-reading phase are to reflect on what has been read, considering ideas and information from a text, integrating the reading text to the students' knowledge, experiences, interests, or opinion, and applying their understanding in critical and creative means (Chacón, 2002; Ibrakhimovna, 2016; Ontario Ministry of Education, 2004; William, 1984).

Many educators: Aebersold and Field (1997), Chacón (2002), Duffy and Roehler (1993), Harmer (2015), Ibrakhimovna (2016), Ontario Ministry of Education (N.D.), Peaty (2012), and Wallace (2010) suggest a variety of reading strategies and activities in the post-reading phrase.

Aebersold and Field (1997) recommend nine post- reading activities: 1) identifying the topic, 2) getting a main idea, 3) understanding the main idea, 4) discerning relationships among the main ideas, 5) comprehending given information, 6) perceiving implied information, 7) recognizing the structure, 8) identifying the language used to illustrate organization of ideas, and 9) assessing the value of the information. Additionally, Aebersold and Field suggest four meaningful strategies in the post- reading phrase. Wallace (2010) mentions answering questions activity in post- reading phrase. Answering comprehension question is one of the mentioned strategies. Comprehension questions should be created from many dimensions of content and Bloom's taxonomy is one of the good models to do so. When

students work through this strategy, it allows them to observe how they find the main ideas and the answers. Therefore, students should and can do it consciously when they cannot comprehend a difficult text. For this strategy, teachers need to make a decision on how to use questions. For example, low-level cognitive skill questions might be appropriate for doing individually. Another strategy is making summaries. Teachers give students ten to fifteen minutes to quickly write a summary in class. Furthermore, teachers should provide a chance for discussion about information not in the text since extending readers' knowledge is one of the post-reading goals. Lastly, evaluating information is concerned with getting the writer's purpose, investigating how the author delivers ideas, discerning persuasion in writing, differentiating opinions from facts, monitoring how the author develops ideas logically, making summaries, noticing the author's influences, such as beliefs, experiences, and opinions, and identifying the author's language use.

Chacón (2002) proposes three categories of post-reading strategies: i. Strategies for reinforcing are used to review vocabulary, grammar, and reading comprehension strategies. Milne (1989) suggests that a cloze exercise is a good activity for readers to review content. A writing summary is another way to reinforce. ii. Strategies for evaluating are used to check readers' understanding including vocabulary and grammar. Readers might be asked to discuss a main idea of the whole passage. Additionally, teachers might encourage students to use skimming and scanning by using comprehension questions. iii. Strategies for applying refer to readers using their knowledge in critical reading and problem solving.

Duffy and Roehler (1993) mention two different post-reading strategy types which are organizing strategies and evaluating strategies. The organizing strategies refer to making summaries and drawing conclusions about general ideas while evaluating strategies aim to facilitate critical reading. They are often used to judge an author's credentials.

Ibrakhimovna (2016) has attempted to point out five post-reading strategies: retelling, reporting, discussion, writing a paragraph, and doing role play. In this phase, the students can be asked to complete a task relating to the text. They are asked to read the text again. The activity or task in this step might be varied.

Teachers can let students to do one more task which requires deeper information (Harmer, 2015).

The Ontario Ministry of Education (2004) proposes the reading strategies of the post-reading phrase by stating that there are four objectives as follows: reflecting on ideas and information, making the information from a text relevant to readers' experiences and prior knowledge, clarifying their comprehension of the text, and critical and creative applying their understanding. In the Ontario Ministry of Education's view, there are three beneficial strategies in the post-reading phrase:

i. Connecting to text refers to making a relationship between readers' experiences, including individual knowledge, and information from a text. Apart from making connections, teachers might motivate readers to extend their understanding by sharing ideas with others.

ii. Making inference and drawing conclusions from information and ideas from reading activity. The objectives of the strategy are to use background knowledge and experiences and to reflect key concepts and issues.

iii. Making judgments develops readers understanding of a text through reviews, reflections, and comprehension questions.

Peaty (2012) suggests four post-reading strategies as follows: i. Readers should be asked to write and talk about a summary of a reading text. ii. Teachers should ask students to compare texts which have a similar theme. Then, students are asked to find similarities or differences between texts. iii. Students match pictures and titles with texts. iv. Students rearrange scramble texts.

To conclude, the post-reading phrase aims to reflect and integrate ideas and information from reading texts with readers' experiences, interests, and opinions, along with creative and critical use of readers' comprehension. There are three main post-reading strategy categories: organizing strategies, evaluating strategies, and applying strategies. First, organizing strategies are used to review vocabulary, grammar, and reading strategies. There are plenty of organizing strategies in the post-reading phrase: writing a summary, identifying topics, getting and understanding main ideas, perceiving implied information, and identifying and recognizing structures. Second, evaluating strategies are applied to monitor readers' understanding; for

example, discussing and answering comprehension questions, comparing texts, rearranging scramble texts, retelling, and reporting. Lastly, evaluating strategies are strategies in which readers use their understanding and information in creative and critical ways; for instance, assessing the value of the information, understanding writer's purpose, investigating how writers deliver ideas, differentiating facts and opinions, reflecting on reading texts, connecting readers to texts, writing paragraphs, and doing role play.

2.1.6 SURVEY OF READING STRATEGIES (SORS)

2.1.6.1 BACKGROUND OF SURVEY OF READING STRATEGIES (SORS)

Mokhtari and Sheorey were inspired to develop *Survey of Reading Strategies* by reviewing Metacognitive Awareness of Reading Strategies Inventory (MARSI) (Mokhtari & Reichard, 2002) which is used to measure English native speakers' metacognitive awareness and reading strategies usage. Moreover, they found that there are many inventories used to measure metacognitive awareness and reading strategies usage of English native speakers such as MARSI (Mokhtari & Reichard, 2002), Index of Reading Awareness (Jacobs & Paris, 1987), 12- Item Multiple- Choice Questionnaire (Schmitt, 1990), and 10- Item Multiple- Choice Inventory (Miholic, 1994). However, they could not find any inventory created to measure ESL learners' metacognitive awareness and reading strategies usage. *Survey of Reading Strategies* is the first inventory which aims to measure metacognitive awareness and reading strategies usage of ESL adult and teenage students.

2.1.6.2 DESCRIPTION OF SORS

The purpose of SORs is to measure teenage and adult ESL learners' categories and frequency of reading strategies used while reading English academic English texts (Mokhtari & Sheorey, 2002). There are 30 items in SORs classified by these three following reading strategy categories: Global Reading Strategies (GLOB), Problem Solving Strategies (PROB), and Support Strategies (SUP).

Mokhtari and Sheorey (2002, p.4) state a concise explanation and the number of items of mentioned categories as follow:

(1) Global Reading Strategies (GLOB) are those intentional, carefully planned techniques by which learners monitor or manage their reading, such as having a purpose in mind, previewing the text as its length and organization, or using typographical aids and tables and figures (13 items).

(2) Problem Solving Strategies (PROB) are the actions and procedures that readers use while working directly with the text. These are localized, focused techniques used when problems develop in understanding textual information; examples include adjusting one's speed or reading when the material becomes difficult or easy, guessing the meaning of unknown words and rereading the text to improve comprehension (8 items).

(3) Support Strategies (SUP) are basic support mechanisms intended to aid the reader in comprehending the text such as using a dictionary, taking notes. underlining, or highlighting textual information (9 items).

Respondents are asked to indicate how often they use reading strategy by reading each statement and choosing the number 1 (never) to 5 (always) in 5-point Likert Scale.

2.1.6.3 SURVEY OF READING STRATEGIES AND TEACHING ENGLISH AS A FORIEGN LANGUAGE

Obviously, many studies found that reading strategy instruction positively affects EFL students' reading comprehension ability (Adigüzel & Gürses, 2013; Ballou, 2012; Efstratia, 2017; Fu et al., 2014; Jafari & Shokrpour, 2012; Marashi & Rahmati, 2017; Yousefian, 2015; Zhang & Wu, 2009). These studies were conducted to investigate the effects of reading strategy instruction in EFL contexts. Moreover, many researches have aimed to investigate the awareness and usage of reading strategies of EFL learners (e.g. Al-Rubaye, 2012; Bharuthram, 2006; Darwish, 2017; Gurses & Adiguzel, 2013; Magogwe, 2013; Nisbet & Huang, 2015; Petchinalert, 2017; Rastakhiz & Safari, 2014; Rastegar, Kermani, & Khabir, 2017; Solak & Altay, 2014; Zhang & Seepho, 2013). The mentioned researchers commonly

used the Survey of Reading Strategies (SORS), initiated by Mokhtari and Sheorey (2002), as the main research instrument.

2.2 LEARNER-CENTEREDNESS

2.2.1 DEFINITION

Learner-centeredness or student-centeredness refers to a teaching approach focusing on students' needs and interests (Lak, Soleimani, & Parvaneh, 2017; McCombs & Whisler, 1997 as cited in Parker, 2011; The National Institute for Educational development, 1999 as cited in Matsau, 2007; Weimer, 2002 as cited in Matsau, 2007). Learner-centeredness is believed to be an appropriate pedagogy for students in the twenty first century (Lambert & McCombs, 1998 as cited in Matsau, 2007). Learner-centeredness can be utilized in many subjects (Schrenko, 1996 as cited in Matsau, 2007) as it develops students' own learning responsibility (Lak et al., 2017; Weimer, 2002 as cited in Matsau, 2007).

According to Schmidt (2010 as cited in Lak et al., 2017), learner-centered teachers should consider students' nature when they plan their lessons. After the use of learner-centered lessons, students become more active (Lak et al., 2017; Sayre, 2013).

2.2.2 LEARNER-CENTEREDNESS' PRINCIPLES

The four principles of learner-centeredness according to Lynch (2010, as cited in Lak et al., 2017) are as follows: (1) Students develop their learning through communication and critical thinking, (2) Students learn new content by using relevant learning materials, (3) Students are assessed in their performances by appropriate tools, and (4) Teachers give students guidance and feedback about their learning path.

2.2.3 LEARNER-CENTEREDNESS STRATEGIES

Matsua (2007) recommends nine learner-centered strategies. The nine strategies are: (1) collaborative learning, (2) using visuals and pictures in learning, (3) role-play, simulation and drama, (4) games and debates, (5) songs, music and dances, (6) working alone, (7) graphic design, (8) thematic instruction, and (9) areas for consideration.

To create learner-centered lessons, Johnson, Johnson, and Holubec (1993 as cited in Parker, 2011) suggest five components as follows: (1) providing students clear learning purpose and group purpose, (2) facilitating students' comprehension and learning responsibility, (3) encouraging students to communicate to their friends in person and work together including sharing and supporting each other in learning, (4) teaching students social skills, and (5) providing discussion about students' learning achievement. Moreover, in order to create learner-centered lessons, the use of primary sources encourages students to learn and think more (Sayre, 2013). Additionally, student-to-student interaction on collaborative activity is also an effective strategy to facilitate learner-centeredness (Parker, 2011).

In summary, learner-centeredness is an essential methodology for the twenty first century. It mainly focuses on not only learners' interests and needs but also on encouraging learners' learning responsibility. Through using learner-centeredness, learners tend to be livelier and more active in learning activities. Plus, learner-centered teachers might use various strategies in their classroom such as collaborative learning, games, role-play, graphic design, and discussion.

2.2.4 READING INSTRUCTION AND LEARNER-CENTEREDNESS

As mentioned above, learner-centeredness suggests principles and strategies. Learner-centeredness aims to facilitate students to become autonomous learners since it suggests various principles and strategies to fit students' needs and interests. Reading instruction can also develop learners' autonomous learning by training them in reading strategies to help them become skilled readers (Fu et al., 2014). With regard to reading instruction, the three dimensions which can be seen to be connected to learner-centeredness are as follows: pre-reading strategies, while-reading strategies, and post-reading strategies.

Pre-reading strategies are employed in reading instruction to draw students' attention, deliver reading purposes, prepare required vocabulary and grammar, recall background knowledge, and observe organizational patterns through a variety of activities (Aebersold & Field, 1997; Arce, 2000; Gower, Phillips & Walters, 2005; Ibrakhimovna, 2016; Ringler & Weber, 1984as cited in Cekiso, 2007). In addition, pre-reading strategies also create students' self-confidence when they read

new passages (Arce, 2000). By instructing pre-reading strategies and applying learner-centeredness, students learn new content by using relevant learning materials and it also promotes thematic instruction in reading lessons.

There is also a connection between while-reading strategies and learner-centeredness. Both while-reading phrase and leaner-centeredness focus on facilitating students' reading comprehension and text structure and clarifying text content. In this phase, readers also have opportunity to monitor their comprehension (Ibrakhimovna, 2016). Various while-reading strategies which relate to learner-centeredness are as follows: collaborative works, using concept maps, understanding visuals and silent reading.

In addition, learner-centeredness can also be developed through the post-reading phrase. The post-reading phrase's objectives are to reflect read information, integrate reading text to students' experiences, and apply their understanding in critical and creative ways. These are also the purposes of learner-centeredness (Chacón, 2002; Ibrakhimovna, 2016; Ontario Ministry of Education, 2004; William, 1984). Some related strategies are as follows: role-play, debates, discussion about learning achievement, and student-to-student interaction.

2.3 REVIEW ON THE QUANTUM LEARNING-AND-TEACHING MODEL

2.3.1 BACKGROUND OF THE QUANTUM LEARNING-AND-TEACHING MODEL

The quantum learning-and-teaching model is the body of knowledge and methodology used in the design, presentation, and facilitation of a program for teenagers, SuperCamp, which was founded by Bobbi Deporter in 1982. Mulyanah (2008), an Indonesian researcher, strongly believes that the quantum learning-and-teaching model is a tool used successfully to achieve quantum learning ultimate goals because there is a significant connection between teaching process and students' needs. Quantum learning focuses on imagination causing learning; likewise, quantum teaching attempts to create safe and friendly learning environments for students. Inspired by Dr. Georgi Lozanov (1978), a founder of accelerated learning, DePorter and Hernacki (1992) applied plenty of techniques to develop students learning perspective and behaviors. Not only pedagogical knowledge but also scientific theories such as

accelerated learning (Lozanov, 1978), multiple intelligences (Gardner, 1993), elements of effective instruction (Hunter, 1982 as cited in DePorter et al., 1999), Socratic inquiry and cooperative learning (Johnson & Johnson, 1999), experiential learning (Hahn, 1974 as cited in DePorter et al., 1999), and neuro-linguistic programing (Grinder & Bandler, 1981) are essentially considered as the theoretical bases of the quantum learning-and-teaching model.

2.3.2 DEFINITION

2.3.2.1 QUANTUM LEARNING

DePorter and Hernacki (1992, p. 27) stated that "Quantum learning is a comprehensive model that covers both educational theory and immediate classroom implementation. It integrates research-based best practices in education into a unified whole, making content more meaningful and relevant to students' lives about bringing joy to teaching and learning with ever increasing 'Aha' moments of discovery." Quantum learning is "interactions that transform energy into radiance." (DePorter & Hernacki, 1999, p. 16)

To support the explanation above, Saragih and Kristiani (2012) suggest that quantum learning is a model for both teaching and moral life which focuses on meaningful learning and relates to students' lives. It is used to stimulate students' learning responsibilities and enjoyment by the use of pictures, music, plants, colors, etc.

Quantum learning is an alternative way for teaching. It effectively motivates students in learning that is more active, more relevant, and more interesting. Besides, quantum learning assists with comprehension and remembering ability (Matika & Hermayawati, 2016).

To conclude, quantum learning is an effective model of learning encouragement which gathers together elements like media and environment. Besides, it draws student interests to the lessons by applying aspects of students' lives and providing meaningful experience.

2.3.2.2 QUANTUM TEACHING

Quantum teaching refers to the teachers' application of quantum learning to fulfill students' needs like their educational and life goals

(Mulyanah, 2008). Quantum teaching is the orchestration of a variety of interactions that exist in and around the moment of learning. These interactions include elements for effective learning that affect students' success (DePorter et al., 1999).

Abdulah (2012) believes that quantum teaching helps teachers to manage their lessons by using surrounding things and environment for creating a friendly learning atmosphere in the classroom. It suggests the best ways of designing curriculum and presenting lessons. Koeswandi and Saleh (2014) support this view by stating that quantum teaching is a multiple interaction which encourages students to accomplish their learning goals.

Based on the explanation above, quantum teaching is a practical model or way of quantum learning goal achievements. It covers preparation in creating lessons, how teachers manage their classroom, what content should be taught, how teachers use materials and create classroom environment, and how teachers give appropriate feedback (Abdulah, 2012; DePorter et al., 1999; Koeswandi & Saleh, 2014).

2.3.3 TENETS

The tenets are the five core principles of quantum teaching which cover the prime directive which is "Theirs to Ours, Ours to Theirs" (DePorter & Hernacki, 1992, p. 7).

2.3.3.1 EVERYTHING SPEAKS

"Everything speaks" means everything in the classroom sends messages. DePorter et al. (1999) state that classroom environment, teachers' body and verbal language, and handouts, send messages to students. The environment in the classroom relating to learning includes teachers' intonation, body language, learning materials and teaching materials (Çiftçi, 2009; Khasanah, 2012; Saragih & Kristiani, 2012; Sunarti, 2014; Suwarni, Tarjana, Slamet, & Ngadiso, 2014). For example, teachers' intention about students' abilities is obviously noticed by students. Most teachers tend to smile more, talk in personal issues, speak more in an intellectual and humorous manner with higher proficiency students. On the other hand, teachers tend to speak slower and louder, smile less and use basic vocabulary to lower proficiency

students. Teachers' mental impact affects learning ability of students because students' emotion and attitude is reflected their performance.

2.3.3.2 EVERYTHING IS ON PURPOSE

Everything happening in the class has an intended purpose. Any good actions expect good results (Suwarni et al., 2014). Çiftçi (2009) explains that everything that occurs in the lesson contain functions and reasons. In the same way, Khasanah (2012) and Saragih and Kristiani (2012) state that everything teachers do in the classroom has an intended purpose and any activities teachers ask students to do must be meaningful. According to Sunarti (2014, p. 3), "having the goal" refers to the need for teachers to carefully design and create lesson plans based on learning and teaching aims.

2.3.3.3 EXPERIENCE BEFORE LABEL

Whenever teachers teach only the content and knowledge without applying and using it, it might be forgotten and useless. The human brain learns through experience, so learning happens best when students experience it (DePorter et al., 1999). Learning experience creates long-term memory which is the best learning way. The content should be labeled after experiencing it (Suwarni et al., 2014). Students will build long term memory after experiencing new information (Sunarti, 2014). According to Saragih and Kristiani (2012, p. 5), "Students make meaning and transfer new content into long-term memory by connecting to existing schema. Learning is best facilitated when students experience the information in some aspect before they acquire labels for what is being learned."

2.3.3.4 ACKNOWLEDGE EVERY EFFORT

Teachers should acknowledge and cheer students when they learn and dare to do something for their learning. DePorter et al. (1999) explained that students feel proud and confident when they receive acknowledgement from teachers. In order to achieve best learning results, teachers should acknowledge every effort, not only the correct ones. Matching student answers with the correct questions is a useful technique. Meaningful feedback is effective to motivate students to be active students and try to learn again and again. According to Saragih and Kristiani (2012), being not

only facilitator but also supporter is a key role of teachers because students appreciate acknowledgement. Besides, teachers should not underestimate students' abilities and should welcome students' mistakes.

2.3.3.5 IF IT'S WORTH LEARNING, IT'S WORTH CELEBRATING.

To create positive emotional association needs celebration by giving feedback and positive reinforcements. DePorter et al. (1999, p. 31) suggest various forms of celebration: applause, three hoorays, whooshes, finger snaps, toasts, public posters, private notes, conspiracies, surprises, strength acknowledgements, say to your neighbors, high-5's to neighbors, and affirmation statements.

2.3.4 CONTEXT SETS IN QUANTUM TEACHING

In quantum teaching, there are four context sets which establish quantum learning lessons: atmosphere, foundation, environment, and design (DePorter et al., 1999).

2.3.4.1 ATMOSPHERE

Atmosphere is a main psychological factor of academic learning since it influences student emotion. There are six important ingredients in setting up a perfect learning atmosphere: intention, rapport, joy and wonder, risk-taking, belonging, and modeling.

(1) A HIDDEN POWER OF INTENTION

Teachers' intention has a great impact on students' performance and self-image. If teachers believe that students cannot learn any difficult subjects, this intention will be shown through teachers' behaviors like speech, facial appearance, and emotion, which students easily notice. This means emotion plays a major role in learning. Hence, quantum teaching suggests means to help students learn faster. Drawing on their emotions makes the learning more meaningful and permanent. Brains can maximize learning in positive stress. According to Goleman (as cited in DePorter et al., 1999), people will pay more attention with something when they are under minor control because it is not too boring and too serious. Moreover, intellect

cannot work at its best without emotional intelligence. Consequently, students learn more when their classes are satisfying, challenging, and friendly and they have a voice in making decision.

(2) RAPPORT

Students will open up their world when teachers understand them, so teachers should create safety by building friendship with them. Teachers complete their teaching objectives when any barriers are managed, and successful positive relationship occurs. Speaking honestly, smiling, and positive thinking are some ways which happen in a good classroom atmosphere.

(3) JOY AND WONDER

DePorter et al. (1999) explained that everyone is a wonder machine. People always produce questions and seek to get the answers for them. According to Elkind and Sweet (1997 as cited in DePorter et al., 1999), there are a variety of activities to encourage students to ask questions: opening remarks, creative questions, opening up more than one right answer, and replying to an answer with more questions. In the classroom context, teachers should acknowledge every effort, not only correct ones, because every students' attempts are part of the progress of learning. The learning process stops when someone says no. Any incorrect answer builds the learning experience. Instead of denying the incorrect answers, teachers should match students' answers with the right questions.

(4) RISK TAKING

Being good students requires being risk takers. When being asked to try something for the first time, students are stepping out of their comfort zone, such as being told the first trial of an activity. Hence, safety is needed to support them. By teachers' modeling, they feel safer and more comfortable to do something new. Then, teachers might share the idea of comfort zone with students to let them know that they can do it as well.

(5) BELONGING

Every successful team has a similar characteristic, the team belonging. True belonging allows people to feel empowered to step out and risk their

comfort zone for success and learning. Students who feel the sense of belonging in the learning atmosphere mostly succeed in their learning goals. The more emotional buy-in and ownership they can feel, the stronger the impact.

(6) MODELING

Modeling has a surprising influence in building positive relationships with students. There are a number of ways to model, like ensuring clear communication, acknowledging every effort, smiling, using energetic teaching, being good listeners, paraphrasing students' thoughts, getting away from the teacher's comfort zone and letting students know it, and speaking positively (DePorter et al., 1999).

2.3.4.2 FOUNDATION

Foundation refers to building students ability to apply the learnt knowledge to their life in the future and create autonomous students. Foundation is one of essential parts of the learning community (DePorter et al., 1999).

(1) PURPOSE

Students should know their purpose of learning clearly because learning community and actions are influenced by the interests of the people in the community. Moreover, it improves their proficiency and learning behavior. DePorter et al. (1999) suggest these following steps which encourage learning: building excitement around the purpose, transmitting it with passion and assurance, giving feedback often regarding their progress, being their coach, and surprising them with celebrations along the learning path.

(2) PRINCIPLES

In order to set any principles, everyone in the classroom must agree. Teaching principles is teaching character or personality. Quantum teaching suggests 8 keys of excellence which convey the principles' achievement. They are integrity, understanding failure, speaking with good purpose, best attempt, commitment, ownership, flexibility, and balance.

(3) BELIEFS ABOUT STUDENTS, LEARNING, AND TEACHING

Teachers should believe in their ability to teach and students' ability to learn.

(4) AGREEMENTS, POLICIES, PROCEDURES, AND RULES

Agreements, policies, procedures, and rules direct students' action because they are set by every student. So, students always respect their decision.

(5) KEEPING THE COMMUNITY GOING

After providing other elements, students are ready to learn and face something new. Teachers can help students by being their learning partners through letting them know their educational responsibility and providing choices within the guidelines.

2.3.4.3 ENVIRONMENT

Learning happens both consciously and non-consciously at the same time. The brain is able to non-consciously attend to many things from many sources, at once (DePorter et al., 1999). For example, posters on the classroom wall, and board affects students' feelings.

(1) PERIPHERALS

Our eyes can perceive many things at wide distance. This is called peripheral vision, which is useful for learning both consciously and unconsciously. Not only peripheral vision but brain connection influences learning since eye movements unintentionally change when learning and thinking occur. Quantum teaching mentions three ideas to support students' learning: iconic poster, affirmation poster, and colors.

(2) PROPS

An object, obviously symbolizing an idea, is called a prop.

(3) SEATING

Changing seating seems very helpful for supporting learning and teaching objectives and types of interactions in particular lessons.

(4) ORGANIC ELEMENTS

Quantum teaching suggests that providing organic elements such as plants, aroma, and pet, is one way to provide a supportive classroom environment.

(5) MUSIC

Music can set student mood, change mental states, and support the learning environment. In quantum teaching, baroque music is recommended for increasing focus and Mozart's music can offer for optimal mental conditions.

2.3.4.4 DESIGN

(1) FROM THEIR WORLD TO OUR WORLD

Quantum teaching believes that learning can be supported by teachers' and students' good relationships. As a teacher, there are five ways to facilitate the student relationships, as follows: building rapport, achieving materials, making learning more permanent, and ensuring transfer. Moreover, quantum teaching also states that emotional engagement and teachers' understanding about students affects students' learning ability.

(2) CONSIDERING LEARNING STYLES AND MULTIPLE INTELLIGENCES

In order to design lessons, quantum teaching suggests that students' differences in learning styles and multiple intelligences should be considered. Learning styles refer to three main learning ways that people prefer to focus on, remember, and learn information. Any lessons are more meaningful and vivid if they serve three following modalities: visual, auditory, and kinesthetic. Students also have their preferred modality combinations which facilitate their talents (Markova, 1992 as cited in DePorter et al., 1999).

Gardner (1983) found that there are eight intelligences: visual, verbal, interpersonal, musical, naturalist, kinesthetic, intrapersonal, and logical. People have their own certain talents and intelligences. To support students' intelligences, there is a connection between learning style and multiple intelligences. For example, logical intelligent students might have particular learning styles. Quantum teaching mentions that teachers ought to improve and develop not only certain intelligences but also consider other intelligences.

(3) CONSIDERING THE DIFFICULTY OF CONTENT AND DEGREE OF PERSONAL RISK

When teachers teach new content, they ought to carefully design lessons by considering content difficulty and degree of personal risk. Quantum teaching recommends that content should always be chucked and introduced in a multi-sensory approach since it helps students easily understand new information. Plus, teachers should review learnt content regularly to make sure that students comprehend and store it.

As mentioned earlier, there are useful ways to decrease the difficulty of content. Moreover, content should be taught to the whole class first so students can learn new content with the smallest risk. After that, teachers can strengthen their learning by letting them do pair or group work. Finally, students should be given a chance to do an exercise or homework individually. This builds their confidence and makes the content solid.

(4) TEACHING DESIGN FRAME

The quantum learning and teaching design frame guarantees that students become interested in and participate with every lesson. It is claimed that this frame provides learning experience, practicing, and making the content real for students. EEL DR. C is the maestro icon of this frame (DePorter et al., 1999, p. 88). Here is the explanation of this icon.

(4.1) ENROLL

The lesson or course is started in this step by engaging students' attention and interest. To draw students' attention and interests, questions,

videos, role plays, and stories are good strategies. According to Puspika and Don Narius (2014), the objective of this step is to convince students to activate and recall their background knowledge by telling them the learning purpose. In addition, Zeybek (2017) states that students must see the relationship between the topic and their experience.

(4.2) EXPERIENCE

According to Acat (2014), students need to use their background knowledge to connect with the content. The reason for applying prior knowledge is to show meaningfulness of content and relation to their life. In this stage, teachers give students a need to know (Puspika & Don Narius, 2014). When students know their needs relating to the lesson, they will focus on the lessons. Experience moves abstract to concrete since it makes information more meaningful. There are several activities to create experience such as games, cooperative activities, and mnemonics.

(4.3) LABEL

When students learn through experience, labelling things they learn is a very important stage. In this step, students' experience is connected to the topic or target knowledge. It is also influenced by their emotion and acknowledgement (Acat, 2014). It is the stage to teach the required concepts, thinking skill, and learning strategies. Puspika and Don Narius (2014) recommend some useful labelling activities such also as using keywords, concepts, and models. Using graphic stuffs like colors, props, and posters helps to reinforce ideas.

(4.4) DEMONSTRATE

In this stage, students have a chance to apply their knowledge into other learning. Also, there are various activities in which students participate to implement the content they have learnt. Teachers might ask students to do skits, create video and presentation in this stage. These activities assist by making them see what they know (DePorter et al., 1999).

(4.5) REVIEW

Reviewing is necessary for confirmation of knowledge and experience because it assists the neural connections. Multiple-intelligence and learning styles take the main role in activity preparation because this step strengthens the neural connections (DePorter et al., 1999). Retelling keywords or formula relating to the topics is one of the good reviewing means.

(4.6) CELEBRATE

This is the last stage of the frame. Celebration is a magnificent tool of reinforcement. The objective of this step is to entertain and to make students enjoy learning new things. These activities are some good examples: giving applause, positive motivation, and praising the students (Puspika and Don Narius, 2014).

Quantum teaching suggests that the lesson should consider multiple intelligences and learning styles as important factors. Multiple intelligences refer to people's intelligence in particular modalities (Gardner, 1983). There are eight intelligences: musical-rhythmic, visual-spatial, verbal-linguistic, logical-mathematical, bodily-kinesthetic, interpersonal, intrapersonal, and naturalistic. According to Grinder and Bandler (1981), there are three learning styles: visual students, auditory students, and kinesthetic students. Moreover, the difficulty of content and degree of personal risk also must be considered.

(5) USE OF METAPHOR, IMAGENERY, AND SUGGESTION

Quantum teaching proposes that using metaphor, imagery, and suggestion is helpful for presenting content. First, metaphor provides students meaningful concepts which brains can easily remember and associate with. Second, our brains receive and respond to information through pictures. Plus, in particular subjects, imagery helps students by changing abstract to concrete which is simple to understand. Third, a classroom environment which is full of supportive suggestion facilitates students' learning.

2.3.5 CONTENT

2.3.5.1 PRESENTATION

Teachers are content deliverers who are the most influential to students' learning success. Modelling content is the most effective way to deliver it. In order to empower teachers' content modelling, speech, voice, tone, body, face, and intention should be carefully and effectively performed.

(1) MODALITY MATCHING

Brains have three major ways to receive and process information which are visual, auditory, and kinesthetic. Teachers' speech patterns, which contain modality signals, support presented content best because they strengthen students' receptivity.

(2) FOUR PRINCIPLES OF POWERFUL COMMUNICATION

Quantum teaching suggests that there are four recommended principles for teachers to give directions, set context, and give feedback.

Human brains automatically and naturally process inputs into images. Teachers intentionally select words which represent correct ideas and images to create impression and image in the students' minds. It means that "elicit the image" (DePorter et al., 1999, p. 119) facilitates students to understand teacher explanations and drive student learning ability.

In every second, human brains receive a lot of information. "Direct the focus" (DePorter et al., 1999, p. 120) is essential for giving directions because its points students to a particular thing or activity at a time which supports their learning.

Creating a friendly, supportive, and collaborative learning atmosphere begins with using more inclusive speech and words. Instead of saying "you" and "I", teachers can create a sense of togetherness by using these flowing words: "Let's," "us," and "we".

One of the causes of failure is lack of clarity. Sometime, teachers think that speaking more helps students clarify the idea but sometimes it is necessary to say less. Teachers' directions should be clear and specific and have an appropriate amount of words. It is also useful to begin directions with verbs. Another way is using cueing words or phrases which let students know the directions begins.

(3) NON-VERBAL COMMUNICATION

Quantum teaching states that eye contact, facial expression, voice, gestures, and posture affect communication and they can empower messages. Eye contact is one of the non-verbal communication methods which teachers should carefully use. Building and maintaining good relationships with students can be made easier by regularly looking at them but it ought not to be longer than three seconds (which is staring). In addition, teachers can use faces to obviously send non-verbal messages and feelings in the messages. Moreover, voice is another communication tool which is as powerful as facial expressions through the use of tone, volume, and rate. Besides, teachers naturally and intentionally move hands, arms, and the body while performing animation of voice. It relieves messages and catches attention of students, especially the ones who are kinesthetic students. Another tool for non-verbal communication is posture. Any feelings and thoughts are translated and shown both intentionally and unintentionally, so body gesture is like a theater of the mind.

(4) EFFECTIVE PRESENTATION PACKAGES

In presentation, quantum teaching introduces three presentation packages: "Discoverer, Leader, and Director" (DePorter et al., 1999, p.129). First, "Discoverer Package" (DePorter et al., 1999, p. 129) is used when teachers present new learning or content and aim to create students' curiosity. Quantum teaching suggests teachers to stand lightly on their feet, lean slightly forward, move laterally across the front of the classroom, maintain a discovering and fascinating atmosphere, apply visual, auditory, and kinesthetic predicates, and build inclusion. Second, "Leader Package" (DePorter et al., 1999, p. 130) aims to encourage and inspire students to better their performance. Teachers can employ Leader Package by standing straight, keeping one foot in front of the other, turning slightly toward one side of the

students at a time, breathing fully, maintaining eye contact, and using primarily visual and kinesthetic predicates. Third, "Director Package" (DePorter et al., 1999, p. 131) is applied when giving students directions. Quantum teaching suggests five essential factors which should be considered and mentioned clearly in directions as follows: time, persons, conciseness and checking understanding, together with verbal and non-verbal actions.

(5) ANCHORING

Anchoring is "an associated response to a given stimulus" (DePorter et al., 1999, p. 133). It facilitates undisputed transitions and profitable learning states. Quantum teaching presents three types of anchoring. First, personal anchors refer to recalling the best moment in life to pull persons into a more creative state. Second, when teachers or speakers move their spots from time to time during their presentation, this is called location anchors. Quantum teaching states three spots: instruction spot (in front of the room), discipline spot (side of the room), and story spot (a corner of the room). When teachers move to a particular location, students tend to behave differently. For example, when teachers stand in front of classrooms, students automatically open books and get ready for lessons. Third, verbal anchors can be defined as using key words or phrases to get student attention and responses.

2.3.5.2 FACILITATION

Quantum teaching mentions that teachers have the responsibility to facilitate learning and keep students involved with lessons. It recommends that teachers should clearly know the aim of lessons and begin lessons with explaining it.

Now that teachers propel students' learning success, they should consider these four following components. First, "the big picture" (DePorter et al., 1999, p. 147) refers to giving the overall view of lessons. For initial learning, human brains and minds receive whole information which is easily perceived by linking background knowledge and new information. Therefore, teachers might highlight the best part of lessons and make students curious. After explaining the overview of lessons, activities in initial learning should serve a variety of multi-sensory and multiple

intelligences. Another technique is chunking. Brains can process and store chunked information appropriately and effectively. Seeing that new information should be stored in short term memory first, chunking information is a useful way to strengthen short term memory and develop long term memory. Lastly, teachers can build students' confidence by frequent review.

Not only presentation facilitation but also asking questions is also useful to better learning. There are two major advantages of asking students questions. First, asking questions provides teachers a chance to celebrate and honor students' classroom participation. Plus, teachers also offer them opportunity to take a risk. Second, it aids teachers to clarify and elicit students' understanding, thought and learning progress. By asking more questions, students are offered chances to explain their answers and understanding. It can be concluded that asking questions aims to develop students' understanding of the learnt content and their thought.

2.3.5.3 LEARN SKILLS

Quantum teaching suggests useful ways to help lessons more enjoyable and easier in less time.

(1) ORGANIZING INFORMATION

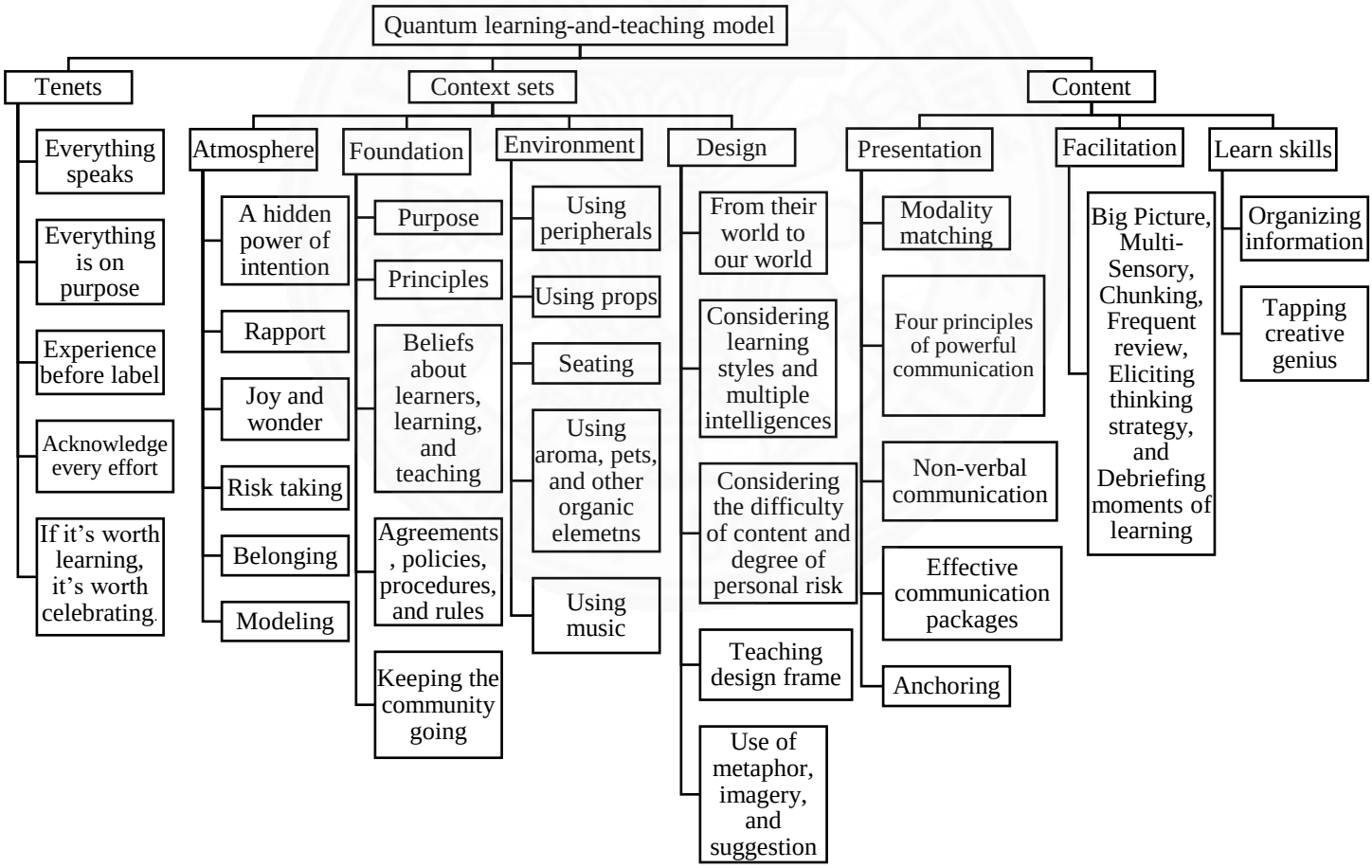
Giving learners knowledge of organization tools, such as mind mapping and note taking, can help students organize their thoughts and ideas well. In addition, using organization tools makes content easy to understand and recall.

(2) QUANTUM READING

Quantum teaching offers five steps to develop reading skill which make up 'quantum reading'. First, reading class should start with asking these following questions: "What is this about?" "What do I want to get out of this?" and "How can I use this information?" Answering the mentioned questions provides learners reasons to read. Second, students should be in a calm and peaceful atmosphere to get ready before reading passages. Third, students scan passages quickly by pointing fingers at reading passages and moving eyes with the finger. Teachers ask students to look at anything remarkable such as headlines, bold type, pictures, and graphs because

they convey some meanings and ideas. Plus, teachers should let students continuously ask themselves questions about outstanding components. Fourth is the reading stage which can be done faster. Finally, students should have a chance to review what they have already read.

According to DePorter et. al. (1999), the quantum learning-and-teaching model consists of three major constituents: tenets, context sets, and content. First, tenets are the five core principles of quantum teaching. Second, context sets refer to essential elements which create quantum learning lessons. Third, content is comprised of presentation, facilitation, and learn skills which suggest teachers to give effective instruction. The following framework was created to clarify the quantum learning-and-teaching model.



To sum up, the quantum learning-and-teaching model is an alternative way to pedagogy since it integrates a variety of learning methodologies and theories. Moreover, the main focus or ultimate goal of the quantum learning-and-teaching model

is learner centered to develop autonomous students. Applying the quantum learning-and-teaching model in any lessons is a useful and effective manner to encourage students and facilitate their learning processes. In this study, the researcher investigated these following characteristics of the quantum learning-and-teaching model: tenets, context sets, and content.

2.3.6 READING INSTRUCTION AND THE QUANTUM LEARNING-AND-TEACHING MODEL

As mentioned above, the quantum learning-and-teaching model suggests the tenets, context sets, and content. With the relation to reading instruction, there are five aspects which connect to the quantum learning-and-teaching model as follows: reading instruction, process of reading, pre-reading instruction, while-reading instruction, and post-reading instruction.

The quantum learning-and-teaching model facilitates reading proficiency improvement because it provides a multiple interaction which encourages students to accomplish their reading purposes. Moreover, reading instruction and the quantum learning-and-teaching model help readers to improve their comprehension skill. To teach readers reading strategies, teachers can better their autonomous learning which is the purpose of the quantum learning-and-teaching model. The quantum learning-and-teaching model is used to stimulate students' learning responsibilities as well. By using accelerated learning and reading instruction, students develop a positive attitude toward reading. Not only positive attitudes but also learning preferences improve through using the quantum learning-and-teaching model and reading instruction. The quantum learning-and-teaching model and implicit reading instruction focus on linking meaningful contexts to the lesson.

There is a connection between reading instruction and the quantum learning-and-teaching model. Both reading instruction and the quantum learning-and-teaching model also state that teachers should recall and connect readers' background and experiences to reading text since they make the passages more meaningful. To deliver the reading purpose is a tremendously essential factor in teaching reading which is stressed by the quantum learning-and-teaching model and reading instruction. It can be done by asking questions. While readers are reading passages, teachers should

monitor their reading activity. In order to encourage students' reading proficiency, the quantum learning-and-teaching model and reading instruction suggest that readers should be able to analyze text structure, recognize and understand passages.

The quantum learning-and-teaching model also relates to three phases of reading instruction: pre-reading instruction, while-reading instruction, and post-reading instruction. For pre-reading instruction, there are seven similar dimensions as follows: motivating readers' interests (enroll), telling readers the reading purpose to encourage them to feel the sense of belonging (purpose), building readers' expectation by letting them preview the text (risk taking), asking questions (joy and wonder), encouraging readers to observe organizational pattern (facilitation), letting readers skim and observe the text components to get main idea (tapping creative genius), and motivating readers to predict the text (joy and wonder).

In while-reading instruction, fourteen similar factors are mentioned by reading strategy instruction and the quantum learning-and-teaching model: asking readers questions to follow their reading path, encouraging them to use and highlight key words (label), believing in readers abilities of guessing word meaning (beliefs about learners, learning, and teaching), encouraging readers to infer read information (demonstrate), motivating readers to manage their ideas by using concept maps (use metaphor, imaginary and suggestion), using visuals as a media (environment), cheering readers' attempts in reading easy text silently (from their world to our world), letting readers read chunks to understand difficult texts (facilitation), simplifying text (considering the difficulty of content and degree of personal risk), guiding readers (rapport), motivating readers to ask questions (joy and wonder), creating lessons which match readers' learning style (considering learning styles and multiple intelligences), using text organization (facilitation), and managing ideas by using graphic organization (organizing information).

Additionally, the quantum learning-and-teaching model and reading instruction also suggest seven activities for post-reading instruction: offering readers opportunity to reflect (review), use and integrate text to their knowledge (demonstrate), encouraging readers to identify the topic (review), helping readers to get main idea (review), clarifying and review readers' understanding (review), helping and reviewing

readers' comprehension (review), guiding readers to perceive implied information (review), and providing readers chances to write a summary (review).

Not only the reading instruction but also the principles of the quantum learning-and-teaching model relate to teaching reading. According to DePorter et al. (1999), quantum teaching suggests five tenets as a core or main principles which relate to teaching reading. "Everything is on purpose," influences readers' reading behaviors. In teaching reading, setting reading purpose is one of essential concepts since readers will pay more attention knowing the purpose of their actions. Hence, to let readers know reading aims affects their reading proficiency improvement.

In addition, the quantum learning-and-teaching model also supports reading strategies use enhancement. DePorter et al. (1999) explains that the human brain learns best after experiencing something. This absolutely matches with reading strategies development. Skill is developed by practicing strategies use. When readers frequently apply reading strategies consciously in reading lessons, they develop those strategies to skills. In the same way, "Experience before label" refers to students learning the content through learning experiences which support their long-term memory. Then, teachers label the learning experiences.

2.4 REVIEW ON RELATED RESEARCH

2.4.1 REVIEW ON RELATED RESEARCH IN THE QUANTUM LEARNING-AND-TEACHING MODEL AND TEACHING ENGLISH

The quantum learning-and-teaching model is very popular because the Department of National Education of Indonesia implemented a new curriculum called Literacy-Based-Curriculum to improve educational problem. With the quantum learning-and-teaching model's characteristics, many researchers in Indonesia are interested in and believe that it is an alternative way of language teaching. The following research studies are related to the quantum learning-and-teaching model and teaching English. The researchers conducted their studies to test the effects of using the quantum learning-and-teaching model and English instruction, especially reading instruction. It is interesting how the quantum learning-and-teaching model significantly influenced English reading instruction. Not only reading proficiency but also learning

atmosphere and students' learning behavior gradually changed after attending the treatment lessons. The researchers conducted their studies with high school students.

Suwarni et al. (2014) conducted a study in order to develop an alternative teaching material at secondary school level to improve students' reading comprehension skill. The participants of the study were fourteen junior high schools in Indonesia. The researchers started the research procedures with interviewing teachers to identify the problems of the language teaching in the institute. After that, they conducted students' need analysis to develop effectiveness of the prototype. To ensure the effectiveness of the prototype, experts suggested adapting quantum learning in lessons. Then, the completed prototype was tried out. The researchers used interviewing, observation, and testing as their research instruments. The fourteen teachers from each school were interviewed about their English language teaching and learning. The result showed that quantum learning-based teaching materials effectively improved reading comprehension skill. It was suggested that quantum learning teaching materials should be considered useful to apply in English lessons. It can be concluded that quantum learning is a good principle for selecting and creating teaching materials.

Koeswandi and Saleh's (2014) objectives were to reveal a variety of problems and situations in teaching reading comprehension and to find models of good teaching reading comprehension and match the child's development. They studied the differences in effectiveness among conventional teaching method, translation passages, and prototype teaching method, quantum learning-based teaching. Their study was conducted with students and teachers in Junior High school in Pemalang Regency. The steps in the study were grouped into three main phases: exploration phase, prototype developmental phase, and testing phase. The research instruments were documents, interviews, observation, field notes, questionnaires, testing, and discussion. The finding showed that the extinct model quality, the traditional model, was an ineffective way for improving learning atmosphere. From the need assessment, all teachers agreed that quantum teaching model is important. Hence, the researchers had revised the model including six steps: introduction, planning, model of classroom implementation, learning assessment, learning evaluation, and closing remarks. The revised model was tried out by local teachers, a model developer, a model teacher, and an expert. The researchers recommended that the quantum teaching-and-teaching model could be

applied successfully as a reading comprehension model as it showed that quantum teaching lessons improved students' language proficiency and assisted teachers.

Khasanah (2012) conducted research to find out whether the use of quantum learning improves students' reading skill and identifying what happened to the classroom situation when quantum learning was used in reading lessons. The researcher had studied eighth grade students for six months in Indonesia. The participants were from a VIII A class and had low English reading proficiency. They were thirty-five students consisting of eighteen boys and seventeen girls. On the grounds of the systematic study conducted by the teacher researcher, the school director, school counselors and other stakeholders, action research was applied. Methodically, there were six research procedures adapted from the general action research model. The researcher planned the action by consulting on the topic or material with the English teacher, making the lesson plan, preparing the materials for classroom observation, preparing teaching aids, and preparing exercises and a post-test. The collecting data techniques for quantitative data were a pre-test and post-test to observe the reading skill improvement while observation, interviews and field notes were collected as qualitative data. The result illustrated that quantum learning is successful in aiding comprehension and retention because the mean score of the test gradually increased. Moreover, the qualitative data reflected that quantum learning created a comfortable and enjoyable situation. It was also a learner-centered approach which improved the students' participation and interaction. The researcher recommended that quantum learning would be a good choice for creative teaching reading, especially to motivate students' interests. To complete the learning goals, students were highly motivated and active in participation in the classroom. The institution or school should also support teachers in term of materials and teaching process.

Martika and Hermayawati's (2016) study also confirmed that quantum learning bettered students' reading skill and learning behaviors. They conducted a study to find out the procedures to improve students' reading skill using quantum learning, the students' interest in their learning reading using quantum learning, and the students' improvement in comprehending the texts using quantum learning. The researchers had done the study with 32 seventh grade students for 3 months. Action research was applied to collect information on the teaching and learning

process, how the teachers taught, and how the students learned in the classroom. On account of the research methodology, there were two cycles with four steps each. Researchers were planning, acting, observing, and reflecting. In the planning step, the researchers used interviews, observation, and pre-tests. The acting step was to apply what was planned. In the observation step, the researchers observed the class activities to find out the students' problems, interests, and obstacles in the learning process. The last step was re-test in the need to reflect and analyze the result of the learning. In addition, the pre-test and post-test were conducted to investigate the students' reading achievement. After the research cycle, the findings of the needs analysis revealed that the students had a problem in comprehending the texts and a lack of vocabulary. Moreover, they had difficulties in speaking and reading skills. After attending the reading classes using quantum learning, it was found that learning behaviors significantly changed. They were able to follow the teaching and learning process better, more active, were more motivated and more confident. It was concluded that quantum learning improved the students' reading skill. The researchers suggested that quantum learning improves students' reading skill in comprehending text. Using mind mapping, key words, pictures, and music were found to help. Besides, quantum learning motivated students in their learning process.

Abdulah (2012) studied the correlation between the quantum teaching-and-learning model and reading skill. The objective of the study was to find out the effects of teaching and learning method on teaching reading. The researcher did the experiment with 36 grade ten students and the visiting teacher in SMAN 1 Cibeber Cianjur in Indonesia. One group pre-test and post-test design was used. For data collection, the researcher used a pre-test and post-test to measure the students' achievement before and after giving the treatment. Obviously, the result showed the post-test score generally increased. From the result of the study, it could be concluded that teaching reading using the quantum learning-and-teaching model could encourage students in learning English and develop their reading proficiency as well. In addition, the researcher suggested that various kinds of media such as audio and visual aids should be used in the classroom because they provide appropriate learning atmosphere in the classroom.

Fadillah's (2013) study further investigated teaching reading with a short story using the quantum learning method to improve students' reading comprehension ability and to investigate students' perspectives toward the learning process using quantum learning. The participants of the study were 32 sixth grade students in Indonesia. The research used descriptive method and a posttest only control-group design. For data collection, the reading test was used to compare any significant difference of posttest between the control and the experimental groups. Moreover, the researcher investigated students' response their learning process using quantum learning by using a questionnaire. The result showed that quantum learning was effective to improve reading proficiency. The data from the questionnaire showed that most participants enjoyed the learning process since quantum learning provided an enjoyable and comfortable learning atmosphere. From the research results, there are two suggestions. First, the activities and characteristics of quantum learning give positive effect on students' abilities in learning reading since they encourage an enjoyable and comfortable learning atmosphere. Second, to apply quantum learning, teachers should prepare themselves and be good at time management. In addition, teachers showed selectively adapt appropriate activities and materials to suit students' needs.

Additionally, listening skill has also been employed to investigate the effectiveness of the quantum learning-and-teaching model. Hardianti (2019) conducted a study to explore the difference between applying quantum learning design framework and a dictogloss technique. The researcher conducted the study with thirty-six students of tenth grade at MAN 2 Parepare in Indonesia in the academic year of 2014/2015. The participants were divided into two classes: experimental class and control class. Quasi-experimental design was applied. For data collection, there were three stages in the study: preparation, application, and evaluation. Both groups took the pre-test before learning the lesson. Then, they attended the different lessons which were based on quantum learning design framework and dictogloss technique. After the lessons, they were asked to take the post-test in order to investigate their listening ability. The findings revealed that both experimental and control classes improved their listening ability after the lessons; however, the participants' mean scores in the experimental

class were higher than the students' in the control class. The researcher suggested that a quantum learning design framework should be used in teaching listening.

Besides receptive skills, productive skills like writing and speaking have also been the focused skills in quantum research. Saragih and Kristiani (2012) studied the effect of applying quantum learning on students writing argumentation. The participants were 60 third year students of SMAN. 1 DOLOK BATU NANGGAR in Indonesia. An experimental quantitative method was applied. The 60 students were divided into two groups: experimental group and controlled group. Both groups took the pre-test before learning the writing lesson. Then, they attended the different writing lessons which employed a quantum learning method and conventional method. After the writing lessons, subjects were asked to take the post-test in order to investigate their writing achievement. The finding illustrated that quantum learning method obviously affected the students' achievement in writing argumentation. The researchers recommended that the quantum learning model is a useful alternative model in teaching. It makes students get the ideas for studying easily since it connects academic subjects to context and students' real-life situation.

Sihite and Johan (2012) further investigated the improvement of student achievement in writing descriptive text through quantum learning. The participants were 36 Indonesian second year students. An action research was applied to collect information on the teaching and learning process, how the teachers taught, and how the students learned in the classroom. On account of the research methodology, there were 2 cycles. There were 3 meetings in Cycle 1 and 2 meetings in Cycle 2. The collecting data technique for the quantitative data was a writing test while interview, diary notes and observation sheet were collected as the quantitative data. The findings from the writing test showed that the participants increased their score in every test. It can be concluded that quantum learning can improve the descriptive writing achievement of participants. The researchers suggested that teachers should apply quantum learning in writing lessons to support students' descriptive writing because it helped the students to enjoy their writing process.

In addition, there was a study conducted on the effectiveness of quantum teaching in writing skill in fifth grade students. Arditya and Syamsi (2019) also found that the quantum learning-and-teaching model positively affects writing

skill. The study aimed to explore the differences in the influence of quantum teaching (QT) method and cooperative integrated reading composition (CIRC) method on descriptive writing skill of fifth grade students. The researchers studied 108 fifth grade students in Indonesia. Quasi experiment with non-equivalent control group pretest-posttest design was used to compare the influence of the two methods on descriptive writing skill. For data collection, the results of a written test were applied. The findings illustrated that both QT and CIRC methods had positive influence on descriptive writing skill. Additionally, there was no significant difference between the influence of QT and CIRC methods on descriptive writing skill. It can be concluded that a quantum teaching method and cooperative integrated reading composition method had positive effects to develop students' writing skill in this context.

Not only writing skill but also speaking skill is developed through quantum teaching. HY's study (2019) was conducted to investigate the use of quantum teaching in speaking class in Lakidende University, Indonesia. The researcher studied thirty-five students and one English lecturer. A qualitative case study was applied in order to explore and describe the phenomenon of the use of quantum teaching. Regarding the research methodology, the data were obtained through classroom observation, interview, and questionnaire. The researcher observed and recorded the activities if needed. Then the students were asked to complete the questionnaire and the teacher was interviewed. The findings revealed that the teacher motivated students in learning speaking by giving pictures and group discussion together with presentation, and created a friendly and enjoyable learning environment by asking them to share their opinions regarding the topic. It can be concluded that quantum teaching facilitates students in learning speaking and develops students' speaking ability. The researcher suggested that teachers should use a variety of classroom activities and select updated topics.

Additionally, the quantum learning-and-teaching model is also better for speaking anxiety and self-efficacy in speaking skill. Altın and Saracaloğlu (2019) conducted a study in Turkey to identify the effects of a quantum learning model on foreign language speaking skills, speaking anxiety and self-efficacy of secondary school learners. The study was done with three seventh grade classes of a secondary school. The research used a semi-experimental model and each class was assigned as

control, experimental or placebo group by cluster sampling method. The researcher implemented a curriculum in each group which lasted ten weeks including the application of pre- test and post- test. For data collection, interview, observation, document and artwork analysis including English self-sufficiency belief scale, speaking skill grading key, and student diaries were employed. The findings revealed that the quantum learning model was appropriate to increase students' self- efficacy beliefs in English and reduce their English speaking anxiety because the teaching activities regarding the use of quantum learning model drew students' attention, bettered their participation, encouraged their curiosity, and provided an enjoyable learning atmosphere. In addition, the researchers suggested that the quantum learning model had a positive effect on the secondary school students' ability to speak a foreign language, their speaking anxiety and self-sufficiency.

Aside from English skills, overall teaching English has also been studied in quantum research. Nauri (2017) also analyzed the use of quantum teaching method in teaching English and the problems found in the use of quantum teaching method in teaching English. The researcher had done the study with 36 fifth grade students in Indonesia who had problems in writing descriptive text. A descriptive approach was applied. Regarding the research methodology, interview, observation, and data from informants were employed to collect data. The data from the English teacher's interview revealed that students' understanding ability was various which caused the teaching process main problem. The data from the observation showed that the teacher created enjoyable lessons by a using quantum teaching method; however, some students did not understand the teaching materials. More explanation was required to help students' understanding. Teachers should prepare teaching materials carefully before starting a teaching activity and use music to make learning more relaxing and build rapport with students.

From the results of the above mentioned research, the quantum learning-and teaching-model has been found appropriate to language learning because it helps students feel comfortable and relaxed. Moreover, it helps teachers to create the lessons appropriate to their earners' needs. Most contexts of these research studies was Indonesia, where English is taught as a foreign language, just like in Thailand. So it

would be interesting to see the use of the quantum learning-and-teaching model in the Thai context.

2.4.2 REVIEW ON RELATED RESEARCH IN MORE AND LESS PROFICIENT READERS' PERCEPTIONS REGARDING READING INSTRUCTION

Reading instruction is considered a very useful mean to improve students' reading proficiency and attitude toward reading skill. There are many studies conducted to investigate students' perceptions regarding their teachers' reading instruction. The following research studies are related to students' perceptions and reading instruction. These research studies were conducted to investigate the differences between more and less proficient readers' perceptions regarding reading instruction. Students reported that they were satisfied with their teachers' reading instruction in treatment lessons in both two following dimensions: classroom activities and teaching materials. Student-centeredness in reading instruction also affected student's reading proficiency and attitude toward reading. The studies are presented based on the levels of education of the students. They are as follows:

Badea's study (2012) aimed to explore the extent to which students were aware of the necessity of working with new methods and techniques in teaching reading skills at an academic level, as well as of the proportion in which these strategies were used by English teachers during their reading classes. The researcher had studied 30 students who were studying in English Language and Literature in the Faculty of Letters and Sciences of the Petroleum – Gas University of Ploiesti. Two English lessons focusing on improving students' reading skills, several open and closed questions, and a survey were applied as research instruments. The data was collected in two main phrases. In the first phase, the participants were taught using traditional methods and asked to answer five questions about it. In the second phase, the participants were taught using an interactive model and asked to answer five question regarding it. The result illustrated that the most of participants perceived that traditional lessons were boring in two following dimensions: overall lessons and exercises. In addition, the result also revealed that traditional methods obstructed the participants' comprehension of reading passages. On the contrary, the findings illustrated that the interactive lessons were

preferable than to the traditional lessons. The researcher suggested that student-centered lessons should be applied to rebuild and develop in lessons.

Bolghari, Birjandi, & Marftoon (2017) also conducted a study to investigate Iranian EFL learners' perceptions regarding the efficacy of activity theory-based reading comprehension. Sixty Iranian EFL students majoring in English translation in a university were selected based on their performance on the Oxford Placement Test and the perceptual learning style questionnaire. There were 6 research instruments applied in the study: English language proficiency test, perceptual learning style questionnaire, 12 reading passages, activity theory-based survey questionnaire, open-ended questionnaire, and semi-structured focus group interview. There were two phases: the pilot study and the main study. The data collection was over 15 weeks. The findings showed that the participants had moderate to positive perception toward activity theory-based reading comprehension integrated into EFL reading instruction. In addition, there was a significant difference between students' perception toward the mediating elements of activity theory-based reading comprehension. Besides, cooperative learning rules were found to be easy to follow and completing weekly assignments was highly effective. The findings also revealed that the participants perceived the moderate level to negative level of the community element. Additionally, the findings showed that the participants perceived various outcomes of activity theory-based reading comprehension. It could be concluded that activity theory-based reading comprehension was beneficial to furnish EFL learners with learning achievement. The researchers suggested that teachers should develop their reading materials and increase students' motivation in reading by using visual aids together with technology; extensive reading improved students' reading comprehension. Integration of reading and writing activities (summarizing, outlining, drawing graphic organizers, self-questioning) was also recommended for reading comprehension. Moreover, teachers should design group work activities in order to let students interact and negotiate actively.

Moreover, trainee teachers were also investigated concerning their perceptions regarding their use and selection of reading strategies. Majid, Azman, and Jelas (2010) conducted a study to investigate more and less proficient adult learners' academic reading strategies selection and use. The study was conducted with four in-service TESL students in the Faculty of Education of a local university in Malaysia.

The participants were selected by consideration of their academic reading proficiency, their experience of academic reading in the university, and their willingness to participate in the study. A case study approach was used. Student diaries, participant observations, think-aloud protocols, and retrospective interviews were used to collect data. For 4 weeks, the researchers asked the participants to reflect their reading process and the use of reading strategies in the student diaries and take-home reading handouts in which they wrote about the 12 take-home reading passages and handed them in to the researcher weekly. Then the participants were observed in the classroom for 3 times and think-aloud protocols together with retrospective interviews were contributed once for each participant. The findings revealed that compared with the more proficient readers, the less proficient readers were found to be able to manipulate their adult learners' common characteristics for their academic reading less effectively, and they used fewer reading strategies than the proficient readers. The researchers suggested that the influence of the common characteristics of adult learners on their choice and use of academic reading strategies should be considered in a university setting.

Some researchers focused on secondary and primary students. Dybdahl's study (1982) aimed to investigate the proficient and less proficient readers' use of strategies while they studied in the revision of underlying model construction in the narrative text. The participants of the study were 16 fifth and sixth grade students which were grouped as proficient and less proficient readers equally by consideration of their test scores, teacher judgment, and the participants' willingness. Case study was applied to collect information on the identification of strategies used in students' reading process. The researcher interviewed the participants individually, let them read the given text orally, and asked questions about the text. The research instruments were observation and unstructured interview. The results showed that 14 strategies were used in their reading process. In addition, the researcher also found that proficient readers were more tentative and applied more interpropositional hypotheses than less proficient readers in their reading process. The researcher recommended that reading instruction should include both materials and teaching practices which supported the use of predicting and confirming strategies of readers. In addition, less proficient readers should improve their use of text prediction to the point where they felt comfortable with tentativeness.

Ludwig (2007) conducted research to determine whether or not there was a significant difference in the highest performing and lowest performing readers' attitudes toward and perceptions regarding reading. The researcher studied 703 students in three middle schools serving sixth, seventh, and eighth grade students. Based on their STAR reading levels, the subjects were categorized into successful readers, who were the top 15% of the total population, and struggling readers, who were ranked as the bottom 15% of the total population. One hundred and five responses from the highest performing readers and the same number from the lowest performing readers were analyzed in the study. However, only 94 out of 105 high-performing readers' consent forms were returned whereas 54 out of 105 low-performing readers' consent forms were returned. Then the researcher asked the participants to read 20 statements. Additionally, they were asked to indicate their opinions towards the statements about their self-perceptions and their perceptions of reading by circling indicators, "That's Me" or "That's Not Me". The finding showed clearly that three out of four responses had significant differences in the highest performing and the lowest performing readers' self-perceptions. Besides, the result also revealed that three out of four responses showed significant difference in perceptions regarding reading of the two groups. The research recommended that positive readers' self-perceptions could foster their performance. Moreover, teachers should train students how to use reading strategies before they encountered reading passages. For struggling readers, teachers should consider students' reading proficiency and support their successes because this can serve to build confidence.

Additionally, Muhammad, Muslem, and Sari's study (2017) aimed to explore students' perceptions regarding the teacher's approach in reading comprehension instruction. The researchers had studied 28 second grade students. Descriptive approach was applied to collect, analyze, interpret, and describe the data. In terms of the research methodology, the researcher collected data by distributing questionnaires and conducting interviews. The findings showed that most participants gave a positive response toward their teacher's ways in reading comprehension instruction. However, 6 participants gave negative responses in term of teacher facilitation, teacher awareness, and boredom. In addition, the findings also revealed that teaching materials influenced teaching English because they facilitated students'

understanding. From the findings, the researchers recommended that teachers should design their reading comprehension instruction to fit to all students' comprehension proficiency, for instance focusing on to an literal comprehension for lower proficient readers and moving on interpretive level of comprehension for higher proficiency readers.

In conclusion, the findings from the mentioned research studies show that reading instruction is a crucial factor to develop reading skills in the EFL context. Additionally, it is suggested that teachers pay more attention to design teaching materials and classroom activities that fit their students' reading proficiency. As the context of these research studies is EFL, it would be interesting to investigate the usefulness of reading instruction in the Thai EFL context.

2.4.3 REVIEW ON RELATED RESEARCHES IN THE USE OF READING STRATEGIES

Various research studies in reading strategies were conducted to investigate the students' use of reading strategies and how they affected reading proficiency in the EFL context. The following research studies are related to the use of reading strategies while reading. The researchers conducted their studies to see the effects of the levels between the use of reading strategies in three categories (global reading strategies, support reading strategies, and problem solving strategies) and the reading proficiency of university students. It can be concluded that the use of reading strategies significantly influenced reading comprehension achievement.

Magogwe's (2013) study was conducted to find out metacognitive awareness level of University of Botswana students in the Faculty of Social Sciences. A mixed method approach was applied to collect both quantitative and qualitative data. SORs and semi- structured interview were applied to explore the participants' metacognitive awareness level. The researcher studied 104 First Year students from the Social Sciences Faculty in the University of Botswana, studying Communication and Academic Literacy Skills. After completing the questionnaire, nine participants from those who had high reading proficiency and low reading proficiency were interviewed. The findings from the questionnaire indicated that the overall average score for the SORs was high. Also, only problem solving reading strategies were used at high level

of usage whereas global reading strategies and support reading strategies were used at moderate level of usage. The findings revealed that the highest overall mean score for strategy use was that of excellent students, followed by poor students, then good students, and moderate proficiency students. The findings from the semi-structured interview illustrated that high proficient readers had an edge over low proficient readers mainly because their reading process had more management and monitoring which was guided more by their reading goals than by the tests and assignments. The researcher suggested that teachers should facilitate and give attention to some reading strategies which were used at moderate level.

Nisbet and Huang (2015) also confirmed that problem solving strategies were most frequently used by university students. They found that there was a relationship between the use of reading strategies and reading proficiency. Their study aimed to find out the relationship between Chinese university students' reading strategy use and reading proficiency. There were 241 students participated at two universities in northwest China. Most of the participants were in an English education track. Mixed method was applied to collect both quantitative and qualitative data. For data collection, the researchers used the Survey of Reading Strategies (SORs) and the Reading Comprehension section of the Test of English as a Foreign Language (TOEFL). The researchers asked the participants to answer SORs and the Reading Comprehension test. After completing the questionnaire and test, the findings revealed that problem solving strategies were most frequently used by the participants, followed by global strategies and support strategies. The result also illustrated that the higher proficient readers used slightly more global strategies. Additionally, the higher proficient readers used global strategies and problem solving strategies whereas the lower proficient readers used support strategies. It can be concluded that there was the relationship between the use of reading strategies and reading proficiency.

However, some researchers have found that support strategies were most frequently used. Rastakhiz and Safari (2014) conducted a study to find out the relationship between EFL learners' metacognitive reading strategies use and their reading comprehension achievement. The researchers had done the study with 40 non-native Iranian intermediate EFL students studying at Shahid Bahonar University of Kerman and Valiasr University of Rafsanjan. Mixed method was applied to collect both

quantitative and qualitative data. On account of the research methodology, there were three research instruments: Cambridge English: Preliminary English Test (PET), SORs and TOEIC reading test. 120 EFL students were asked to complete PET in order to evaluate their language proficiency. Only 40 participants who got a score at intermediate level were selected. The results from the questionnaire revealed that the participants used overall reading strategies at moderate level of usage. However, the participants preferred support reading strategies the most, followed by problem solving strategies and global strategies. The findings from the TOEIC test showed that the participants used more support reading strategies than global strategies. It can be concluded that intermediate proficient students had high awareness of reading strategy use. The researchers recommended that students should be aware of their metacognitive reading strategies use to become skilled readers. Moreover, teachers should be aware of their teaching practices somewhat to adjust students' reading strategies, use teaching materials, and develop students' awareness and use of reading strategies.

Jafari and Shokrpour (2012) also supported that teachers should give more attention to less used strategies. Jafari and Shokrpour (2012) conducted a study to investigate the Iranian ESP students' use of reading strategies when they read English authentic expository texts. The researcher studied 81 university sophomore students studying environmental health, occupational health and safety, and midwifery at Shiraz University of Medical Sciences. Mix method was applied to collect both quantitative and qualitative data. There were two research instruments: SORs and Reading Comprehension Test from TOEFL test. First, the participants were asked to complete the TOEFL test. Then they were asked to fill out the questionnaire based on their strategy use when they read English authentic expository text. The results showed that the participants were moderately aware of reading strategies and the most frequently used strategies were support strategies, followed by global strategies, and then problem solving strategies. Moreover, the Iranian ESP students used the reading strategies differently according to their academic majors. The researchers recommended that English language teachers should be aware of the role of reading strategies in their reading instruction and pay more attention to the five least frequently used reading strategies.

In some studies, global reading strategies were found as the most frequently used in some contexts. Yousefian (2015) conducted a study to find out the nature and frequency of the reading strategies used by the EFL learners while reading academic texts. A survey was applied in the study. The researcher studied 45 EFL learners from Islamic Azad University in Iran. The Survey of Reading Strategies (SORs) was employed as a research instrument to investigate how much EFL learners use reading strategies when they were reading academic texts. The findings showed that the most used reading strategies in the study were global reading strategies, followed by problem solving strategies and support reading strategies. The researcher suggested that teachers should train students to use less frequent reading strategies appropriately and effectively in reading lessons.

Not only helping students use less used reading strategies but also developing teachers' training courses were suggested in some studies. Zhang and Wu's (2009) study aimed to assesses Chinese senior high school EFL students' metacognitive awareness and reading-strategy use. There were 249 participants classified by their three English exams average score into three proficiency groups. The scores of the high proficiency group ranged from 73 to 91, those of the intermediate from 63 to 71, and those of the low-proficiency group from 31 to 62. Survey was applied in the study. The data was collected by SORs. The result showed that the participants used overall reading strategies at a high frequency level. However, only support strategies were used at a moderate frequency level. In addition, the higher proficient readers outperformed the intermediate group and the low-proficiency group in 2 categories of reading strategies: global and problem-solving; but no statistically significant difference was found among the 3 proficiency groups in using support strategies. The researchers suggested that teachers should explore the appropriate and effective ways of the reading strategies use for their students and help them. Especially, low proficient readers should be more supported in global strategies. In addition, teacher training courses should consider training teachers the use of strategy-based approaches to reading comprehension.

From the results of the above related studies, the use of reading strategies influences students' reading comprehension achievement. All types of

reading strategies are found to be helpful to EFL students at different levels of education.

CHAPTER 3
RESEARCH METHODOLOGY

This study was conducted to investigate the perceptions of Thai secondary school EFL readers regarding the use and usefulness of the quantum learning-and-teaching model in reading instruction and to find out the differences between more and less proficient Thai secondary school EFL students' perceptions regarding the usefulness of the quantum learning-and-teaching model. This chapter is composed of research methodology, which includes participants, instruments, research procedures, and data analysis.

3.1 PARTICIPANTS

This study was undertaken at an extra-large Thai public school in Bangkok in the first semester of the academic year 2019. Two hundred and fifty-six year 9 students (138 more proficient readers and 118 less proficient readers) attending a Fundamental English 5 course, with six classes, were selected to be participants in this study. They were selected by convenience sampling method as the researcher was one of the teachers who taught them in the first semester of the academic year 2019.

In order to classify the participants into their two more or less reading proficiency groups, they were grouped by their average grades of English Reading 3 and English Reading 4 courses. The two English reading courses aimed to develop integrated English skills by reading short stories, passages, information, news, newspapers, and magazines. The total score of each course was 100 points. The criteria used for grading was A (above 80 points), B+ (from 75 points to 79 points), B (from 70 points to 74 points), C+ (from 65 points to 69 points), (from 60 points to 64 points), C (from 55 points to 59 points), D (from 50 points to 54 points), and F (below 50 points). The criteria for group classification was the average grade 2.75 which was the mean score of the participants' grades from the two courses. By grouping their average grades of English Reading 3 and English Reading 4 courses, one hundred and thirty-eight (53.91%) participants who got the average grades 2.75 and above were put in a group of more proficient Thai secondary school EFL readers. One hundred and eighteen

(46.09%) participants who got their average grades below 2.75 were put in a group of less proficient Thai secondary school EFL readers.

Six participants were asked to be volunteers in semi-structured interview sessions. Three participants were from the more proficient group and three participants were from the less proficient group.

3.2 INSTRUMENTS

The research instruments in the study were a questionnaire and interview questions. The aim of using the survey questionnaire was to investigate the participants' perceptions regarding the use and usefulness of the quantum learning-and-teaching model in reading instruction. The data obtained from the interview questions were used to obtain the qualitative data. The objective of the interview questions was to triangulate the participants' perceptions with the data collected from the questionnaire. They were also used to further find out reasons behind the participants' perceptions in the questionnaire.

3.2.1 QUESTIONNAIRE

The questionnaire consisted of three parts as follows: Part I: Participants' Background Information, Part II: Participants' Perceptions Regarding the Use of the Quantum Learning-and-Teaching Model in Reading Instruction, and Part III: Participants' Perceptions Regarding the Usefulness of the Quantum Learning-and-Teaching Model in Reading Instruction. There were 49 items in Part II and Part III of the questionnaire. To design Part II and Part III of the questionnaire, the researcher first analyzed the 30 items of the questionnaire used in Mokhtari and Sheorey's (2002) study based on the quantum learning-and-teaching model and modified them. First, the researcher construed each item in Mokhtari and Sheorey's questionnaire and analyzed the questionnaire item based on the quantum learning-and-teaching model in terms of tenets, context sets, and content. Then the researcher selected 24 of the 30 items and modified them to suit the purpose of this research study (see Appendix C). The researcher also rearranged the items based on the characteristics in tenets, context sets, and content of the quantum learning-and-teaching model. For the questionnaire items in classroom activities, 25 items were created by the researcher based on the connection

between classroom activities in reading instruction and the quantum learning-and-teaching model (see Appendix D).

The questionnaire items were designed to collect data concerning the participants' perceptions regarding the use (Part II) and usefulness (Part III of the quantum learning-and-teaching model in reading instruction. The items were in both English and Thai in order to avoid misunderstanding. Before the questionnaire was tried out, three Thai experts, who were English instructors in a Thai public university, were asked to judge the appropriateness of language used (both English and Thai) together with the content in the survey questionnaire. The data was computed with the Item Objective Congruence index. The result of total mean score was 0.84. The acceptable mean score needs to be higher than 0.50. It means the questionnaire items were acceptable. The details in each part are as follows:

Part I: Participants' Background Information

The first part of the questionnaire was used to elicit the participants' background information concerning participants' names, classes, numbers, genders, ages, numbers of years studying English and grades in English Reading 3 and English Reading 4 courses.

Part II: Participants' Perceptions Regarding the Use of the Quantum Learning-and-Teaching Model in Reading Instruction

There were two sections in Part II of the 49-item questionnaire: Section 1: A Survey of Students' Perceptions Regarding the Use of the Quantum Learning and Teaching Model in Reading Strategy Instruction (24 items) and Section 2: A Survey of Students' Perceptions Regarding the Use of the Quantum Learning-and-Teaching Model in Classroom Activities (25 items). All items in Part II of the questionnaire came with a 5-point Likert-scale ranging from 1 to 5 (1 = never, 2 = seldom, 3 = sometimes, 4 = frequently, 5 = always).

Part III: Participants' Perceptions Regarding the Usefulness of the Quantum Learning-and-Teaching Model in Reading Instruction

In Part III, there were two sections: Section 1: A Survey of Students' Perceptions Regarding the Usefulness of the Quantum Learning-and-Teaching Model in Reading Strategy Instruction (24 items) and Section 2: A Survey of Students' Perceptions Regarding the Usefulness of the Quantum Learning-and-Teaching Model

in Classroom Activities (25 items). The 49 items in Part III were taken from those in Part II, but the 5-point Likert-scale in Part III ranged from 1 to 5 regarding the usefulness of each item (1 = not at all useful, 2 = slightly useful, 3 = moderately useful, 4 = very useful, 5 = extremely useful).

3.2.2 SEMI-STRUCTURED INTERVIEWS

To triangulate with the data collected from the questionnaire, the questions in the semi-structured interview were constructed to ask reading instruction practices in reading classes the participants perceived the most and least useful. Morevoer, the questions asked about the reasons behind the choices.

3.2.3 PILOT STUDY

Before the questionnaire and the semi-structured interviews were used to collect the data, three Thai experts, who were English instructors in a Thai public university, were asked to judge the appropriateness of language used. The data was computed with the Item Objective Congruence index. The result of total mean scores were 0.84. and 0.96 respectively. The acceptable mean score for validity needs to be higher than 0.5. This means the two instruments were acceptable.

The questionnaire items and the semi-structured interview questions were pilot-tested by distributing them to ten year 9 students who were not participants in the study to check for the items' clarification. Then, the researcher modified them and asked the researcher's supervisor to review them for the final version.

3.3 RESEARCH PROCEDURES

This research is a survey research to investigate Thai secondary school EFL readers' perceptions regarding the use and usefulness of the quantum learning-and-teaching model in reading instruction. In the first semester of academic year 2019, the researcher distributed the questionnaire (Part I and Part II) to obtain Thai secondary school EFL readers' perceptions towards the use of the quantum learning-and-teaching model in reading instruction to the participants at the beginning of a class period of the first semester. In the following week, the participants were asked to answer the questionnaire (Part III) which investigated the participants' perceptions regarding the

usefulness of the quantum learning-and-teaching model in reading instruction. The reason why the researcher distributed the questionnaires in different periods was to avoid the participants' confusion about the different purposes of the two parts of the questionnaire. The researcher explained the objectives of the study and asked the participants to answer the three parts of the questionnaire individually within the class lesson. The researcher told them to ask for clarification if they had difficulty understanding any items.

The semi-structured interview sessions were conducted with six volunteer participants after the analysis of data. Before the interview, the researcher told the participants the purpose of the interview and informed them the procedures of the interview. Each interview session lasted about 30 minutes. The interview was recorded via a smartphone with the interviewees' permission. Thai was the language of the interview to avoid misinterpretation.

3.4 DATA ANALYSIS

The data analysis of this study included both quantitative and qualitative data. For Part I: Participants' Background Information, the researcher applied descriptive statistics to calculate and summarize the percentages of the background information asked. The data from both Section A: A Survey of Students' Perceptions Regarding the Use of the Quantum Learning-and-Teaching Model in Reading Strategy Instruction and Section B: Perceptions Regarding the Use of the Quantum Learning-and-Teaching Model in Classroom Activities in Part II of the questionnaire and the data from both Section A: A Survey of Students' Perceptions Regarding the Usefulness of the Quantum Learning-and-Teaching Model in Reading Strategy Instruction and Section B: Perceptions Regarding the Usefulness of the Quantum Learning-and-Teaching Model in Classroom Activities in Part III of the questionnaire were analyzed using SPSS to calculate means, standard deviations, and levels of agreement. In terms of the levels of agreement, the Likert scale that ranges from 1 to 5 used in the questionnaire was converted into three levels of agreement as suggested by Ketsing's (1995 as cited in Pitakpong, 2016): high (mean of 3.67 – 5.00), moderate (mean of 2.34 – 3.66) and low (mean of 1.00 – 2.33). The Cronbach's alpha was also computed to ensure reliability of the two surveys in the questionnaire. For the semi-structured

interviews' data, they were transcribed and quantified using content analysis based on characteristics and principles of the quantum learning-and-teaching model. The coded data were then calculated for frequency of the use of the quantum learning-and-teaching model in reading instruction and the reasons for the usefulness of the quantum learning-and-teaching model in reading instruction.

The collected data were analyzed to answer these research questions:

Research question 1: What are the perceptions of Thai secondary school EFL readers regarding their teachers' use of the quantum learning-and-teaching model in reading instruction?

To investigate the perceptions of Thai secondary school EFL readers regarding their teachers' use of the quantum learning-and-teaching model in reading instruction, the overall reading strategy instruction together with the overall classroom activities with their standard deviations and levels of agreement from the questionnaire (Part II) Section A: A Survey of Students' Perceptions Regarding the Use of the Quantum Learning-and-Teaching Model in Reading Strategy Instruction and Section B: A Survey of Students' Perceptions Regarding the Use of the Quantum Learning-and-Teaching Model in Classroom Activities were compute using SPSS to calculate means, standard deviations, and levels of agreement.

Research question 2: What are the perceptions of Thai secondary school EFL readers regarding usefulness of the quantum learning-and-teaching model in reading instruction?

To investigate the perceptions of Thai secondary school EFL readers regarding the usefulness of the quantum learning-and-teaching model in reading instruction, the overall reading strategy instruction together with the overall classroom activities with their standard deviations and levels of agreement from the questionnaire (Part III) Section A: A Survey of Students' Perceptions Regarding the Usefulness of the Quantum Learning-and-Teaching Model in Reading Strategy Instruction and Section B: A Survey of Students' Perceptions Regarding the Usefulness of the Quantum Learning-and-Teaching Model in Classroom Activities were computed using SPSS to calculate means, standard deviations, and levels of agreement..

Research question 3: Are there any differences between more and less proficient Thai secondary school EFL readers regarding the usefulness of the quantum learning-and-teaching model in reading instruction?

To investigate differences between the perceptions of Thai secondary school EFL students with more and less proficiency regarding the usefulness of the quantum learning-and-teaching model in reading instruction, data obtained from the questionnaire (Part III) were computed using SPSS to calculate means, standard deviations, and levels of agreement. Then the analysis of the paired sample t-test was conducted to compare the differences between more and less proficient EFL readers' perceptions regarding the usefulness of the quantum learning-and-teaching model in reading instruction. In addition, the semi-structured interviews were analyzed by interpretative analysis and content analysis based on the 49 items in the questionnaire.

CHAPTER 4
RESULTS

4.1 PARTICIPANTS' GENERAL INFORMATION

As presented in Chapter 3, the 256 participants were assigned into two groups based on the grades they got from Supplementary English 3 and 4 courses. From the average mean of grades, 138 participants with the average mean above 2.75 were categorized as more proficient EFL readers whereas 118 with the average mean below 2.75 were classified as less proficient EFL readers. Tables 4.1 shows the findings of participants' general information.

TABLE 4.1 Participants' General Information

	General Information						**Total**
Gender	**Male**			**Female**			
	102 (39.84%)			154 (60.16%)			256
Age	**14 years old**		**15 years old**		**16 years old**		
	202 (78.91%)		49 (19.14%)		5 (1.95%)		256
Numbers of years studying English	**8 years**	**9 years**	**10 years**	**11 years**	**12 years**	**13 years**	
	21 (3.13%)	10 (3.91%)	184 (71.88%)	38 (14.84%)	2 (0.78%)	1 (0.39%)	256

As shown in Table 4.1, out of 256 participants, there were 102 males (39.84%) and 154 females (60.16%). The majority of the participants (202 or 78.91%) were 14 years old, and most of them (225 or 87.89%) had been studying English in the school for more than 10 years.

TABLE 4.2 More Proficient EFL Readers' General Information

	General Information						**Total**
Gender	**Male**			**Female**			
	40 (28.99%)			98 (71.01%)			138
Age	**14 years old**		**15 years old**		**16 years old**		
	111 (80.43%)		24 (17.39%)		3 (2.17%)		138
Numbers of years studying English	**8 years**	**9 years**	**10 years**	**11 years**	**12 years**	**13 years**	
	9 (6.52%)	7 (5.07%)	94 (68.12%)	26 (18.84%)	1 (0.39%)	1 (0.39%)	138

Table 4.2 presents the general information of more proficient EFL readers. Out of 138 participants, there were 40 males (28.99%) and 98 females (71.01%). The majority of the participants (111 or 80.43%) were 14 years old, and most of them (122 or 87.74%) had been studying English in the school for more than 10 years.

TABLE 4.3 Less Proficient EFL Readers' General Information

	General Information						**Total**
Gender	**Male**			**Female**			
	62 (52.54%)			56 (47.46%)			118
Age	**14 years old**		**15 years old**		**16 years old**		
	91 (77.12%)		25 (21.19%)		2 (1.69%)		118
Numbers of years studying English	**8 years**	**9 years**	**10 years**	**11 years**	**12 years**	**13 years**	
	12 (6.78%)	3 (2.54%)	90 (76.27%)	12 (10.17%)	1 (0.85%)	-	118

Table 4.3 presents the general information of less proficient EFL readers. Among 118 less proficient EFL readers, there were 62 males (52.54%) and 56 females (47.46%). The majority of the participants (91 or 77.12%) were 14 years old, and most of them (103 or 87.29%) had been studying English in the school for more than 10 years.

4.2 PARTICIPANTS' PERCEPTIONS REGARDING THE USE OF THE QUANTUM LEARNING-AND-TEACHING MODEL IN READING INSTRUCTION

Tables 4.4 – 4.10 show the results obtained for the first research question: What are the perceptions of Thai secondary school EFL readers regarding their teachers' use of the quantum learning-and-teaching model in reading instruction?

TABLE 4.4 Overall Mean and Standard Deviation of Participants' Perceptions Regarding Their Teachers' Use of the Quantum Learning-and-Teaching Model in Reading Instruction

Category	M	S.D.	Level of Usage
All items	3.92	0.30	High

Table 4.4 shows the overall mean score and standard deviation of the participants' perceptions regarding their teachers' use of the quantum learning-and-teaching model in reading instruction. As seen in Table 4.2, the participants reported their perceptions regarding their teachers' use of the quantum learning-and-teaching model at the high level of usage (M = 3.92, S.D. = 0.30).

As the questionnaire contained two dimensions of teachers' reading instruction: the use of the quantum learning-and-teaching model in reading strategy instruction and in classroom activities, Tables 4.5 - 4.8 show the data obtained from the participants' perceptions toward these two dimensions.

TABLE 4.5 Participants' Perceptions Regarding Their Teachers' Use of the Quantum Learning-and-Teaching Model in Reading Strategy Instruction

No. of Item	Reading Strategy Instruction	M	S.D.	Level of Usage
1	My teachers informed me the reading purpose.	3.99	0.85	High

No. of Item	Reading Strategy Instruction	M	S.D.	Level of Usage
2	My teachers taught me to take note while reading to help me understand what I read.	4.15	0.97	High
3	My teachers let me think about whether the content of the text fit my reading purpose.	3.42	1.01	Moderate
4	My teachers taught me to underline or circle information in the text to help me remember it.	4.36	0.93	High
5	My teachers taught me to try to picture or visualize information to help remember what I read.	3.76	1.02	High
6	My teachers let me adjust my reading speed according to what I read.	3.24	1.15	Moderate
7	My teachers taught me to decide what to read closely and what to ignore when I read.	3.20	1.15	Moderate
8	My teachers let me try to guess what the content of the text was about when I read.	3.80	1.09	High
9	My teachers taught me to ask myself questions I liked to have answered in the text.	3.57	1.05	High
10	My teachers asked me to guess the meaning of unknown words or phrases when I read.	3.89	0.99	High
11	When text became difficult, my teachers taught me to pay closer attention to what I read.	4.15	0.92	High
12	My teachers let me read slowly and carefully to make sure I understood what I read.	3.96	0.98	High

No. of Item	Reading Strategy Instruction	M	S.D.	Level of Usage
13	My teachers told me to try to get back on track when I lost concentration.	3.93	0.94	High
14	My teachers taught me to use context clues to help me better understand what I read.	3.77	1.05	High
15	My teachers let me use reference materials (e.g., a dictionary) to help me understand what I read.	3.51	1.23	High
16	My teachers taught me to use tables, figures, and pictures in the text to increase my understanding.	4.07	1.03	High
17	My teachers asked me to check my understanding when I came across new information.	3.87	0.92	High
18	My teachers asked me to translate from English into my native language when I read.	4.15	1.16	High
19	My teachers let me think about what I knew to help me understand what I read.	3.85	0.89	High
20	My teachers taught me to take an overall view of the text to see what it was about before reading it.	4.27	0.85	High
21	My teachers let me review the text first by noting its characteristics like length and organization.	3.84	1.05	High
22	My teachers taught me to paraphrase to better understand what I read.	4.13	0.93	High

No. of Item	Reading Strategy Instruction	M	S.D.	Level of Usage
23	My teachers taught me to use typographical features like bold face and italics to identify key information.	3.30	1.27	Moderate
24	My teachers taught me to critically analyze and evaluate the information presented in the text.	3.90	0.94	High
	Total	**3.84**	**1.01**	**High**

From Table 4.5, it can be seen that the overall mean score and standard deviation of participants' perceptions regarding the use of the quantum learning-and-teaching model in reading strategy instruction is at the high level of usage (M = 3.84, S.D. = 1.01). The table also shows the participants' perceptions of their teachers' use of the quantum learning-and-teaching model in individual items of reading strategy instruction. As can be seen from Table 4.5, the means and standard deviations of the participants' perceptions regarding their teachers' teaching practices in reading strategy instruction range from the high usage level of Item 4: "My teachers taught me to underline or circle information in the text to help me remember it." (M = 4.36, S.D. = 0.93) to the moderate usage level of Item 7: "My teachers taught me to decide what to read closely and what to ignore when I read." (M = 3.20, S.D. = 1.15).

Among the 24 teachers' teaching practices in reading strategy instruction, 20 practices (83.33%) fell into the high level of usage, and 4 practices (16.67%) fell into the moderate usage level.

Table 4.6 and Table 4.7 present the five most and five least frequent used teachers' teaching practices in reading strategy instruction.

TABLE 4.6 The Five Most Frequent Teachers' Teaching Practices in Reading Strategy Instruction as Perceived by Thai Secondary School EFL Readers

No. of Item	Reading Strategy Instruction	M	S.D.	Level of Usage	Rank
4	My teachers taught me to underline or circle information in the text to help me remember it.	4.36	0.93	High	First
20	My teachers taught me to take an overall view of the text to see what it was about before reading it.	4.27	0.85	High	Second
11	When text became difficult, my teachers taught me to pay closer attention to what I read.	4.15	0.92	High	Third
2	My teachers taught me to take note while reading to help me understand what I read.	4.15	0.97	High	Fourth
18	My teachers asked me to translate from English into my native language when I read.	4.15	1.16	High	Fifth

From Table 4.6, it can be seen that the participants perceived their teachers used Item 4 "My teachers taught me to underline or circle information in the text to help me remember it" (M = 4.36, S.D. = 0.93), Item 20 "My teachers taught me to take an overall view of the text to see what it was about before reading it" (M = 4.27, S.D. = 0.85), Item 11 "When text became difficult, my teachers taught me to pay closer attention to what I read" (M = 4.15, S.D. = 0.92), Item 2 "My teachers taught me to take note while reading to help me understand what I read" (M = 4.15, S.D. = 0.97), and Item 18 "My teachers asked me to translate from English into my native language when I read" (M = 4.15, S.D. = 1.16) as the top five in descending order.

TABLE 4.7 The Five Least Frequent Teachers' Teaching Practices in Reading Strategy Instruction as Perceived by Thai Secondary School EFL Readers

No. of Item	Reading Strategy Instruction	M	S.D.	Level of Usage	Rank
7	My teachers taught me to decide what to read closely and what to ignore when I read.	3.20	1.15	Moderate	First
6	My teachers let me adjust my reading speed according to what I read.	3.24	1.15	Moderate	Second
23	My teachers taught me to use typographical features like bold face and italics to identify key information.	3.30	1.27	Moderate	Third
3	My teachers let me think about whether the content of the text fit my reading purpose.	3.42	1.01	Moderate	Fourth
15	My teachers let me use reference materials (e.g., a dictionary) to help me understand what I read.	3.51	1.23	High	Fifth

On the other hand, as seen in Table 4.7, the participants perceived their teachers used Item 7 "My teachers taught me to decide what to read closely and what to ignore when I read" (M = 3.20, S.D. = 1.15), Item 6 "My teachers let me adjust my reading speed according to what I read" (M = 3.24, S.D. = 1.15), Item 23 "My teachers taught me to use typographical features like bold face and italics to identify key information" (M = 3.30, S.D. = 1.27), Item 3 "My teachers let me think about whether the content of the text fit my reading purpose" (M = 3.42, S.D. = 1.01), and Item 15 "My teachers let me use reference materials (e.g., a dictionary) to help me understand what I read" (M = 3.51, S.D. = 1.23) as the least frequently used five in ascending order.

Table 4.8 presents the mean scores and standard deviations of the participants' perceptions regarding the use of the quantum learning-and-teaching model in classroom activities.

TABLE 4.8 Participants' Perceptions Regarding Their Teachers' Use of the Quantum Learning-and-Teaching Model in Classroom Activities

No. of Item	Classroom Activities	M	S.D.	Level of Usage
25	My teachers paid attention to everything in the classroom.	4.37	0.85	High
26	My teachers knew my attempts.	3.72	0.96	High
27	My teachers appreciated my success.	3.72	1.14	High
28	My teachers treated my friends and me fairly.	4.15	1.18	High
29	My teachers had a good relationship with me.	4.07	1.05	High
30	My teachers made reading lessons fun.	4.18	1.04	High
31	My teachers asked and supported me to try something new.	3.84	0.99	High
32	My teachers let me work with other students in pairs or in groups.	4.26	0.86	High
33	My teachers encouraged me to take part in classroom activities.	4.14	0.88	High
34	My teachers acted as a facilitator.	4.15	0.86	High
35	My teachers told me the lesson objectives.	4.12	0.91	High
36	My teachers cared about what I was doing.	3.84	1.04	High
37	My teachers explained what she/ he expected of me.	3.34	1.09	Moderate

No. of Item	Classroom Activities	M	S.D.	Level of Usage
38	My teachers told me that learning responsibility belonged to me and involved me in making decisions about classwork.	3.68	1.07	High
39	My teachers used pictures, posters, realia, and props when teaching.	3.96	1.11	High
40	My teachers accepted me the way I was.	3.94	1.07	High
41	My teachers offered a variety of class activities such as watching videos, interpreting passages, group games, listening to music, role-playing, and mind mapping.	4.50	0.83	High
42	My teachers broke the reading text into small parts.	4.29	0.89	High
43	My teachers reviewed the learnt content frequently.	4.29	0.79	High
44	My teachers used graphic organizers and mind maps to make lessons easier to understand.	3.79	1.01	High
45	My teachers' explanation helped me to create images in my mind.	3.93	0.95	High
46	My teachers' direction was easy to follow.	3.78	1.12	High
47	My teachers' eye contact, facial expression, voice, gesture, and posture helped me to understand his/ her explanation.	3.98	1.15	High
48	My teachers paid attention to my problems, encouraged me to solve problems, and told me solutions.	3.80	1.05	High

No. of Item	Classroom Activities	M	S.D.	Level of Usage
49	My teachers told me what I would do later.	4.25	0.95	High
	Total	**4.00**	**0.99**	**High**

As can be seen from Table 4.8, the overall mean score and standard deviation of participants' perceptions regarding the use of the quantum learning-and-teaching model in classroom activities is at the high usage level (M = 4.00, S.D. = 0.99). Table 4.6 also shows the participants' perceptions of their teachers' use of the quantum learning-and-teaching model in individual items of classroom activities. As can be seen, the mean scores and standard deviations of the participants' perceptions regarding their teachers' individual items of classroom activities range from the high usage level of Item 41: "My teachers offered a variety of class activities such as watching videos, interpreting passages, group games, listening to music, role-playing, and mind mapping" (M = 4.50, S.D. = 0.83) to the moderate usage level of Item 37: "My teachers explained what she/he expected of me" (M = 3.34, S.D. = 1.09).

Among the 25 teachers' classroom activities, 24 activities (96%) fell into the high level of usage, and 1 activity (4%) fell into the moderate usage level. All Items of classroom activities are at the high level of usage except Item 37 which is at the moderate level.

Table 4.9 and Table 4.10 show the five most and five least frequently used classroom activities.

TABLE 4.9 The Five Most Frequent Teachers' Classroom Activities as Perceived by Thai Secondary School EFL Readers

No. of Item	Classroom Activities	M	S.D.	Level of Usage	Rank
41	My teachers offered a variety of class activities such as watching videos,	4.50	0.83	High	First

No. of Item	Classroom Activities	M	S.D.	Level of Usage	Rank
	interpreting passages, group games, listening to music, role-playing, and mind mapping.				
25	My teachers paid attention to everything in the classroom.	4.37	0.85	High	Second
43	My teachers reviewed the learnt content frequently.	4.29	0.79	High	Third
42	My teachers broke the reading text into small parts.	4.29	0.89	High	Fourth
49	My teachers told me what I would do later.	4.25	0.95	High	Fifth

From Table 4.9, in descending order the participants perceived their teachers used Item 41 "My teachers offered a variety of class activities such as watching videos, interpreting passages, group games, listening to music, role-playing, and mind mapping" (M = 4.50, S.D. = 0.83), Item 25 "My teachers paid attention on everything in the classroom" (M = 4.37, S.D. = 0.85), Item 43 "My teachers reviewed the learnt content frequently" (M = 4.29, S.D. = 0.79), Item 42 "My teachers broke the reading text into small parts" (M = 4.29, S.D. = 0.89), and Item 49 "My teachers told me what I would do later" (M = 4.25, S.D. = 0.95) as the top five.

TABLE 4.10 The Five Least Frequent Teachers' Classroom Activities as Perceived by Thai Secondary School EFL Readers

No. of Item	Classroom Activities	Mean (M)	S.D.	Level of Usage	Rank
37	My teachers explained what she/he expected of me.	3.34	1.09	Moderate	First

No. of Item	Classroom Activities	Mean (M)	S.D.	Level of Usage	Rank
38	My teachers told me that learning responsibility belonged to me and involved me in making decisions about classwork.	3.68	1.07	High	Second
26	My teachers knew my attempts.	3.72	0.96	High	Third
27	My teachers appreciated my success.	3.72	1.14	High	Fourth
46	My teachers' direction was easy to follow.	3.78	1.12	High	Fifth

On the contrary, as seen from Table 4.10, the participants perceived their teachers used Item 37 "My teachers explained what she/he expected of me" (M = 3.34, S.D. = 1.09), Item 38 "My teachers told me that learning responsibility belonged to me and involved me in making decision about classwork" (M = 3.68, S.D. = 1.07), Item 26 "My teachers knew my attempts" (M = 3.72, S.D. = 0.96), Item 27 "My teacher appreciated my success" (M = 3.72, S.D. = 1.14), and Item 46 "My teachers' direction was easy to follow" (M = 3.78, S.D. = 1.12) as the least frequently employed five in ascending order.

4.3 PARTICIPANTS' PERCEPTIONS REGARDING THE USEFULNESS OF THE QUANTUM LEARNING-AND-TEACHING MODEL IN READING INSTRUCTION

Tables 4.11 - 4.17 show the results obtained for the second research question: What are the perceptions of Thai secondary school EFL readers regarding the usefulness of the quantum learning-and-teaching model in reading instruction?

TABLE 4.11 Overall Mean and Standard Deviation of Participants' Perceptions Regarding the Usefulness of the Quantum Learning-and-Teaching Model in Reading Instruction

Category	M	S.D.	Level of Usefulness
All items	4.10	0.15	High

Table 4.11 shows the overall mean score and standard deviation of the participants' perceptions regarding the usefulness of the quantum learning-and-teaching model. As presented in Table 4.11, the participants reported their perceptions regarding the usefulness of the quantum learning-and-teaching model in reading instruction are at the high level of usefulness (M = 4.10, S.D. = 0.15).

As the questionnaire consisted of two dimensions - the usefulness of the quantum learning-and-teaching model in reading strategy instruction and in classroom activities - Tables 4.12 - Table 4.15 show the data obtained from the participants' perceptions toward these two dimensions.

TABLE 4.12 Participants' Perceptions Regarding the Usefulness of the Quantum Learning-and-Teaching Model in Reading Strategy Instruction

No. of Item	Reading Strategy Instruction	M	S.D.	Level of Usefulness
1	My teachers informed me of the reading purpose.	4.17	0.77	High
2	My teachers taught me to take notes while reading to help me understand what I read.	4.22	0.88	High
3	My teachers let me think about whether the content of the text fit my reading purpose.	3.89	0.82	High
4	My teachers taught me to underline or circle information in the text to help me remember it.	4.43	0.82	High

No. of Item	Reading Strategy Instruction	M	S.D.	Level of Usefulness
5	My teachers taught me to try to picture or visualize information to help remember what I read.	4.00	0.97	High
6	My teachers let me adjust my reading speed according to what I read.	3.78	0.96	High
7	My teachers taught me to decide what to read closely and what to ignore when I read.	3.88	1.00	High
8	My teachers let me try to guess what the content of the text was about when I read.	3.94	0.90	High
9	My teachers taught me to ask myself questions I liked to have answered in the text.	3.84	0.95	High
10	My teachers asked me to guess the meaning of unknown words or phrases when I read.	4.01	0.92	High
11	When text became difficult, my teachers taught me to pay closer attention to what I read.	4.10	0.98	High
12	My teachers let me read slowly and carefully to make sure I understood what I read.	4.09	0.87	High
13	My teachers told me to try to get back on track when I lost concentration.	4.08	0.93	High
14	My teachers taught me to use context clues to help me better understand what I read.	3.96	0.92	High

No. of Item	Reading Strategy Instruction	M	S.D.	Level of Usefulness
15	My teachers let me use reference materials (e.g., a dictionary) to help me understand what I read.	3.99	0.95	High
16	My teachers taught me to use tables, figures, and pictures in the text to increase my understanding.	4.13	0.90	High
17	My teachers asked me to check my understanding when I came across new information.	4.05	0.82	High
18	My teachers asked me to translate from English into my native language when I read.	4.25	0.83	High
19	My teachers let me think about what I knew to help me understand what I read.	4.06	0.87	High
20	My teachers taught me to take an overall view of the text to see what it was about before reading it.	4.14	0.82	High
21	My teachers let me review the text first by noting its characteristics like length and organization.	4.12	0.82	High
22	My teachers taught me to paraphrase to better understand what I read.	4.25	0.80	High
23	My teachers taught me to use typographical features like bold face and italics to identify key information.	3.92	0.99	High
No. of Item	**Reading Strategy Instruction**	**M**	**S.D.**	**Level of Usefulness**

24	My teachers taught me to critically analyze and evaluate the information presented in the text.	4.03	0.86	High
	Total	**4.06**	**0.89**	**High**

From Table 4.12, it can be seen that the overall mean score and standard deviation of participants' perceptions regarding the usefulness of the quantum learning-and-teaching model in reading strategy instruction is at the high usefulness level (M = 4.06, S.D. = 0.89). The table also shows the participants' perceptions of the usefulness of the quantum learning-and-teaching model in individual items of reading strategy instruction. As seen from the table, all of the means and standard deviations of the participants' perceptions regarding the usefulness of teachers' teaching practices in reading strategy instruction are at the high usefulness level.

The five most and five least useful teachers' teaching practices in reading strategy instruction are presented in Table 4.13 and Table 4.14.

TABLE 4.13 The Five Most Useful Teachers' Teaching Practices in Reading Strategy Instruction as Perceived by Thai Secondary School EFL Readers

No. of Item	**Reading Strategy Instruction**	**M**	**S.D.**	**Level of Usage**	**Rank**
4	My teachers taught me to underline or circle information in the text to help me remember it.	4.43	0.82	High	First
22	My teachers taught me to paraphrase to better understand what I read.	4.25	0.80	High	Second
No. of Item	**Reading Strategy Instruction**	**M**	**S.D.**	**Level of Usage**	**Rank**

18	My teachers asked me to translate from English into my native language when I read.	4.25	0.83	High	Third
2	My teachers taught me to take notes while reading to help me understand what I read.	4.22	0.88	High	Fourth
1	My teachers inform me of the reading purpose.	4.17	0.77	High	Fifth

From Table 4.13, in descending order the participants perceived Item 4 " My teachers taught me to underline or circle information in the text to help me remember it" (M = 4.43, S.D. = 0.82), Item 22 "My teachers taught me to paraphrase to better understand what I read" (M = 4.25, S.D. = 0.80), Item 18 "My teachers asked me to translate from English into my native language when I read" (M = 4.25, S.D. = 0.83), Item 2 "My teachers taught me to take note while reading to help me understand what I read" (M = 4.22, S.D. = 0.88), and Item 1 "My teachers informed me the reading purpose" (M = 4.17, S.D. = 0.77) as the top five most useful teachers' teaching practices in reading strategy instruction

TABLE 4.14 The Five Least Useful Teachers' Teaching Practices in Reading Strategy Instruction as Perceived by Thai Secondary School EFL Readers

No. of Item	**Reading Strategy Instruction**	**M**	**S.D.**	**Level of Usefulness**	**Rank**
6	My teachers let me adjust my reading speed according to what I read.	3.78	0.96	High	First
No. of Item	**Reading Strategy Instruction**	**M**	**S.D.**	**Level of Usefulness**	**Rank**

9	My teachers taught me to ask myself questions I like to have answered in the text.	3.84	0.95	High	Second
7	My teachers taught me to decide what to read closely and what to ignore when I read.	3.88	1.00	High	Third
3	My teachers let me think about whether the content of the text fit my reading purpose.	3.89	0.82	High	Fourth
23	My teachers taught me to use typographical features like bold face and italics to identify key information.	3.92	0.99	High	Fifth

However, as seen in Table 4.14, the participants perceived the five least useful teachers' teaching practices as Item 6 "My teachers let me adjust my reading speed according to what I read." (M = 3.78, S.D. = 0.96), Item 9 "My teachers taught me to ask myself questions I like to have answered in the text" (M = 3.84, S.D. = 0.95), Item 7 "My teachers taught me to decide what to read closely and what to ignore when I read" (M = 3.88, S.D. = 1.00), Item 3 "My teachers let me think about whether the content of the text fit my reading purpose" (M = 3.89, S.D. = 0.82), and Item 23 "My teachers taught me to use typographical features like bold face and italics to identify key information" (M = 3.92, S.D. = 0.99) in ascending order.

Table 4. 15 shows the mean scores and standard deviations of the participants' perceptions regarding the usefulness of the quantum learning- and-teaching model in classroom activities.

TABLE 4. 15 Participants' Perceptions Regarding the Usefulness of the Quantum Learning-and-Teaching Model in Classroom Activities

No. of Item	Classroom Activities	M	S.D.	Level of Usefulness
25	My teachers paid attention to everything in the classroom.	4.31	0.84	High
26	My teachers knew my attempts.	3.92	0.94	High
27	My teachers appreciated my success.	3.98	0.94	High
28	My teachers treated my friends and me fairly.	4.25	0.91	High
29	My teachers had a good relationship with me.	4.09	0.95	High
30	My teachers made reading lessons fun.	4.23	0.95	High
31	My teachers asked and supported me to try something new.	4.18	0.87	High
32	My teachers let me work with other students in pairs or in groups.	4.30	0.80	High
33	My teachers encouraged me to take part in classroom activities.	4.17	0.83	High
34	My teachers acted as a facilitator.	4.20	0.88	High
35	My teachers told me the lesson objectives.	4.11	0.92	High
36	My teachers cared about what I was doing.	4.00	0.96	High
37	My teachers explained what she/ he expected of me.	3.79	1.00	High
38	My teachers told me that learning responsibility belonged to me and involved me in making decisions about classwork.	4.04	0.86	High

No. of Item	Classroom Activities	M	S.D.	Level of Usefulness
39	My teachers used pictures, posters, realia, and props when teaching.	4.14	0.89	High
40	My teachers accepted me the way I was.	4.10	0.91	High
41	My teachers offered a variety of class activities such as watching videos, interpreting passages, group games, listening to music, role- playing, and mind mapping.	4.39	0.84	High
42	My teachers broke the reading text into small parts.	4.24	0.88	High
43	My teachers reviewed the learnt content frequently.	4.35	0.84	High
44	My teachers used graphic organizers and mind maps to make lessons easier to understand.	4.18	0.88	High
45	My teachers' explanation helped me to create images in my mind.	4.13	0.86	High
46	My teachers' direction was easy to follow.	4.09	0.89	High
47	My teachers' eye contact, facial expression, voice, gesture, and posture helped me to understand his/ her explanation.	4.06	1.03	High
48	My teachers paid attention to my problems, encouraged me to solve problems, and told me solutions.	4.07	0.92	High

No. of Item	Classroom Activities	M	S.D.	Level of Usefulness
49	My teachers told me what I would do later.	4.16	0.93	High
	Total	**4.14**	**0.90**	**High**

As can be seen from Table 4.15, the overall mean score and standard deviation of participants' perceptions regarding the use of the quantum learning-and-teaching model in classroom activities is at the high level of usefulness (M = 4.14, S.D. = 0.90). Table 4.15 also shows the participants' perceptions regarding the usefulness of the quantum learning-and-teaching model in individual items of classroom activities. As can be seen from the table, the means and standard deviations of the participants' perceptions regarding the usefulness of all individual items in classroom activities are at the high usefulness level.

Table 4.16 and Table 4.17 present the five most and five least useful teachers' practices in classroom activities.

TABLE 4.16 The Five Most Useful Teachers' Teaching Practices in Classroom Activities as Perceived by Thai Secondary School EFL Readers

No. of Item	Classroom Activities	M	S.D.	Level of Usage	Rank
41	My teachers offered a variety of class activities such as watching videos, interpreting passages, group games, listening to music, role-playing, and mind mapping.	4.39	0.84	High	First
43	My teachers reviewed the learnt content frequently.	4.35	0.84	High	Second

No. of Item	Classroom Activities	M	S.D.	Level of Usage	Rank
25	My teachers paid attention to everything in the classroom.	4.31	0.84	High	Third
32	My teachers let me work with other students in pairs or in groups.	4.30	0.80	High	Fourth
28	My teachers treated my friends and me fairly.	4.25	0.91	High	Fifth

From Table 4.16, in descending order the participants perceived Item 41 "My teachers offered a variety of class activities such as watching videos, interpreting passages, group games, listening to music, role-playing, and mind mapping" (M = 4.39, S.D. = 0.84), Item 43 "My teachers reviewed the learnt content frequently" (M = 4.35, S.D. = 0.84), Item 25 "My teachers paid attention on everything in the classroom" (M = 4.31, S.D. = 0.84), Item 32 "My teachers let me work with other students in pairs or in groups" (M = 4.30, S.D. = 0.80), and Item 28 "My teachers treated my friends and me fairly" (M = 4.25, S.D. = 0.91) as the top five most useful teachers' classroom activities.

TABLE 4.17 The Five Least Useful Teachers' Teaching Practices in Classroom Activities as Perceived by Thai Secondary School EFL Readers

No. of Item	Classroom Activities	M	S.D.	Level of Usage	Rank
37	My teachers explained what she/he expects of me.	3.79	1.00	High	First
26	My teachers knew my attempts.	3.92	0.94	High	Second
27	My teachers appreciated my success.	3.98	0.94	High	Third
36	My teachers cared about what I was doing.	4.00	0.96	High	Fourth

No. of Item	Classroom Activities	M	S.D.	Level of Usage	Rank
38	My teachers told me that learning responsibility belonged to me and involved me in making decisions about classwork.	4.04	0.86	High	Fifth

Conversely, as presented in Table 4.17, the participants perceived the five least useful teachers' classroom activities as the following: Item 37 "My teachers explained what she/he expects of me" (M = 3.79, S.D. = 1.00), Item 26 "My teachers knew my attempts" (M = 3.92, S.D. = 0.94), Item 27 "My teachers appreciated my success" (M = 3.98, S.D. = 0.94), Item 36 "My teachers cared about what I was doing" (M = 4.00, S.D. = 0.96), and Item 38 "My teachers told me that learning responsibility belonged to me and involved me in making decision about classwork" (M = 4.04, S.D. = 0.86) in ascending order.

4.4 A COMPARISON BETWEEN MORE AND LESS PROFICIENT EFL READERS' PERCEPTIONS REGARDING THE USEFULNESS OF THE QUANTUM LEARNING- AND- TEACHING MODEL IN READING INSTRUCTION

Tables 4.18 - 4.27 demonstrate the results obtained for the second research question: *Are there any differences between more and less proficient Thai secondary school EFL readers regarding the usefulness of the quantum learning-and-teaching model in reading instruction?*

Table 4.18 shows the overall mean scores and standard deviations of the perceptions of more and less proficient Thai secondary school EFL readers' regarding the usefulness of the quantum learning-and-teaching model in reading instruction.

TABLE 4.18 Overall Means and Standard Deviations of the Perceptions of More and Less Proficient Readers Regarding the Usefulness of the Quantum Learning-and-Teaching Model in Reading Instruction

Category	More (n=138)			Less (n=118)		
	M	**S.D.**	**Level**	**M**	**S.D.**	**Level**
Overall reading strategy instruction	4.07	0.91	High	4.04	0.86	High
Overall classroom activities	4.21	0.88	High	4.06	0.92	High
Overall reading instruction	4.14	0.89	High	4.05	0.89	High

As can be seen in Table 4.18, the overall mean scores and standard deviations of both more (M = 4.14, S.D. = 0.89) and less (M = 4.05, S.D. = 0.89) proficient EFL readers' perceptions regarding the usefulness of the quantum learning-and-teaching model in reading instruction are at the high usefulness level. Table 4.18 also presents the overall mean scores and standard deviations of both more (M = 4.07, S.D. = 0.91) and less (M = 4.04, S.D. = 0.86) proficient EFL readers' perceptions of the usefulness of the quantum learning-and-teaching model in reading strategy instruction are at the high usefulness level. From Table 4.18, moreover, the overall means and standard deviations of both more (M = 4.21, S.D. = 0.88) and less (M = 4.06, S.D. = 0.92) proficient EFL readers' perceptions of the usefulness of the quantum learning-and-teaching model in classroom activities are at the high usefulness level.

Table 4.19 presents the data obtained from the analysis to see the differences in the perceptions of more and less proficient readers' regarding the usefulness of the quantum learning-and-teaching model in reading instruction.

TABLE 4.19 Differences in the Perceptions of More and Less Proficient Readers Regarding the Usefulness of the Quantum Learning-and-Teaching Model in Reading Instruction

Category	t	p-value
Overall reading strategy instruction	0.489	0.438

Category	t	p-value
Overall classroom activities	1.679	0.186
Overall reading instruction	1.084	0.312

The results presented in Table 4. 19 reveal no statistically significant difference for the overall mean scores and standard deviations of the usefulness in reading instruction between higher and lower reading proficiency groups (t = 1.084, p = 0.312). Additionally, the table also reveals no statistically significant difference for the overall mean scores and standard deviations of usefulness in reading strategy instruction (t = 0.489, p = 0.438) and classroom activities (t = 1.679, p = 0.186).

Table 4. 20 presents the mean scores and standard deviations of the perceptions of more and less proficient Thai secondary school EFL readers' regarding the usefulness of the quantum learning- and- teaching model in reading strategy instruction.

TABLE 4. 20 Means and Standard Deviations of the Perceptions of More and Less Proficient Readers Regarding the Usefulness of the Quantum Learning- and- Teaching Model in Reading Strategy Instruction

No. of Item	Reading Strategy Instruction	More (n=138)			Less (n=118)		
		M	S.D.	Level	M	S.D.	Level
1	My teachers informed me of the reading purpose.	4.20	0.82	High	4.14	0.72	High
2	My teachers taught me to take notes while reading to help me understand what I read.	4.17	0.96	High	4.29	0.78	High
3	My teachers let me think about whether the content of the text fit my reading purpose.	3.98	0.82	High	3.80	0.81	High

No. of Item	Reading Strategy Instruction	More (n=138)			Less (n=118)		
		M	S.D.	Level	M	S.D.	Level
4	My teachers taught me to underline or circle information in the text to help me remember it.	4.43	0.80	High	4.42	0.84	High
5	My teachers taught me to try to picture or visualize information to help remember what I read.	4.12	0.99	High	3.85	0.93	High
6	My teachers let me adjust my reading speed according to what I read.	3.80	1.01	High	3.75	0.90	High
7	My teachers taught me to decide what to read closely and what to ignore when I read.	3.86	1.01	High	3.90	0.99	High
8	My teachers let me try to guess what the content of the text was about when I read.	3.92	0.91	High	3.97	0.91	High
9	My teachers taught me to ask myself questions I liked to have answered in the text.	3.83	1.02	High	3.84	0.88	High
10	My teachers asked me to guess the meaning of unknown words or phrases when I read.	4.02	0.96	High	3.99	0.86	High
11	When text became difficult, my teachers taught me to pay closer attention to what I read.	4.04	1.05	High	4.17	0.89	High

No. of Item	Reading Strategy Instruction	More (n=138)			Less (n=118)		
		M	S.D.	Level	M	S.D.	Level
12	My teachers let me read slowly and carefully to make sure I understood what I read.	4.11	0.91	High	4.08	0.82	High
13	My teachers told me to try to get back on track when I lost concentration.	4.04	0.99	High	4.13	0.85	High
14	My teachers taught me to use context clues to help me better understand what I read.	4.06	0.93	High	3.85	0.89	High
15	My teachers let me use reference materials (e.g., a dictionary) to help me understand what I read.	4.04	0.97	High	3.92	0.92	High
16	My teachers taught me to use tables, figures, and pictures in the text to increase my understanding.	4.17	0.87	High	4.08	0.94	High
17	My teachers asked me to check my understanding when I came across new information.	4.10	0.78	High	4.00	0.88	High
18	My teachers asked me to translate from English into my native language when I read.	4.29	0.81	High	4.21	0.85	High
19	My teachers let me think about what I knew to help me understand what I read.	4.08	0.88	High	4.04	0.86	High

No. of Item	Reading Strategy Instruction	More (n=138)			Less (n=118)		
		M	**S.D.**	**Level**	**M**	**S.D.**	**Level**
20	My teachers taught me to take an overall view of the text to see what it was about before reading it.	4.20	0.80	High	4.07	0.85	High
21	My teachers let me review the text first by noting its characteristics like length and organization.	4.04	0.86	High	4.22	0.76	High
22	My teachers taught me to paraphrase to better understand what I read.	4.30	0.81	High	4.20	0.79	High
23	My teachers taught me to use typographical features like bold face and italics to identify key information.	3.78	1.03	High	4.08	0.93	High
24	My teachers taught me to critically analyze and evaluate the information presented in the text.	4.04	0.85	High	4.03	0.87	High
	Overall reading strategy instruction	**4.07**	**0.91**	**High**	**4.04**	**0.86**	**High**

As can be seen in Table 4.20, the overall mean scores and standard deviations of both more ($M = 4.07$, $S.D. = 0.91$) and less ($M = 4.04$, $S.D. = 0.86$) proficient EFL readers' perceptions regarding the usefulness of the quantum learning-and-teaching model in reading strategy instruction are at the high usefulness level. Table 4.20 also presents more and less proficient EFL readers' perceptions of the usefulness of the quantum learning-and-teaching model in individual items of reading strategy instruction. The means and standard deviations of both more and less proficient

EFL readers' perceptions regarding the usefulness of all individual items in reading strategy instruction are at the high usefulness level.

Table 4.21 presents the data obtained from the analysis of the paired sample t-test to see the differences in the perceptions of more and less proficient readers' regarding the usefulness of the quantum learning-and-teaching model in reading strategy instruction.

TABLE 4.21 Differences in the Perceptions of More and Less Proficient Readers Regarding the Usefulness of the Quantum Learning-and-Teaching Model in Reading Strategy Instruction

No. of Item	**Reading Strategy Instruction**	**t**	**p-value**
1	My teachers informed me of the reading purpose.	0.961	0.339
2	My teachers taught me to take notes while reading to help me understand what I read.	-0.240	0.811
3	My teachers let me think about whether the content of the text fit my reading purpose.	1.883	0.062
4	My teachers taught me to underline or circle information in the text to help me remember it.	0.390	0.697
5	My teachers taught me to try to picture or visualize information to help remember what I read.	2.567	0.012*
6	My teachers let me adjust my reading speed according to what I read.	0.000	1.000
7	My teachers taught me to decide what to read closely and what to ignore when I read.	-0.069	0.945
8	My teachers let me try to guess what the content of the text was about when I read.	-0.069	0.945
9	My teachers taught me to ask myself questions I liked to have answered in the text.	-0.200	0.842

No. of Item	Reading Strategy Instruction	t	p-value
10	My teachers asked me to guess the meaning of unknown words or phrases when I read.	0.670	0.504
11	When text became difficult, my teachers taught me to pay closer attention to what I read.	-0.701	0.485
12	My teachers let me read slowly and carefully to make sure I understood what I read.	0.785	0.434
13	My teachers told me to try to get back on track when I lost concentration.	-0.528	0.599
14	My teachers taught me to use context clues to help me better understand what I read.	1.573	0.118
15	My teachers let me use reference materials (e.g., a dictionary) to help me understand what I read.	1.227	0.222
16	My teachers taught me to use tables, figures, and pictures in the text to increase my understanding.	1.058	0.292
17	My teachers asked me to check my understanding when I came across new information.	1.555	0.123
18	My teachers asked me to translate from English into my native language when I read.	1.045	0.298
19	My teachers let me think about what I knew to help me understand what I read.	0.744	0.458
20	My teachers taught me to take an overall view of the text to see what it was about before reading it.	1.508	0.134
21	My teachers let me review the text first by noting its characteristics like length and organization.	-1.637	0.104
22	My teachers taught me to paraphrase to better understand what I read.	1.053	0.295

No. of Item	Reading Strategy Instruction	t	p-value
23	My teachers taught me to use typographical features like bold face and italics to identify key information.	-2.151	0.034*
24	My teachers taught me to critically analyze and evaluate the information presented in the text.	0.311	0.756
	Overall reading strategy instruction	0.489	0.438

* p< 0.05
**p< 0.01

As can be seen from the table, significant differences between the perceptions of more and less proficient readers regarding the usefulness of the quantum learning-and-teaching model were found in two reading strategy instructions: Item 5 "My teachers taught me to try to picture or visualize information to help remember what I read." perceived more useful at the higher level of usefulness by more proficient readers than less proficient readers ($t = 2.567$, $p<0.05$). However, Item 23 was perceived by less proficient readers at higher level of usefulness ($t = -2.151$, $p<0.05$).

From Table 4.21, the table illustrates that there is no significant difference between the perceptions of more and less proficient readers regarding the usefulness of the quantum learning-and-teaching model in reading strategy instruction. The *t* is 0.489 and the p-value is 0.438 when the t-test was applied.

Table 4.22 and Table 4.23 present data regarding the five most useful teachers' teaching practices and the five least useful teachers' teaching practices as perceived by more and less proficient readers in reading strategy instruction.

TABLE 4.22 The Five Most Useful Teachers' Teaching Practices in Reading Strategy Instruction as Perceived by More and Less Proficient Readers

More (n=138)		Less (n=118)		Rank
No. of Item	**Reading Strategy Instruction**	**No. of Item**	**Reading Strategy Instruction**	
4	My teachers taught me to underline or circle information in the text to help me remember it. (M = 4.43, S.D. = 0.80)	4	My teachers taught me to underline or circle information in the text to help me remember it. (M = 4.42, S.D. = 0.84)	First
22	My teachers taught me to paraphrase to better understand what I read. (M = 4.30, S.D. = 0.80)	2	My teachers taught me to take notes while reading to help me understand what I read. (M = 4.29, S.D. = 0.78)	Second
18	My teachers asked me to translate from English into my native language when I read. (M = 4.29, S.D. = 0.81)	21	My teachers let me review the text first by noting its characteristics like length and organization. (M = 4.22, S.D. = 0.76)	Third
20	My teachers taught me to take an overall view of the text to see what it was about before reading it. (M = 4.20, S.D. = 0.80)	18	My teachers asked me to translate from English into my native language when I read. (M = 4.21, S.D. = 0.85)	Fourth
1	My teachers informed me of the reading purpose. (M = 4.20, S.D. = 0.82)	22	My teachers taught me to paraphrase to better understand what I read. (M = 4.20, S.D. = 0.79)	Fifth

From Table 4.22, it can be seen that there are three teaching practices in reading strategy instruction (Items 4, 18 and 22) that were perceived by both more and less proficient readers as the top five. As seen in the table, both groups perceived Item 4 "My teachers taught me to underline or circle information in the text to help me remember it" as the most useful teaching practice in reading strategy instruction (M = 4.43, S.D. = 0.80 and M = 4.42, S.D. = 0.84). More proficient readers perceived Item 22 "My teachers taught me to paraphrase to better understand what I read" (M = 4.20, S.D. = 0.79) and Item 18 "My teachers asked me to translate from English into my native language when I read" (M = 4.21, S.D. = 0.85) in the second and the third rank while less proficient readers perceived Item 18 (M = 4.21, S.D. = 0.85) as the fourth rank (M = 4.21, S.D. = 0.85) but Item 22 as the fifth rank (M = 4.20, S.D. = 0.79). As presented in the table, while more proficient readers perceived Item 20 "My teachers taught me to take an overall view of the text to see what it was about before reading it" (M = 4.20, S.D. = 0.80) and Item 1 "My teachers informed me the reading purpose" (M = 4.20, S.D. = 0.82) as the fourth and fifth ranks, less proficient readers perceived Item 2 "My teachers taught me to take note while reading to help me understand what I read" (M = 4.29, S.D. = 0.78) and Item 21 "My teachers let me review the text first by noting its characteristics like length and organization" (M = 4.22, S.D. = 0.76) as the second and third ranking.

TABLE 4.23 The Five Least Useful Teachers' Teaching Practices in Teaching Strategy Instruction as Perceived by More and Less Proficient Readers

More (n=138)		**Less (n=118)**		
No. of Item	**Reading Strategy Instruction**	**No. of Item**	**Reading Strategy Instruction**	**Rank**
23	My teachers taught me to use typographical features	6	My teachers let me adjust my reading speed	First

More (n=138)		Less (n=118)		Rank
No. of Item	**Reading Strategy Instruction**	**No. of Item**	**Reading Strategy Instruction**	
	like bold face and italics to identify key information. (M = 3.78, S.D. = 1.03)		according to what I read. (M = 3.75, S.D. = 0.90)	
6	My teachers let me adjust my reading speed according to what I read. (M = 3.80, S.D. = 1.01)	3	My teachers let me think about whether the content of the text fit my reading purpose. (M = 3.80, S.D. = 0.81)	Second
9	My teachers taught me to ask myself questions I liked to have answered in the text. (M = 3.83, S.D. = 1.02)	9	My teachers taught me to ask myself questions I liked to have answered in the text. (M = 3.84, S.D. = 0.88)	Third
7	My teachers taught me to decide what to read closely and what to ignore when I read. (M = 3.86, S.D. = 1.01)	14	My teachers taught me to use context clues to help me better understand what I read. (M = 3.85, S.D. = 0.89)	Fourth
8	My teachers let me try to guess what the content of the text was about when I read. (M = 3.92, S.D. = 0.91)	5	My teachers taught me to try to picture or visualize information to help remember what I read. (M = 3.85, S.D. = 0.93)	Fifth

From Table 4.23, it can be seen that there are two teaching practices of reading strategy instruction (Items 6 and 9) that were perceived by both more and less proficient readers as the bottom five. From the table, both more and less proficient

groups perceived Item 9 "My teachers taught me to ask myself questions I liked to have answered in the text" (M = 3.83, S.D. = 1.02 and M = 3.84, S.D. = 0.88) as the third rank. As seen in the table, while less proficient readers perceived Item 6 "My teachers let me adjust my reading speed according to what I read." as the least useful teaching practice in reading strategy instruction (M = 3.75, S.D. = 0.90), less proficient readers perceived Item 6 as the second rank (M = 3.80, S.D. = 1.01). More proficient readers perceived Item 23 "My teachers taught me to use typographical features like bold face and italics to identify key information" (M = 3.78, S.D. = 1.03) as the least useful teaching practice while less proficient readers perceived Item 3 "My teachers let me think about whether the content of the text fit my reading purpose" (M = 3.80, S.D. = 0.81) as the second rank. More proficient readers perceived Item 7 "My teachers taught me to decide what to read closely and what to ignore when I read" (M = 3.86, S.D. = 1.01) and Item 8 "My teachers let me try to guess what the content of the text was about when I read" (M = 3.92, S.D. = 0.91) in the fourth and the fifth rank but less proficient readers perceived Item 14 "My teachers taught me to use context clues to help me better understand what I read" (M = 3.85, S.D. = 0.89) and Item 5 "My teachers taught me to try to picture or visualize information to help remember what I read" (M = 3.85, S.D. = 0.93) in the fourth and the fifth ranks.

Table 4.24 presents the means and standard deviations of the perceptions of more and less proficient Thai secondary school EFL readers' regarding the usefulness of the quantum learning-and-teaching model in classroom activities.

TABLE 4.24 Means and Standard Deviations of the Perceptions of More and Less Proficient Readers Regarding the Usefulness of the Quantum Learning-and-Teaching Model in Classroom Activities

No. of Item	Classroom Activities	More (n=138)			Less (n=118)		
		M	S.D.	Level	M	S.D.	Level
25	My teachers paid attention to everything in the classroom.	4.33	0.83	High	4.28	0.85	High
	Classroom Activities	**More**			**Less**		

No. of Item		(n=138)			(n=118)		
		M	**S.D.**	**Level**	**M**	**S.D.**	**Level**
26	My teachers knew my attempts.	4.05	0.95	High	3.76	0.90	High
27	My teachers appreciated my success.	4.04	0.94	High	3.92	0.94	High
28	My teachers treated my friends and me fairly.	4.34	0.89	High	4.14	0.91	High
29	My teachers had a good relationship with me.	4.20	0.99	High	3.97	0.90	High
30	My teachers made reading lessons fun.	4.30	0.95	High	4.15	0.94	High
31	My teachers asked and supported me to try something new.	4.23	0.88	High	4.12	0.86	High
32	My teachers let me work with other students in pairs or in groups.	4.36	0.72	High	4.23	0.88	High
33	My teachers encouraged me to take part in classroom activities.	4.18	0.79	High	4.16	0.87	High
34	My teachers acted as a facilitator.	4.30	0.82	High	4.08	0.94	High
35	My teachers told me the lesson objectives.	4.21	0.88	High	3.99	0.95	High
36	My teachers cared about what I was doing.	4.09	0.94	High	3.88	0.99	High
37	My teachers explained what she/he expected of me.	3.82	0.98	High	3.75	1.03	High
	Classroom Activities	**More**			**Less**		

No. of Item		(n=138)			(n=118)		
		M	**S.D.**	**Level**	**M**	**S.D.**	**Level**
38	My teachers told me that learning responsibility belonged to me and involved me in making decisions about classwork.	4.04	0.83	High	4.04	0.91	High
39	My teachers used pictures, posters, realia, and props when teaching.	4.20	0.91	High	4.07	0.86	High
40	My teachers accepted me the way I was.	4.22	0.90	High	3.95	0.91	High
41	My teachers offered a variety of class activities such as watching videos, interpreting passages, group games, listening to music, role-playing, and mind mapping.	4.51	0.80	High	4.25	0.86	High
42	My teachers broke the reading text into small parts.	4.35	0.83	High	4.11	0.92	High
43	My teachers reviewed the learnt content frequently.	4.37	0.85	High	4.33	0.83	High
44	My teachers used graphic organizers and mind maps to make lessons easier to understand.	4.25	0.86	High	4.11	0.89	High
45	My teachers' explanation helped me to create images in my mind.	4.22	0.86	High	4.03	0.86	High
	Classroom Activities	**More**			**Less**		

No. of Item		(n=138)			(n=118)		
		M	**S.D.**	**Level**	**M**	**S.D.**	**Level**
46	My teachers' direction was easy to follow.	4.08	0.87	High	4.09	0.91	High
47	My teachers' eye contact, facial expression, voice, gesture, and posture helped me to understand his/her explanation.	4.17	1.00	High	3.93	1.04	High
48	My teachers paid attention to my problems, encouraged me to solve problems, and told me solutions.	4.13	0.87	High	4.01	0.97	High
49	My teachers told me what I would do later.	4.25	0.83	High	4.06	1.04	High
	Overall classroom activities	**4.21**	**0.88**	**High**	**4.06**	**0.92**	**High**

From Table 4.24, the overall mean scores and standard deviations of both more ($M = 4.21$, $S.D. = 0.99$) and less ($M = 4.06$, $S.D. = 0.92$) proficient readers' perceptions are at the high usefulness level. Table 4.22 also shows more and less proficient readers' perceptions of the usefulness of the quantum learning-and-teaching model in individual items of classroom activities. All of the means and standard deviations of both more and less proficient readers' perceptions regarding the usefulness of all individual items in classroom activities are at the high usefulness level.

Table 4.25 presents data obtained from the analysis of the paired sample t-test to see the differences at the 0.01 and 0.05 in the perceptions of more and less proficient Thai secondary school EFL readers regarding the usefulness of the quantum learning-and-teaching model in classroom activities.

TABLE 4.25 Differences in the Perceptions of More and Less Proficient Thai Secondary School EFL Readers Regarding the Usefulness of the Quantum Learning-and-Teaching Model in Classroom Activities

No. of Item	Classroom Activities	t	p-value
25	My teachers paid attention to everything in the classroom.	1.448	0.150
26	My teachers knew my attempts.	2.862	0.005**
27	My teachers appreciated my success.	1.471	0.144
28	My teachers treated my friends and me fairly.	2.536	0.013*
29	My teachers had a good relationship with me.	2.158	0.033*
30	My teachers made reading lessons fun.	1.614	0.109
31	My teachers asked and supported me to try something new.	1.661	0.099
32	My teachers let me work with other students in pairs or in groups.	1.581	0.117
33	My teachers encouraged me to take part in classroom activities.	0.627	0.532
34	My teachers acted as a facilitator.	2.608	0.010**
35	My teachers told me the lesson objectives.	2.079	0.040*
36	My teachers cared about what I was doing.	1.911	0.058
37	My teachers explained what she/he expected of me.	0.196	0.845
38	My teachers told me that learning responsibility belonged to me and involved me in making decisions about classwork.	0.209	0.835
39	My teachers used pictures, posters, realia, and props when teaching.	1.545	0.125
40	My teachers accepted me the way I was.	2.313	0.022*
41	My teachers offered a variety of class activities such as watching videos, interpreting passages, group	2.321	0.022*

No. of Item	Classroom Activities	t	p-value
	games, listening to music, role-playing, and mind mapping.		
42	My teachers broke the reading text into small parts.	2.390	0.018*
43	My teachers reviewed the learnt content frequently.	1.249	0.214
44	My teachers used graphic organizers and mind maps to make lessons easier to understand.	1.380	0.170
45	My teachers' explanation helped me to create images in my mind.	2.195	0.030*
46	My teachers' direction was easy to follow.	0.227	0.821
47	My teachers' eye contact, facial expression, voice, gesture, and posture helped me to understand his/her explanation.	1.964	0.052
48	My teachers paid attention to my problems, encouraged me to solve problems, and told me solutions.	1.477	0.142
49	My teachers told me what I would do later.	1.965	0.052
	Total	**1.679**	**0.186**

* p< 0.05
**p< 0.01

It can be seen that significant differences between the two groups are found in the nine classroom activities in which more proficient readers perceived at higher level of usefulness than less proficient readers: Item 26 " My teachers knew my attempts." (t = 2.862, p<0.01), Item 28 "My teachers treated my friends and me fairly." (t = 2.536, p<0.05), Item 29 "My teachers had a good relationship with me." (t = 2.158, p<0.05), Item 34 "My teachers acted as a facilitator." (t = 2.608, p<0.01), Item 35 "My teachers told me the lesson objectives." (t = 2.079, p<0.05), Item 40 " My teachers accepted me the way I was." (t = 2.313, p<0.05), Item 41 "My teachers offered a variety of class activities such as watching videos, interpreting passages, group games, listening to music, role-playing, and mind mapping." (t = 2.321, p<0.05), Item 42 "My

teachers broke the reading text into small parts. ” (t = 2.390, p<0.05), and Item 45 “My teachers’ explanation helped me to create images in my mind.” (t = 2.195, p<0.05).

From Table 4.25, the table illustrates that there is no significant difference between the perceptions of more and less proficient readers regarding the usefulness of the quantum learning-and-teaching model in classroom activities. The *t* is 1.679 and the p-value is 0.186 when the t-test was applied.

Table 4.26 and Table 4.27 present data regarding the five most useful teachers’ classroom activities and the five least useful teachers’ classroom activities as perceived by more and less proficient readers in classroom activities.

TABLE 4.26 The Five Most Useful Teachers’ Teaching Practices in Classroom Activities as Perceived by More and Less Proficient Thai Secondary School EFL Readers

More (n=138)		**Less (n=118)**		
No. of Item	**Classroom Activities**	**No. of Item**	**Classroom Activities**	**Rank**
41	My teachers offered a variety of class activities such as watching videos, interpreting passages, group games, listening to music, role-playing, and mind mapping. (M = 4.51, S.D. = 0.80)	43	My teachers reviewed the learnt content frequently. (M = 4.33, S.D. = 0.83)	First
43	My teachers reviewed the learnt content frequently. (M = 4.37, S.D. = 0.85)	25	My teachers paid attention to everything in the classroom. (M = 4.28, S.D. = 0.85)	Second

More (n=138)		Less (n=118)		
No. of Item	**Classroom Activities**	**No. of Item**	**Classroom Activities**	**Rank**
32	My teachers let me work with other students in pairs or in groups. (M = 4.36, S.D. = 0.72)	41	My teachers offered a variety of class activities such as watching videos, interpreting passages, group games, listening to music, role-playing, and mind mapping. (M = 4.25, S.D. = 0.86)	Third
42	My teachers broke the reading text into small parts. (M = 4.35, S.D. = 0.83)	32	My teachers let me work with other students in pairs or in groups. (M = 4.23, S.D. = 0.88)	Fourth
28	My teachers treated my friends and me fairly. (M = 4.34, S.D. = 0.89)	33	My teachers encouraged me to take part in classroom activities. (M = 4.16, S.D. = 0.87)	Fifth

From Table 4.26, it can be seen that there are three teaching practices relating to classroom activities (Items 32, 41, and 43) that were perceived by both more and less proficient readers as the top five. As seen in the table, the more proficient group perceived Item 41 "My teachers offered a variety of class activities such as watching videos, interpreting passages, group games, listening to music, role-playing, and mind mapping" as the most useful teaching practice in the classroom (M = 4.51, S.D. = 0.80) while less proficient readers perceived Item 41 (M = 4.25, S.D. = 0.86) as the third rank. As presented in the table, less proficient readers perceived Item 43 "My teachers reviewed the learnt content frequently" (M = 4.33, S.D. = 0.83) as the most useful teaching practice whereas more proficient readers perceived Item 43 (M = 4.37, S.D. =

0.85) as the second rank. As can be seen in the table, more proficient readers perceived Item 32 “My teachers let me work with other students in pairs or in groups” (M = 4.36, S.D. = 0.72) as the third rank while less proficient readers perceived Item 32 (M = 4.23, S.D. = 0.88) as the fourth rank. From the table, while more proficient readers perceived Item 42 “My teachers broke the reading text into small parts” (M = 4.35, S.D. = 0.83) and Item 28 “My teachers treated my friends and me fairly” (M = 4.34, S.D. = 0.83) as the fourth and fifth ranks, less proficient readers perceived Item 25 “My teachers paid attention on everything in the classroom” (M = 4.33, S.D. = 0.83) as the second rank and Item 33 “My teachers encouraged me to take part in classroom activities” (M = 4.16, S.D. = 0.87) as the fifth rank.

TABLE 4.27 The Five Least Useful Teachers’ Teaching Practices in Classroom Activities as Perceived by More and Less Proficient Thai Secondary School EFL Readers

More (n=138)		**Less (n=118)**		
No. of Item	**Classroom Activities**	**No. of Item**	**Classroom Activities**	**Rank**
37	My teachers explained what she/he expected of me. (M = 3.82, S.D. = 0.98)	37	My teachers explained what she/he expected of me. (M = 3.75, S.D. = 1.03)	First
38	My teachers told me that learning responsibility belonged to me and involved me in making decisions about classwork. (M = 4.04, S.D. = 0.83)	26	My teachers knew my attempts. (M = 3.76, S.D. = 0.90)	Second
27	My teachers appreciated my success. (M = 4.04, S.D. = 0.94)	36	My teachers cared about what I was doing. (M = 3.88, S.D. = 0.99)	Third

More (n=138)		Less (n=118)		Rank
No. of Item	**Classroom Activities**	**No. of Item**	**Classroom Activities**	
26	My teachers knew my attempts. (M = 4.05, S.D. = 0.95)	27	My teachers appreciated my success. (M = 3.92, S.D. = 0.94)	Fourth
46	My teachers' direction was easy to follow. (M = 4.08, S.D. = 0.87)	47	My teachers' eye contact, facial expression, voice, gesture, and posture helped me to understand his/her explanation. (M = 3.93, S.D. = 1.04)	Fifth

From Table 4.27, it can be seen that there are three teaching practices of reading strategy instruction (Items 26, 27, and 37) that were perceived by both more and less proficient readers as the top five. As seen in the table, both groups perceived Item 37 "My teachers explained what she/he expected of me" as the most useful teaching practice in classroom activities (M = 3.82, S.D. = 0.98 and M = 3.75, S.D. = 1.03). More proficient readers perceived Item 27 "My teachers appreciated my success" (M = 4.04, S.D. = 0.94) and Item 26 "My teachers knew my attempts" (M = 4.05, S.D. = 0.95) in the third and the fourth ranks while less proficient readers perceived Item 26 (M = 3.76, S.D. = 0.90) as the second rank and Item 27 as the fourth rank (M = 3.92, S.D. = 0.94). As presented in the table, while more proficient readers perceived Item 38 "My teachers told me that learning responsibility belonged to me and involved me in making decisions about classwork" (M = 4.04, S.D. = 0.83) as the second rank, less proficient readers perceived Item 36 "My teachers cared about what I was doing" (M = 3.88, S.D. = 0.99) as the third rank. Whereas more proficient readers perceived Item 46 "My teachers' direction was easy to follow" (M = 4.08, S.D. = 0.87) as fifth rank, less proficient readers perceived Item 47 "My teachers' eye contact, facial expression,

voice, gesture, and posture helped me to understand his/her explanation" (M = 3.93, S.D. = 1.04) as the fifth rank.

4.5 RESULTS OF SEMI-STRUCTURED INTERVIEWS

This section presents the findings from the semi-structured interviews obtained from 6 interviewees (3 more and 3 less proficient Thai secondary school EFL readers). The interviews were conducted using 9 open-ended questions. Thai was the language used in the interviews to avoid any misinterpretation. The interviewees were asked nine questions about their perceptions regarding the use and usefulness of the quantum learning-and-teaching model in reading instruction in Supplementary English 3 and 4 courses taken in the 2018 academic year. The interviews were conducted to elicit in-depth information regarding the use and usefulness of quantum learning-and-teaching model in reading instruction. Therefore, the findings show the interviewees' perceptions regarding what they liked and disliked in their teachers' practices (questions 2 – 3), their teachers' reading strategy instruction and classroom activities (questions 1, 4, and, 7) and the most and least useful reading strategy instructions and classroom activities (questions 5, 6, 8, and 9).

The data obtained from the interview were analyzed by interpretative analysis and content analysis based on the 49 items in the questionnaire. The use and usefulness regarding reading instruction mentioned were coded, and tables were constructed. The coded data were then calculated for frequencies. Debriefing with the advisor to be an inter-rater was carried out as a means of strengthening the trustworthiness of the analysis and interpretation.

The findings are presented in two parts as follows:

1. Participants' perceptions regarding the use of the quantum learning-and-teaching model in reading instruction
2. Participants' perceptions regarding the usefulness of the quantum learning-and-teaching model in reading instruction

4.5.1 PARTICIPANTS' PERCEPTIONS REGARDING THE USE OF THE QUANTUM LEARNING-AND-TEACHING MODEL IN READING INSTRUCTION

The data obtained from questions 1, 4, and 7 of the semi-structured interviews presents the findings of the participants' perceptions regarding their teachers' use of the quantum learning-and-teaching model in reading strategy instruction and classroom activities.

TABLE 4.28 Frequencies of Responses toward Teachers' Use of the Quantum Learning-and-Teaching Model in Reading Strategy Instruction

No. of Item	Reading Strategy Instruction	Frequency
4	My teacher taught me to underline or circle information in the text to help me remember it.	9
16	My teachers taught me to use tables, figures, and pictures in the text to increase my understanding.	7
20	My teacher taught me to take an overall view of the text to see what it was about before reading it.	5
18	My teacher asked me to translate from English into my native language when I read.	4
15	My teachers let me use reference materials (e.g., a dictionary) to help me understand what I read.	3
2	My teacher taught me to take notes while reading to help me understand what I read.	2
13	My teachers told me to try to get back on track when I lost concentration.	2
1	My teachers informed me of the reading purpose.	1
8	My teachers let me try to guess what the content of the text was about when I read.	1
9	My teachers taught me to ask myself questions I liked to have answered in the text.	1

No. of Item	Reading Strategy Instruction	Frequency
14	My teachers taught me to use context clues to help me better understand what I read.	1
23	My teachers taught me to use typographical features like bold face and italics to identify key information.	1
	Total	**38**

Table 4.28 shows the interviewees' perceptions regarding their teachers' use of the quantum learning- and- teaching model in reading strategy instruction. The frequencies for the items related to the teachers' teaching practices of reading strategy instruction perceived by the interviewees are presented from the most to the least.

Among the 24 items regarding reading strategy instructions, 12 items were stated in the interview. Three of the top five items (Items 4, 20, and 18) mentioned in the interviews were ranked as the five most frequent of teachers' teaching practices in reading strategy instruction in the questionnaire as well.

Item 4 "My teacher taught me to underline or circle information in the text to help me remember it" was reported the most (F = 9). Every interviewee stated that their teachers let them underline, circle, or highlight essential and new words. One interviewee mentioned *"He always let me use highlighters to highlight difficult and unseen words."* Apart from that, another interviewee noted *"After that, my teacher let me underline unknown words. ... When I found difficult and new words, my teacher let me use red pen to underline them."*

Item 20 "My teacher taught me to take an overall view of the text to see what it was about before reading it" was responded to as the third rank of the top five in the interview (F = 5). Three interviewees responded as follows, *"My teacher asked me to read passages quickly", "He let me roughly read passages", and "Umm… He also let me read overall texts."* Moreover, an interviewee mentioned that her teachers let her do other activities after taking an overall view: "*My teacher let me observe the overall organization of reading passages before showing pictures and*

translate them." One interviewee stated the reason why her teacher let her read the text quickly, "*My teacher let me read passages to see what it was about."*

Item 18 "My teacher asked me to translate from English into my native language when I read" came in the fourth rank (F = 4). All four participants mentioned that their teachers let them translate passages into Thai: "*Sometimes, my teacher translated the text from English to Thai",* "*My teacher let me translate passages in the class", "My teacher sometimes let me translate passage into Thai which helped me to comprehend it better", and "He let me translate from English to Thai."*

Although the other two items in the top five mentioned in the interview (Items 16 and 15) were not in the top five in the questionnaire, the results in the questionnaire show that both Item 16 "My teacher taught me to use tables, figures, and pictures in the text to increase my understanding" (M = 4.07, S.D. = 1.03), and Item 15 "My teacher let me use reference materials (e.g., a dictionary) to help me understand what I read" (M = 3.51, S.D. = 1.23) were reported at the high level of use.

Moreover, it is noticeable that while Item 2 "My teacher taught me to take notes while reading to help me understand what I read" was ranked in the questionnaire as one of the top five, it was mentioned by only two interviewees as follows: "*When I was reading passages, my teacher let me to take notes what she was talking." and* "*While my teacher was teaching, she let me take notes"*, Item 11 "When text became difficult, my teacher taught me to pay closer attention to what I read" was not mentioned in the interview.

For the five least frequent teachers' teaching practices in reading strategy instruction mentioned in the questionnaire (Items 7, 6, 23, 3, and 15), no interviewee mentioned Item 3, 6, and 7. However, Item 15 "My teachers let me use reference materials (e.g., a dictionary) to help me understand what I read" was mentioned by three interviewees. They mentioned that their teachers let them use their smartphone for looking for word definitions in dictionary applications, *"My teacher let me use my cellphone to look for word meanings"*, *"If I couldn't translate words, my teacher let me look for word definition in mobile applications"*, and *"In case, I didn't know word definition. she let me use my smartphone to search for word definitions."* For Item 23 *"My teachers taught me to use typographical features like bold face and*

italics to identify key information", an interviewee responded, *"When she taught me, she let me look and observe some bold words in the text."*

TABLE 4. 29 Frequencies of Responses toward Teachers' Use of the Quantum Learning-and-Teaching Model in Classroom Activities

No. of Item	Classroom Activities	Frequency
41	My teachers offered a variety of class activities such as watching videos, interpreting passages, group games, listening to music, role-playing, and mind mapping.	6
49	My teachers told me what I would do later.	5
28	My teachers treated my friends and me fairly.	3
29	My teachers had a good relationship with me.	3
30	My teachers made reading lessons fun.	3
39	My teachers used pictures, posters, realia, and props when teaching.	3
32	My teachers let me work with other students in pairs or in groups.	2
34	My teachers acted as a facilitator.	2
42	My teachers broke the reading text into small parts.	2
43	My teachers reviewed the learnt content frequently.	2
25	My teachers paid attention to everything in the classroom.	1
26	My teachers knew my attempts.	1
33	My teachers encouraged me to take part in classroom activities.	1
45	My teachers' explanation helped me to create images in my mind.	1

No. of Item	Classroom Activities	Frequency
46	My teachers' direction was easy to follow.	1
	Total	**36**

Table 4.29 shows the interviewees' perceptions regarding their teachers' use of the quantum learning-and-teaching model in classroom activities. The frequencies of the teachers' teaching practices in classroom activities perceived by the interviewees are presented from the most to the least.

15 out of 25 classroom activities were mentioned in the interview. From Table 4.29, two of the top five items (Items 41 and 49) stated in the interviews were also ranked as the top five frequent teachers' teaching practices in classroom activities in the questionnaire.

Item 41 "My teachers offered a variety of class activities such as watching videos, interpreting passages, group games, listening to music, role-playing, and mind mapping" was reported the most (F = 6). All interviewees noted that their teachers provided many class activities in their reading lessons. Two interviewees reported that their teachers always have a variety of class activities: *"My teacher… He prepared many activities for us"* and *"My teacher offered a lot of class activities."* Apart from offering various class activities, four interviewees mentioned the activities in reading instruction, *"…and my teacher usually let me listen to music and watch videos"*, *"When she taught reading, she often prepared games for me"*, *"She usually had fun games and activities such as Kahoot and videos"*, and *"…and he had games. We threw balls and did lucky draw. Then I needed to tell the word definitions."*

Item 49 "My teachers told me what I would do later." was rated as the second rank of the top five in the interview (F = 5). Four interviewees responded that their teachers told them the learning path in their lessons. An interviewee responded, *"My teacher told me what we would learn in that period and informed that we would have a test in the following week."* Another interviewee noted that his teacher prepared lessons very well because his teacher told him the teaching steps in each lesson, *"My teacher prepared lesson very well. I know it because she always told me how the lesson would run."*

Although the third to the fifth ranks of the top five in the interview (Items 28, 29, and 30) were not ranked in the top five in the questionnaire, it can be seen from the results of the questionnaire that Item 28 "My teachers treated my friends and me fairly" (M = 4.25, S.D. = 0.91), Item 29 "My teachers had a good relationship with me" (M = 4.09, S.D. = 0.95), and Item 30 "My teachers made reading lessons fun" (M = 4.23, S.D. = 0.95) were reported at the high usage level.

It can be seen that while Item 25 "My teachers paid attention on everything in the classroom," was responded to in the questionnaire as the second rank, it was mentioned by only one interviewee as: *"My teacher paid her attention on everything and everyone in classroom."* Item 43, "My teachers reviewed the learnt content frequently" was rated in the questionnaire as the third rank but was mentioned by only two interviewees: *"My teacher always reviewed the learnt content"* and *"Well, ahe usually reviewed learnt vocabulary."* In addition, Item 42 "My teachers broke the reading text into small parts" which was perceived in the questionnaire as the fourth rank was stated by only two interviewees as: *"Sometime, my teacher let me break text into parts"* and *"My teacher let me break text into paragraphs and read them with my friends."*

For the five least frequent teachers' teaching practices in classroom activities responded in the questionnaire (Items 37, 38, 26, 27, and 46), no interviewee stated Items 27, 37, and 38. Item 26 "My teachers knew my attempts" and Item 46 "My teachers' direction was easy to follow" were both stated by one interviewee as: *"My teacher never got mad at me when I asked her questions"* and *"Her explanation was very easy to understand."*

4.5.2 PARTICIPANTS' PERCEPTIONS REGARDING THE USEFULNESS OF THE QUANTUM LEARNING-AND-TEACHING MODEL IN READING INSTRUCTION

The data obtained from questions 2, 3, 5, 6, 8, and 9 of the semi-structured interviews presents the findings of the participants' perceptions regarding the usefulness of the quantum learning-and-teaching model in reading strategy instruction and classroom activities.

Table 4.30 presents the interviewees' perceptions regarding the most useful teaching practices of the quantum learning- and- teaching model in reading strategy instruction. The frequencies of the usefulness of reading strategy instruction perceived by the interviewees are presented from the most to the least frequencies.

TABLE 4.30 Frequencies of Responses toward the Most Useful Teaching Practices of the Quantum Learning-and-Teaching Model in Reading Strategy Instruction

No. of Item	Reading Strategy Instruction	Frequency
4	My teacher taught me to underline or circle information in the text to help me remember it.	4
18	My teacher asked me to translate from English into my native language when I read.	2
2	My teacher taught me to take notes while reading to help me understand what I read.	1
13	My teachers told me to try to get back on track when I lost concentration.	1
	Total	**8**

Among the 24 items regarding reading strategy instructions, 4 items were mentioned in the interview as the most useful. Three of the four items (Items 4, 18, and 2) were found to rank as the top five most useful teachers' teaching practices in reading strategy instruction in the questionnaire as well.

Item 4 "My teacher taught me to underline or circle information in the text to help me remember it" was reported the most (F = 4). Four out of six interviewees stated that underlying and circling words was useful: *"I think when my teacher let me take notes and underline unknown words helps me comprehend texts more because I have a difficulty in translating texts"*, *"When I find unknown words, underlying helps me remember them"*, *"I think underlying and circling help me notice the most difficult words, then I can practice and try to memorize them"*, and *"Well. Highlighting and underlying words are the most useful. If I underline or circle words, I can … remember them easily because I review them."*

Item 18 "My teacher asked me to translate from English into my native language when I read" was responded to as the second rank in the interview (F = 2). Two interviewees responded as, *"I think ... If I cannot comprehend text and my teacher translates text into Thai, it helps me understand text better."* Also, *"I think many people are not good at English. Thai is our mother tongue. So, to understand English sentences is not easy. Translating English into Thai helps me a lot because there are some technical words."*

Item 2 "My teacher taught me to take notes while reading to help me understand what I read" came in the third rank (F = 1). An interviewee mentioned: *"I think when my teacher let me take notes and underline unknown words helps me comprehend texts more because I have a difficulty in translating texts."*

Although Item 13 "My teachers told me to try to get back on track when I lost concentration" was not mentioned in the questionnaire, the result in the questionnaire shows that Item 13 "My teachers told me to try to get back on track when I lost concentration" (M = 4.08, S.D. = 0.93) was reported at the high usefulness level.

It can, however, be noticeable that Item 22 "My teachers taught me to paraphrase to better understand what I read" and Item 1 "My teachers inform me the reading purpose" were placed in the questionnaire among the top five items yet were not stated in the interview.

Table 4.31 presents the interviewees' perceptions regarding the least useful teaching practices of quantum learning-and-teaching model in reading strategy instruction. The frequencies for the usefulness of reading strategy instruction perceived by the interviewees are presented from the most to the least frequencies.

TABLE 4.31 Frequencies of Responses toward the Least Useful Teaching Practices of the Quantum Learning-and-Teaching Model in Reading Strategy Instruction

No. of Item	Reading Strategy Instruction	Frequency
6	My teachers let me adjust my reading speed according to what I read.	3

No. of Item	Reading Strategy Instruction	Frequency
7	My teachers taught me to decide what to read closely and what to ignore when I read.	2
23	My teachers taught me to use typographical features like bold face and italics to identify key information.	1
	Total	**6**

Among the 24 items related to reading strategy instructions, 3 items were mentioned in the interview. Three of the least useful items (Items 6, 7, and 23) mentioned in the interviews were ranked as the least useful teachers' teaching practices in reading strategy instruction in the questionnaire as well.

Item 6 "My teachers let me adjust my reading speed according to what I read." was reported the most (F = 3). Three interviewees mentioned that adjusting reading speed makes them get confused about reading passages: *"If my teacher lets me adjust my reading speed, I will get lost." "Fast reading makes me not catch it up. So, I cannot comprehend it."* And *"Adjusting my reading speed is the least useful because it makes me confused."*

Item 7 "My teachers taught me to decide what to read closely and what to ignore when I read" was mentioned by two interviewees as: *"I think deciding what to read closely and what to ignore is the least useful because every sentence has meanings. Every word conveys meanings and is important. If something disappears, sentence meaning might change"* and *"I think every detail in the text is important. So, we should pay attention to every detail."*

Item 23 "My teachers taught me to use typographical features like bold face and italics to identify key information" was stated by an interviewee as: *"I think using typographical features is the least useful. Observing highlighted words helps me comprehend text better."*

In addition, it can, however, be noticeable that Item 9 "My teachers taught me to ask myself questions I like to have answered in the text" and Item 3 "My teachers let me think about whether the content of the text fit my reading purpose" were

registered in the questionnaire among the bottom five but were not stated in the interview.

Table 4.32 presents the interviewees' perceptions regarding the most useful teaching practices of the quantum learning-and-teaching model in classroom activities. The frequencies for items of usefulness in the classroom perceived by the interviewees are presented from the most to the least frequencies.

TABLE 4.32 Frequencies of Responses toward the Most Useful Teaching Practices of the Quantum Learning-and-Teaching Model in Classroom Activities

No. of Item	Reading Strategy Instruction	Frequency
41	My teachers offered a variety of class activities such as watching videos, interpreting passages, group games, listening to music, role-playing, and mind mapping.	4
43	My teachers reviewed the learnt content frequently.	3
28	My teachers treated my friends and me fairly.	1
30	My teachers made reading lessons fun.	1
	Total	**9**

Among the 25 items regarding classroom activities, 3 items were mentioned in the interview. Three of the most useful items (Items 41, 43, and 28) mentioned in the interviews were ranked as the most useful teaching practices in classroom activities in the questionnaire as well.

Item 41 "My teachers offered a variety of class activities such as watching videos, interpreting passages, group games, listening to music, role-playing, and mind mapping" was reported the most (F = 4). Four out of six interviewees mentioned that a variety of class activities makes them enjoy reading instruction and also facilitates their comprehension: *"I like listening to music and playing games because it makes me fun."*, *"Using various activities such as watching video clips and pictures… I think it's good. It's easily comprehensible."*, *"I think… If there are a lot of activities in reading lesson, it's better. The class will be more fun and I can understand the content."*, and *"I think not only taking note but also using other*

activities make me feel that my teacher pays attention to lesson more. The lesson will be more interesting."

Item 43 "My teachers reviewed the learnt content frequently." was responded to as the second rank in the interview (F = 3). Three interviewees responded as: *"If my teacher usually reviews content, I make sense and remember the content better."*, *"Reviewing learnt content is good. Only teaching. I always forget the content."* and *"When my teacher reviews content frequently, I can remember it. If I forget it, I can recall it again and again. For me, I think it's very useful."*

Item 28 "My teachers treated my friends and me fairly" came in the third rank (F = 1). An interviewee mentioned as follows: *"I like when my teacher randomized students in the class to read text. He didn't focus on only more proficient students but he let less proficient students practice reading skill. He is very open-minded."*

Although another item mentioned in the interview (Item 30) was not ranked in the top five in the questionnaire, the result in the questionnaire shows that Item 30 "My teachers made reading lessons fun" (M = 4.23, S.D. = 0.95) was reported at the high usefulness level.

In addition, it can, however, be noticed that Item 25 "My teachers paid attention on everything in the classroom" and Item 32 "My teachers let me work with other students in pairs or in groups," ranked in the questionnaire among the top five, were not stated in the interview.

Table 4.33 presents the interviewees' perceptions regarding the least useful teaching practices of the quantum learning-and-teaching model in classroom activities. The frequencies for the usefulness of teaching practices in the classroom perceived by the interviewees are presented from the most to the least frequencies.

TABLE 4.33 Frequencies of Responses toward the Least Useful Teaching Practices of the Quantum Learning-and-Teaching Model in Classroom Activities

No. of Item	Reading Strategy Instruction	Frequency
37	My teachers explained what she/he expects of me.	5

No. of Item	Reading Strategy Instruction	Frequency
26	My teachers knew my attempts.	1
	Total	**6**

Among the 25 items regarding classroom activities, 2 items were mentioned in the interview. Two of the least useful items (Items 37 and 26) mentioned in the interviews were ranked as the least useful of teachers' teaching practices in classroom activities in the questionnaire as well.

Item 37 "My teachers explained what she/he expects of me" was reported the most (F = 5). Five interviewees stated that they feel depressed: *"When my teacher tells me they want me to study hard in order to pass exam, I feel depressed."*, *"If my teacher tells what she wants from me, it's good. But it's too much. I'm not sure that I could do it."*, *"If my teacher extremely expects of me… Too much expectation causes me feel depressed. I cannot do it."*, *"I think explaining what she expects of me is not useful. Students might know what their teachers want and what their teachers want them to be."* and *"I feel depressed if me teacher explains what she expects of me. It's like put too much pressure on students."*

Item 26 "My teachers knew my attempts" was mentioned by only one interviewee as: *"Teacher should not know my attempts. When I pay attention to lessons or do anything, she rarely notices it. Some teachers care only my friends in the back of the class."*

In addition, it is, however, noticeable that Item 27 "My teachers appreciated my success", Item 36 "My teachers cared about what I was doing", and Item 38 "My teachers told me that learning responsibility belonged to me and involved me in making decisions about classwork" registered in the questionnaire among the bottom five but were not stated in the interview.

Tables 4.34 – 4.37 present the frequencies of the perceptions of more and less proficient Thai secondary school EFL readers regarding the usefulness of quantum learning-and-teaching model in reading instruction.

TABLE 4.34 Frequencies of Responses toward the Most Useful Teacher Teaching Practices in Reading Strategy Instruction as Perceived by More and Less Proficient Readers

	More (n=3)		**Less (n=3)**
No. of Item	**Reading Strategy Instruction**	**No. of Item**	**Reading Strategy Instruction**
4	My teacher taught me to underline or circle information in the text to help me remember it (F = 2).	4	My teacher taught me to underline or circle information in the text to help me remember it (F = 2).
18	My teacher asked me to translate from English into my native language when I read (F = 1).	2	My teacher taught me to take notes while reading to help me understand what I read (F = 1).
		13	My teachers told me to try to get back on track when I lost concentration (F = 1).
		18	My teacher asked me to translate from English into my native language when I read (F = 1).

Among 24 items regarding reading strategy instruction, 4 items were stated in the interview. From Table 4.34, it can be seen that two items (Items 4 and 18) were stated by both more and less proficient EFL readers.

Item 4 "My teacher taught me to underline or circle information in the text to help me remember it" was mentioned by two more and two less proficient EFL readers in the interview. Two more proficient readers stated as follows: *"I think when my teacher let me take note and underline unknown words helps me comprehend texts more because I have a difficulty in translating texts."*, and *"When I find unknown words, underlying helps me remember them."* Two less proficient readers mentioned the following: *"I think underlying and circling help me notice the most difficult words. Then I can practice and try to memorize them."* And *" Well. Highlighting and underlying words are the most useful. If I underline or circle words, I can … remember them easily because I review them."*

Item 18 "My teacher asked me to translate from English into my native language when I read" was mentioned by one more and one less proficient readers. A more proficient participant responded as: *"I think many people are not good at English. Thai is our mother tongue. So, to understand English sentences is not easy. Translating English into Thai helps me a lot because there are some technical words."* A less proficient reader mentioned that: *"I think … If I cannot comprehend text and my teacher translates text into Thai, it helps me understand text better."*

It can, however, be seen that Item 2 "My teacher taught me to take note while reading to help me understand what I read" and Item 13 "My teachers told me to try to get back on track when I lost concentration" were stated by only less proficient readers in the interview.

Items 4 and 18 mentioned in the interviews by more proficient readers were also ranked as the most useful teachers' teaching practices in reading strategy instruction in the questionnaire as well.

For less proficient readers, only Items 4, 2, and 18 in the interviews were ranked as the most useful teaching practices in reading strategy instruction in the questionnaire. Although Item 13 was not ranked in the top five in the questionnaire, the result in the questionnaire shows that Item 13 "My teachers told me to try to get back on track when I lost concentration" (M = 4.13, S.D. = 0.85) was reported at the high usefulness level.

TABLE 4.35 Frequencies of Responses toward the Least Useful Teacher Teaching Practices in Reading Strategy Instruction as Perceived by More and Less Proficient Readers

	More (n=3)		**Less (n=3)**
No. of Item	**Reading Strategy Instruction**	**No. of Item**	**Reading Strategy Instruction**
6	My teachers let me adjust my reading speed according to what I read (F = 1).	6	My teachers let me adjust my reading speed according to what I read (F = 2).

More (n=3)		Less (n=3)	
No. of Item	**Reading Strategy Instruction**	**No. of Item**	**Reading Strategy Instruction**
7	My teachers taught me to decide what to read closely and what to ignore when I read (F = 1).	7	My teachers taught me to decide what to read closely and what to ignore when I read (F = 1).
23	My teachers taught me to use typographical features like bold face and italics to identify key information (F = 1).		

Among 24 items regarding reading strategy instruction, 3 items were stated in the interview. From Table 4.35, it can be seen that two items (Items 6 and 7) were stated by both more and less proficient EFL readers.

Item 6 "My teachers let me adjust my reading speed according to what I read" was mentioned by one more and two less proficient EFL readers in the interview. One more proficient reader stated as follows: *"Adjusting my reading speed is the least useful because it makes me confused."* Two less proficient readers mentioned the following: *"If my teacher lets me adjust my reading speed, I will get lost."* and *"Fast reading makes me not catch it up. So, I cannot comprehend it."*

Item 7 "My teachers taught me to decide what to read closely and what to ignore when I read" was mentioned by one more and one less proficient reader. A more proficient participant responded with, *"I think deciding what to read closely and what to ignore is the least useful because every sentence has meanings. Every word conveys meanings and is important. If something disappears, sentence meaning might change."* A less proficient reader mentioned that: *"I think every detail in the text is important. So, we should pay attention to every detail."*

It can, however, be seen that Item 23 "My teachers taught me to use typographical features like bold face and italics to identify key information" was stated by only one of the more proficient readers in the interview.

Items 6, 7, and 23 mentioned in the interviews by more proficient readers were also ranked as the most useful teachers' teaching practices in reading strategy instruction in the questionnaire as well.

For less proficient readers, only Item 6 in the interviews was ranked in the most useful teaching practices in reading strategy instruction in the questionnaire. Although Item 7 was not ranked in the top five in the questionnaire, the result in the questionnaire shows that Item 7 "My teachers taught me to decide what to read closely and what to ignore when I read" ($M = 3.90$, $S.D. = 0.99$) was reported at the high usefulness level.

TABLE 4.36 Frequencies of Responses toward the Most Useful Teacher Teaching Practices in Classroom Activities as Perceived by More and Less Proficient Readers

	More (n=3)		**Less (n=3)**
No. of Item	**Classroom Activities**	**No. of Item**	**Classroom Activities**
41	My teachers offered a variety of class activities such as watching videos, interpreting passages, group games, listening to music, role-playing, and mind mapping (F = 2).	41	My teachers offered a variety of class activities such as watching videos, interpreting passages, group games, listening to music, role-playing, and mind mapping (F = 2).
43	My teachers reviewed the learnt content frequently (F = 2).	43	My teachers reviewed the learnt content frequently (F = 1).
28	My teachers treated my friends and me fairly (F = 1).		
30	My teachers made reading lessons fun (F = 1).		

Among 25 items regarding classroom activities, 4 items were stated in the interview. From Table 4.36, it can be seen that two items (Items 41 and 43) were stated by both more and less proficient EFL readers.

Item 41 "My teachers offered a variety of class activities such as watching videos, interpreting passages, group games, listening to music, role-playing,

and mind mapping" was mentioned by two more and two less proficient EFL readers in the interview. Two more proficient readers stated as follows: *"I like listening to music and playing games because it makes me fun."* and *"Using various activities such as watching video clips and pictures… I think it's good. It's easily comprehensible."* Two less proficient readers mentioned the following: *"I think… If there are a lot of activities in reading lesson, it's better. The class will be more fun and I can understand the content."* and *"I think not only taking note but also using other activities make me feel that my teacher pays attention to lesson more. The lesson will be more interesting."*

Item 43 "My teachers reviewed the learnt content frequently" was mentioned by two more and one less proficient readers. Two more proficient participants responded as follows: *"Reviewing learnt content is good. Only teaching. I always forget the content."* and *"When my teacher reviews content frequently, I can remember it. If I forget it, I can recall it again and again. For me, I think it's very useful."* A less proficient reader mentioned that: *"If my teacher usually reviews content, I make sense and remember the content better."*

It can, however, be seen that Item 28 "My teachers treated my friends and me fairly" and Item 30 "My teachers made reading lessons fun" were stated by only more proficient readers in the interview.

Items 41, 43, and 28 mentioned in the interviews by more proficient readers were also ranked as the most useful teaching practices in classroom activities in the questionnaire as well. Although Item 30 was not ranked in the top five in the questionnaire, the result in the questionnaire shows that Item 30 "My teachers made reading lessons fun" (M = 4.30, S.D. = 0.95) was reported at the high usefulness level.

For less proficient readers, Items 41 and 43 in the interviews were ranked as the most useful teaching practices in classroom activities in the questionnaire.

TABLE 4.37 Frequencies of Responses toward the Least Useful Teacher Teaching Practices in Classroom Activities as Perceived by More and Less Proficient Readers

More (n=3)		Less (n=3)	
No. of Item	**Classroom Activities**	**No. of Item**	**Classroom Activities**
37	My teachers explained what she/he expected of me (F = 3).	37	My teachers explained what she/he expected of me (F = 2).
		26	My teachers knew my attempts (F = 1).

Among 25 items regarding classroom activities, 2 items were stated in the interview. From Table 4.37, it can be seen that one item (Items 37) was stated by both more and less proficient EFL readers.

Item 37 "My teachers explained what she/he expected of me" was mentioned by three more and two less proficient EFL readers in the interview. Three more proficient readers stated as follows: *"If my teacher extremely expects of me… Too much expectation causes me feel depressed. I cannot do it."*, *"I think explaining what she expects of me is not useful. Students might know what their teachers want and what their teachers want them to be."* and *"I feel depressed if me teacher explains what she expects of me. It's like put too much pressure on students."* Two less proficient readers mentioned the following: *"When my teacher tells me they want me to study hard in order to pass exam, I feel depressed."* and *"If my teacher tells what she wants from me, it's good. But it's too much. I'm not sure that I could do it."*

It can, however, be seen that Item 26 "My teachers knew my attempts." was stated by only a less proficient reader in the interview.

Item 37 mentioned in the interviews by more proficient readers were also ranked as the least useful teachers' teaching practices in classroom activities in the questionnaire as well.

For less proficient readers, Item 37 in the interviews were ranked as the least useful teaching practices in classroom activities in the questionnaire. Although Item 26 was not ranked in the bottom five in the questionnaire, the result in the

questionnaire shows that Item 26 “My teachers knew my attempts” (M = 3.76, S.D. = 0.90) was reported at the high usefulness level.

4.6 SUMMARY

In conclusion, this chapter illustrates the results of the investigation regarding participants’ general information, overall means and standard deviations of their teachers’ use and the usefulness of the quantum learning-and-teaching model in reading instruction, frequency of use of the quantum learning-and-teaching model in reading instruction in individual items, the usefulness of the quantum learning-and-teaching model in reading instruction in individual items, and the five most and least frequently used and useful items of the quantum learning-and-teaching model in reading. The comparison of more and less proficient EFL readers’ perceptions regarding the usefulness of the quantum learning-and-teaching model in reading instruction and the interview information were included. Even the overall mean scores and standard deviations of both more and less proficient EFL readers’ perceptions regarding the usefulness of the quantum learning-and-teaching model in reading strategy instruction and classroom activities are at the high usefulness level, 2 reading strategy instructions and 9 classroom activities were found significantly difference at the 0.01 and 0.05 levels. The findings of the study are discussed in the following chapter.

CHAPTER 5
CONCLUSIONS, DISCUSSION, AND RECOMMENDATIONS

This chapter presents (1) summary of the study, (2) summary of the findings, (3) discussion, (4) conclusions, (5) implications, and (6) recommendations for further study.

5.1 CONCLUSIONS

5.1.1 SUMMARY OF THE STUDY

This section presents the objectives of the study, participants, and instruments.

5.1.1.1 OBJECTIVES OF THE STUDY

This present study was conducted to investigate Thai secondary school EFL readers' perceptions regarding the use and usefulness of the quantum learning- and- teaching model in reading instruction and to investigate differences between the perceptions of more and less proficient Thai secondary school EFL readers regarding the usefulness of the quantum learning-and-teaching model in reading instruction. The study included three research questions as follows:

i) What are the perceptions of Thai secondary school EFL readers regarding their teachers' use of the quantum learning-and-teaching model in reading instruction?

ii) What are the perceptions of Thai secondary school EFL readers regarding the usefulness of the quantum learning-and-teaching model in reading instruction?

iii) Are there any differences between more and less proficient Thai secondary school EFL readers regarding the usefulness of the quantum learning-and-teaching model in reading instruction?

5.1.1.2 PARTICIPANTS

The participants of the present study were 256 Thai secondary school EFL students. One hundred and fifty-four out of the 256 participants were female. Most participants were 14 years old, and they had been studying English for more than 10 years. Their average grade from Supplementary English 3 and Supplementary English 4 was 2.75. Hence, 2.75 was used as a mean for classifying the participants into two groups: more and less proficient readers. There were 138 participants who had average grades above 2.75, and they were put in a group of more proficient readers. The other 138 were put in a group of less proficient readers.

5.1.1.3 RESEARCH INSTRUMENTS

There were two research instruments used in the present study: questionnaires and semi-structured interviews.

(1) QUESTIONNAIRE

The questionnaire in the present study consists of 3 parts as follows: the participants' general information, the participants' perceptions regarding the use of the quantum learning-and-teaching model in reading instruction, and the participants' perceptions regarding the usefulness of the quantum learning-and-teaching model in reading instruction. The first part was created to elicit general information. Parts 2 and 3 contain 49 items divided into two subsections: reading strategy instruction (24 items) and classroom activities (25 items). The questionnaire in Mokhtari and Sheorey's (2002) study, which consisted of 30 items, was adapted and modified for the first subsection (reading strategy instruction). The researcher selected 24 items. For the second subsection (classroom activities), 25 items were created by analyzing the quantum learning-and-teaching model. The data from the questionnaire were analyzed to see the perceptions regarding the use and the usefulness of the quantum learning-and-teaching model in reading instruction as well as the differences in the perceptions of more and less proficient readers regarding the usefulness of the quantum learning-and-teaching model in reading instruction.

(2) SEMI-STRUCTURED INTERVIEWS

To obtain in-depth information for the most frequent used reading instruction together with the most and the least useful reading instruction, semi-structured interviews were conducted. The information from the semi- structured interviews was triangulated with the data obtained from the questionnaire.

5.1.2 SUMMARY OF FINDINGS

The findings from the study as presented in the previous chapter will be summarized into two parts: i) the participants' perceptions regarding their teachers' use and the usefulness of the quantum learning-and-teaching model in reading instruction, and ii) the differences and similarities in the participants' perceptions regarding the use and usefulness of the quantum learning- and- teaching model in reading instruction between more and less proficient readers.

5.1.2.1 PARTICIPANTS' PERCEPTIONS REGARDING THE USE AND THE USEFULNESS OF THE QUANTUM LEARNING-AND-TEACHING MODEL IN READING INSTRUCTION

(1) FINDINGS FROM THE QUESTIONNAIRES

The participants' overall perceptions regarding both their teachers' use and the usefulness of the quantum learning-and-teaching model in reading instruction were found at the high level (M = 3.92, S.D. = 0.30 and M = 4.10, S.D. = 0.15). For the two subsections of the questionnaire, namely reading strategy instruction and classroom activities, the participants' overall perceptions were that the use of reading strategy instruction was found to be at the high level of usage (M = 3.84, S.D. = 1.01). Correspondingly, the participants' overall perceptions regarding the usefulness of the quantum learning-and-teaching model in reading strategy instruction was found at the high level (M = 4.06, S.D. = 0.89). Moreover, the overall participants' perception regarding their teachers' use of the quantum learning-and-teaching model in classroom activities and that of the usefulness were also found at the same high level (M = 4.00, S.D. = 0.99 and M = 4.14, S.D. = 0.90).

Looking at specific items in the questionnaire, while the students perceived 44 items regarding their teacher's reading instruction of the quantum

learning- and teaching model useful at the high level, Item 3 "My teacher let me think about whether the content of the text fit my reading purpose", Item 6 "My teacher let me adjust my reading speed according to what I read", Item 7 "My teacher taught me to decide what to read closely and what to ignore when I read", Item 23 "My teacher taught me to use typographical features like bold face and italics to identify key information", and Item 33 "My teacher encouraged me to take part in classroom activities" were perceived by the students to be used by their teachers at the moderate level.

Looking specifically at the two subcategories in the questionnaire, the results revealed that Item 2 "My teacher taught me to take notes while reading to help me understand what I read", Item 4 "My teacher taught me to underline or circle information in the text to help me remember it", and Item 18 "My teacher asked me to translate from English into my native language when I read" were perceived as the top five in both usage frequency and most useful teaching practices in reading strategy instruction. It is noticeable that Item 4 was perceived at the highest mean scores in both usage and usefulness. On the other hand, Item 3 "My teachers let me think about whether the content of the text fit my reading purpose", Item 6 "My teachers let me adjust my reading speed according to what I read", Item 7 "My teachers taught me to decide what to read closely and what to ignore when I read", and Item 23 "My teachers taught me to use typographical features like bold face and italics to identify key information" were reported as the five lowest ranked in both usage and useful teaching practices in reading strategy instruction.

For classroom activities, Item 25 "My teachers paid attention to everything in the classroom", Item 41"My teacher offered a variety of class activities such as watching videos, interpreting passages, group games, listening to music, role-playing, and mind mapping", and Item 43 "My teachers reviewed the learnt content frequently" were perceived as the top five in both usage and usefulness. It is noticeable that Item 41 was perceived at the highest mean score in both usage and usefulness. On the contrary, Item 8 "My teacher let me try to guess what the content of the text was about when I read", Item 26 "My teachers knew my attempts", Item 27 "My teachers appreciated my success", Item 37 "My teachers explained what they expected of me", and Item 38 "My teachers told me that learning responsibility belonged to me and

involved me in making decisions about classwork" were perceived as the least five classroom activities in both usage and usefulness. It is also noticeable that Item 37 was perceived at the lowest mean scores in both usage and usefulness.

(2) FINDINGS FROM THE INTERVIEWS

Among the 24 items regarding reading strategy instructions, 12 items were stated in the interviews. Four of the top five items (Item 2 "My teacher taught me to take note while reading to help me understand what I read", Item 4 "My teacher taught me to underline or circle information in the text to help me remember it", Item 18 "My teacher asked me to translate from English into my native language when I read", and Item 20 "My teachers taught me to take an overall view of the text to see what it was about before reading it") mentioned in the interviews were also ranked as the most five frequent teaching practices in reading strategy instruction in the questionnaire. Item 2 "My teacher taught me to take notes while reading to help me understand what I read", Item 4 "My teacher taught me to underline or circle information in the text to help me remember it" and Item 18 "My teacher asked me to translate from English into my native language when I read" were also mentioned among the top five most useful teachers' teaching practices in reading strategy instruction in both the interview and the questionnaire. For the five least frequent teaching practices in reading strategy instruction mentioned in the questionnaire Item 6 "My teachers let me adjust my reading speed according to what I read", Item 7 "My teachers taught me to decide what to read closely and what to ignore when I read", and Item 23 "My teachers taught me to use typographical features like bold face and italics to identify key information" were also mentioned in the interview.

Fifteen out of twenty-five classroom activities were mentioned in the interview. All of the top five items in the questionnaire (Item 25 "My teachers paid attention on everything in the classroom", Item 41 "My teachers offered a variety of class activities such as watching videos, interpreting passages, group games, listening to music, role-playing, and mind mapping", Item 42 "My teachers broke the reading text into small parts", Item 43 "My teachers reviewed the learnt content frequently", and Item 49 "My teachers told me what I would do later") were also mentioned in the interview. The five least frequent teaching practices in classroom activities responded

to in the questionnaire (Item 26 “My teachers knew my attempts”, Item 27 “My teachers appreciated my success”, Item 46 “My teacher’s direction was easy to follow.”, Item 37 “My teachers explained what she/he expected of me”, and Item 38 “My teachers told me that learning responsibility belonged to me and involved me in making decision about classwork”), however, were not mentioned in the interviews.

Item 41 “My teachers offered a variety of class activities such as watching videos, interpreting passages, group games, listening to music, role-playing, and mind mapping”, Item 43 “My teachers reviewed the learnt content frequently”, and Item 28 “My teachers treated my friends and me fairly”) perceived in the questionnaire as the most useful classroom activities were also mentioned in the interview as the most useful as well. On the opposite side, Item 37 “My teachers explained what she/he expected of me” and Item 26 “My teachers knew my attempts” perceived in the questionnaire to be among the least five useful teachers’ teaching practices in classroom activities were also mentioned in the interviews.

5.1.2.2 THE DIFFERENCES BETWEEN MORE AND LESS PROFICIENT THAI SECONDARY SCHOOL EFL READERS REGARDING THE USEFULNESS OF THE QUANTUM LEARNING-AND-TEACHING MODEL IN READING INSTRUCTION

The results reveal no statistically significant difference for the overall mean scores and standard deviations of the usefulness in reading instruction between higher and lower reading proficiency groups. Additionally, there was no statistically significant difference for the overall mean scores and standard deviations of usefulness in reading strategy instruction and classroom activities.

However, looking at specific items, there was a statistically significant difference in the usefulness of two teacher reading strategy instructions at the 0.05 level (Item 5 “My teachers taught me to try to picture or visualize information to help remember what I read”, more proficient readers, $M = 4.12$, $S.D. = 0.99$, less proficient readers, $M = 3.85$, $S.D. = 0.93$ and Item 23 “My teachers taught me to use typographical features like bold face and italics to identify key information”, more proficient readers, $M = 3.78$, $S.D. = 1.03$, less proficient readers, $M = 4.08$, $S.D. =$

0.93). For Item 23, it should be noticeable that less proficient readers perceived the teachers' teaching the strategy of using typographical features like bold face and italics to identify key information to be more useful than more proficient readers did. Moreover, nine teachers' classroom activities were found to have statistically significant difference at 0.01 and 0.05 levels. Two teacher classroom activities were found to have statistically significant difference in their usefulness at the 0.01 level (Item 26 "My teachers knew my attempts", more proficient readers, M = 4.05, S.D. = 0.95, less proficient readers, M = 3.76, S.D. = 0.90).and Item 34 "My teachers acted as a facilitator", more proficient readers, M = 4.30, S.D. = 0.82, less proficient readers, M = 4.08, S.D. = 0.94). Additionally, seven teaching practices in classroom activities show statistically significant difference at the 0.05 level (Item 28 "My teachers treated my friends and me fairly", more proficient readers, M = 4.34, S.D. = 0.95, less proficient readers, M = 3.76, S.D. = 0.90; Item 29 "My teachers had a good relationship with me", more proficient readers, M = 4.20, S.D. = 0.99, less proficient readers, M = 3.97, S.D. = 0.90; Item 35 "My teachers told me the lesson objectives", more proficient readers, M = 4.21, S.D. = 0.82, less proficient readers, M = 4.08, S.D. = 0.94; Item 40 "My teachers accepted me the way I was", more proficient readers, M = 4.22, S.D. = 0.90, less proficient readers, M = 3.95, S.D. = 0.91; Item 41 "My teachers offered a variety of class activities such as watching videos, interpreting passages, group games, listening to music, role-playing, and mind mapping", more proficient readers, M = 4.51, S.D. = 0.80, less proficient readers, M = 4.25, S.D. = 0.86; Item 42 "My teachers broke the reading text into small parts", more proficient readers, M = 4.35, S.D. = 0.83, less proficient readers, M = 4.11, S.D. = 0.92; and Item 45 "My teachers' explanation helped me to create images in my mind", more proficient readers, M = 4.22, S.D. = 0.86, less proficient readers, M = 4.03, S.D. = 0.86).

Item 4 "My teachers taught me to underline or circle information in the text to help me remember it" and 18 "My teachers asked me to translate from English into my native language when I read" were mentioned among the most five useful teaching practices in reading strategy instruction by both more and less proficient readers, but only less proficient readers reported Item 2 "My teachers taught me to take note while reading to help me understand what I read" and Item 13 "My teachers told me to try to get back on track when I lost concentration" as the most useful teaching

practices in the interview. Item 6 "My teachers let me adjust my reading speed according to what I read" and Item 7 "My teachers taught me to decide what to read closely and what to ignore when I read" were mentioned in the interview among the least five useful teaching practices in reading strategy instruction by both more and less proficient readers. However, Item 23 "My teachers taught me to use typographical features like bold face and italics to identify key information." was mentioned as the five least useful teaching practices in reading strategy instruction by only more proficient readers. This item is supported by the result from the questionnaire, which was found to be statistically significant different at the 0.05 level.

For classroom activities, Item 41 "My teachers offered a variety of class activities such as watching videos, interpreting passages, group games, listening to music, role-playing, and mind mapping" and Item 43 "My teachers reviewed the learnt content frequently" were mentioned in the interview as among the five most useful teaching practices in classroom activities by both more and less proficient readers. The result of Item 41 is contradicted by the result from the questionnaire, which was found to be statistically significant different at the 0.05 level. However, Item 28 "My teachers treated my friends and me fairly" and Item 30 "My teachers made reading lessons fun" were mentioned as the five most useful teaching practices in classroom activities by only more proficient readers. The result of Item 28 is supported by the result from the questionnaire; it was found to be statistically significant with difference at the 0.05 level. In addition, Item 37 "My teachers explained what she/he expected of me." was perceived as one of the five least useful teaching practice in classroom activities by both more and less proficient readers. However, Item 26 "My teachers knew my attempts" was mentioned as the least useful teaching practice in classroom activities by only less proficient readers. This result is also supported by the result from the questionnaire; the item was found to have a statistically significant difference at the 0.01 level.

5.2 DISCUSSION

The data collected from the questionnaire revealed that the students perceived the use and usefulness of quantum learning-and-teaching model at the high level. Even though in general the teachers used the quantum learning-and-teaching

model in their reading instruction extensively (at the high level), and the students also perceived the model to be useful at the same level, specific teaching practices items that were rated used by the teachers at the moderate level need some attention. Regarding the teaching practices that the students perceived having usefulness at the high level, Wright and Brown (2006) also found that EFL students who were either trained or not to use reading strategies believe that reading strategy instruction is useful. For the items perceived to be used at the moderate level, Jafari and Shokrpour (2012), Magogwe (2013), Nisbet and Huang (2015), and Yousefian (2015) recommended that teachers need to spend more time in the classroom on these teaching practices so as to help their students learn to read better. In addition, Ludwig (2007) found that teachers should train students how to use reading strategies before they encounter reading passages. DePorter et. al. (1999) stated that experience before label is one of five essential factors in learning. DePorter et al. also suggested that teachers should let students apply their learnt content before labeling it because human brains learn more through experiencing. One explanation for this might be that the teachers might focus only on students' reading comprehension and keep helping students study words, phrases, and structures which resulted in understanding the passage. However, MacNamara (1970 as cited in Alderson, 1984) claimed that EFL students who have higher knowledge in words and structures in their second language tend to have higher reading proficiency.

In order to develop students' reading proficiency, teachers should consider using all teaching practices as perceived useful by their students. According to DePorter et al. (1999), telling students the purpose of lessons improves their proficiency and learning behavior. Moreover, Andre and Anderson (1979 as cited in Nurie, 2017) suggested that determining reading purposes by using questioning and answering betters reading comprehension ability. This issue is related to the quantum learning-and-teaching model in term of the purpose in the context sets in quantum teaching. In addition, DePorter et al. also found that looking at significant features, such as headlines, bold type, pictures, and graphs, is helpful in trying to comprehend the passages because they convey some meanings and ideas. This strategy is mentioned in the quantum learning-and-teaching model in teaching design frame (label stage) and learn skills. Moreover, since students always rely on their teachers, friends, and other reference materials when they face reading difficulties, encouragement of autonomous

learning is one of the essential factors for success (Chomchaiya & Dunworth, 2008). DePorter et al. also contented that enabling students to apply the learnt knowledge to their life in the future and creating autonomous students, are essential parts of students' development. In the quantum learning-and-teaching model, the demonstrate stage offers students opportunity to apply their knowledge into other learning. Additionally, the integration of reading and writing activities has been recommended to develop students' reading proficiency in reading instruction (Bolghari et. al, 2017). To design lessons, DePorter et al. recommended that teachers should consider the following three factors, mentioned in the quantum learning-and-teaching model: teacher-students relationship, learning styles and multiple intelligences, and the difficulty of content and degree or personal risk. Muhammad et. al. (2017) also suggested that teachers should design reading instruction which suited students' reading proficiency.

The findings also revealed that both more or less proficient readers perceived Item 4 "My teachers taught me to underline or circle information in the text to help me remember it" and Item 18 "My teachers asked me to translate from English into my native language when I read" among the top five in most useful teaching practices in reading strategy instruction in both the questionnaire and the interview. Item 4 "My teachers taught me to underline or circle information in the text to help me remember it" was also perceived at the highest mean score in usefulness. One explanation for this might be that this reading strategy is popular among EFL students. Additionally, many studies revealed the use of underlining or circling information in the text at the high level of usage (Al-Rubaye, 2012; İnceçay, 2013; Rastakhiz & Safari, 2014; Solak & Altay, 2014; Zhang & Wu, 2009). Another explanation might be that when students learn through experience, labelling things is a very important stage because students' experience is linked to the target knowledge (DePorter et al., 1999). Puspika and Don Narius (2014) also recommended some useful labelling activities such as using keywords, concepts, and models. Using graphic stuff like pictures, light, and colors can help students to label and comprehend reading passages; moreover, it helps teachers get students' attention, create friendly learning atmosphere, and teachers have more time to create fun learning activities (Yunus, Salehi, & John, 2013). In addition, Burke (2012) suggested that graphic novels and comics facilitates EFL learners not only in reading skill but also in writing skill.

For Item 18 “My teachers asked me to translate from English into my native language when I read” which was perceived as one of the top five most useful, many studies found that translating English into learners’ native language is beneficial to their reading comprehension (Davaribina & Asl, 2017; Lee, Schallert, & Kim, 2015; Tipparach, Kookiattikoon, & Utthachart, 2017). Besides, translation is significantly useful for ESP learners’ reading skill improvement (Rushwan, 2017). DePorter et al. (1999) suggested that teachers should understand students because it affects students’ learning. Translating from English into students’ native languages as mentioned in the quantum learning- and- teaching model is an essential way to provide appropriate context sets (DePorter et al, 1999). Context sets consist of atmosphere, foundation, environment, and design. In order to design lessons based on the quantum learning-and-teaching model, teachers should consider these following factors: from their world to our world, learning styles and multiple intelligences, the difficulty of content and degree of personal risk, and teaching design frame. Darwich’s (2017) and Magogwe’s (2013) studies also revealed the high level of usage of translating from English into students’ native languages. However, Magogwe’s study found only low proficient readers perceived the high usage level. One explanation for this might be that students get used to translating English passages into Thai because it is quite common for Thai teachers to translate passages or ask their students to do so. This might cause the students to perceive that translating from English into Thai is useful for their reading comprehension.

The results revealed that only less proficient readers mentioned Item 2 “My teachers taught me to take notes while reading to help me understand what I read” and Item 13 “My teachers told me to try to get back on track when I lost concentration” as the most useful teaching practices in both the questionnaire and interviews. DePorter et al. (1999) recommended that taking notes is a useful way for students to organize their ideas better. Taking notes is a useful way to decrease lower proficiency readers’degree of personal risk because it is their supplementary resource for reviewing the new content. According to the Ontario Ministry of Education (2004) and Peaty (2012), making notes is another reading strategy which helps readers to check and monitor their understanding, organize and summarize information. In addition, taking notes facilitates readers’ reading comprehension, improve the rate of retention, and provides

additional mental storage (Bahrami & Nosratzadeh, 2017; Chang & Ku, 2015; Frey & Fisher, 2014). One possible explanation for this might be that low proficient readers are normally encouraged by their teachers to take notes for everything they heard while listening. Another possible explanation for this might be that low proficiency readers might be afraid of losing or forgetting learnt content, so taking notes might be an effective strategy to support their learning. In addition, DePorter et al. mentioned when teachers teach new content, they ought to carefully design lessons by considering content difficulty and degree of personal risk. Another explanation might be that low proficiency readers in this context are taught to take notes when they face new or unknown words in reading passages. As most low level readers cannot concentrate on reading passages over in a long period of time, their teachers might have trained them to focus on the reading process by asking them to take notes about what they hear and learn from the reading instruction.

In this context, one possible explanation for this might be that high proficiency readers might prefer to listen to their teachers and take notes for only very important content because they might believe that they can remember most information in class. For Item 13 "My teachers told me to try to get back on track when I lost concentration" mentioned by only less proficient readers, Magogwe (2013) similarly found that their less proficient readers would panic when they could not comprehend reading passages and lost their concentration while the higher proficient readers tried relaxing in order to get back on their reading activities. Other studies found that their students tried to focus on reading activities when they lost concentration in high usage level (Jafari & Shokrpour, 2012; Nisbet & Huang, 2015; Rastakhiz & Safari, 2014; Solak & Altay, 2014; Zhang & Wu, 2009). According to DePorter et al., paying attention to the present moment is a powerful means to create friendly learning environments. It is called best attempt, one of the principles of the quantum learning-and-teaching model. An explanation might be that less proficient Thai readers are used to teachers' intentional help and focus on their learning behaviors. In this way, they feel that someone really cares about them.

In the Thai context, teachers might set their teaching aim to help students achieve a high score in reading comprehension tests, and they might not give much attention to teaching some reading strategies. The students, thus, might have believed

the teaching practices less frequently used by their teachers were not useful for their reading. That is why the students perceived these reading strategies to be the least frequently used and useful.

It can be seen that Item 6 "My teacher let me adjust my reading speed according to what I read" and Item 7 "My teachers taught me to decide what to read closely and what to ignore when I read" were perceived as the least useful reading strategy instruction by both more and less proficient readers. DePorter et al. (1999) suggested that flexibility is one of the eight teaching principles of the quantum learning-and-teaching model. One possible explanation for this is that Thai students might not be trained to adjust their reading rate as teachers themselves might have not been trained to adjust reading speed. Koukourikou, Manoli, and Griva (2018) found that some EFL teachers rarely taught some reading strategies because they themselves were not familiar with them. Another explanation is Thai teachers usually let their students read fast or slow depending on their perceptions of the majority of the class's English proficiency. For Item 7 "My teachers taught me to decide what to read closely and what to ignore when I read", Darwish (2017), Rastakhiz and Safari (2014) and Solak and Altey (2014) found that both more and less proficient readers in their studies least decided what to read closely and what to ignore. An explanation for the finding is that readers might perceive that everything in reading passages is important and necessary for their comprehension. In this context, students give priority to the meaning of words in order to comprehend the whole passage. They might feel uncomfortable and insecure when they do not know some word definitions.

On the other hand, Item 23 "My teacher taught me to use typographical features like bold face and italics to identify key information" were perceived as the least useful reading strategy instructions by only more proficient readers. Additionally, less proficient readers perceived Item 23 at higher level of usefulness than more proficient readers. In the label stage, identifying essential information is a useful step in students' learning process (DePorter et al., 1999). One possible explanation for this is that more proficient readers might perceive that key information can better be identified by the use of word repetition. Moreover, typographical features can be easily noticed and perceived as key information by more proficient readers without the need

to be taught and emphasized by the teachers, and that might be the reason they perceived if as the least useful.

Item 41 "My teachers offered a variety of class activities such as watching videos, interpreting passages, group games, listening to music, role-playing, and mind mapping" and Item 43 "My teachers reviewed the learnt content frequently" were perceived as the useful classroom activities by both more and less proficient readers in both the questionnaire and the interview. For Item 41 "My teachers offered a variety of class activities such as watching videos, interpreting passages, group games, listening to music, role-playing, and mind mapping", the usefulness of a variety of class activities might indicate that the teachers might have been aware of their students' different learning styles and multiple intelligences. The quantum learning-and-teaching model recommends that teachers should consider a variety of students' learning styles and intelligences. In addition, DePorter et al. (1999) also mentioned that teachers ought to improve and develop not only certain intelligence preferences, but also the other intelligences. Gardner (1983) found that there are eight intelligences: visual, verbal, interpersonal, musical, naturalist, kinesthetic, intrapersonal, and logical. To support student intelligences, there is a connection between learning style and multiple intelligences. Thus, the participants perceived that the teachers' use of a variety of classroom activities might cater to their learning styles. Not only the usefulness of a variety of classroom activities but also reviewing content frequently was perceived as the most useful classroom activity by more and less proficient readers.

DePorter et al. (1999) suggested that teachers should review learnt content regularly to make sure that students comprehend and storage it. This is mentioned in the design stage, which teachers should consider the difficulty of content and degree of personal risk. Chacón (2002) also mentioned that reviewing of vocabulary, grammar, and reading comprehension strategies is a useful reinforcing strategy in post-reading phrase. One possible explanation for this is that the students were required to study the English course with at least two teachers who might have different ways of teaching. Reviewing content frequently might have been perceived useful by the students as they could manage their learnt knowledge for the exam better.

Even though Item 41 "My teachers offered a variety of class activities such as watching videos, interpreting passages, group games, listening to music, role-

playing, and mind mapping" and Item 43 "My teachers reviewed the learnt content frequently" were perceived as the useful classroom activities by both more and less proficient readers in both the questionnaire and the interview, Item 28 "My teachers treated my friends and me fairly" and Item 30 "My teachers made reading lessons fun" were perceived as the most useful classroom approaches by only more proficient readers. Both Item 28 and Item 30 are related to the context sets in quamtum teaching in terms of atmosphere. DePorter et al. suggested that a hidden power of teachers' intention has a great impact on students' performance and self-image. Additionally, making lesson fun is one of main psychological factors in the quantum learning-and-teaching model. One possible explanation for Item 28 is that the teachers might have treated some less proficient students differently, and it might have caused an unfriendly and unsatisfying atmosphere in the lessons. The explanation for Item 30 might be that a teacher-centered method is still commonly used in Thai classroom instruction. Because of the teacher-centered method, Thai students tend to be passive and dependent students. Thamraksa (2004) states that, in Thai society, a teacher's image is of a person who has great knowledge, and if teachers want to maintain their status in the society, they use teacher-centered methods. This is supported by the conclusion that English teachers use teacher-centered approaches as a core method in their lessons, which is significant for lack of student involvement (Akkakoson, 2013; Chareonwongsak, 2002; Sitthitikul, 2007). Not enjoying a reading lesson might result in Thai students' not being able to perceive learning as a life-long process, to realize learning value, and to take their own learning responsibility. Another explanation for this is that teachers might not have noticed and perceived less proficient readers' attempts because they might have set a high standard on their students. Even if less proficient readers tried to do their best to study in the English reading lessons, their results might be lower than the teachers' expectations.

It can be seen that Item 37 "My teacher explained what she/he expected of me." was perceived as the least useful teaching practice by both more and less proficient readers. The quantum learning-and-teaching model recommends that telling expectation directs students' behaviors (DePorter et al., 1999). The first explanation for this might be that the students might have been worried whether they could accomplish the objectives which their teachers had informed them about or not. By

explaining expectations of students, it might cause stress and anxiety in their learning processes, so it might become a negative attitude toward reading instruction and obstruct their reading strategy development. Even though pressure of expectations can better student performance, it can lower students' confidence and enjoyment (Malmberg & Martin, 2019). In addition, in the Thai context, teachers might explain their expectations to their students too often because they might believe that their students would then be able to follow their plans and complete their goals.

On the other hand, Item 26 "My teacher knew my attempts" was perceived as the least useful teaching practice by only less proficient readers. DePorter et al. (1999) suggested that students feel proud and confident when their teachers acknowledge their effort. The first explanation for this might be that the teachers might believe that the less proficient students who might have behaved well and been quiet in class could have understood the learnt content. Consequently, the teachers might not have paid attention to them as much as some less proficient students who tended to be at the stage of an uprising in class. In this context, less proficient readers might have perceived that the teachers did not care about them enough even though they had tried hard to show their concentration and attempted achievements for lessons. Another explanation for this might be that there might be too many students in classes in Thai public schools. This might affect students' engagement in class (Almulla, 2015).

It can be concluded that the teachers used the quantum learning-and-teaching model in terms of tenets, context sets, and content in reading lessons at the high level of usage, and Thai secondary school EFL readers also perceived them at the high level of usefulness in reading strategy instruction and classroom activities. The quantum learning-and-teaching model was found used by the teachers and useful for the students in reading instruction in this study. In this study, the teachers may not know the quantum learning-and-teaching model; however, they frequently used the model in their reading instruction both in reading strategy instruction and classroom activities. For reading strategy instruction, the teachers used many characteristics of the quantum learning-and-teaching model such as using highlighters to highlight difficult and unseen words (everything is on purpose), observing the overall organization of reading passages before showing pictures and translating passages (facilitator), translating passages in class (from their world to our world), taking notes (organizing information),

etc. For classroom activities, teachers also did various classroom activities relating to the quantum learning-and-teaching model, for example, preparing various activities (considering learning styles and multiple intelligences), making fun lessons (joy and wonder), reviewing learnt content (considering the difficulty of content and degree of personal risk), etc. However, they missed some teaching practices: teaching students to decide what to read closely and what to ignore (tapping creative genius), adjusting reading speed (priciples), using references (keeping the community going), knowing students'attempt (acknowledge every effort), appreciating students' success (If it's worth learning, it's worth celebrating.), explaining students' expectation (agreements, policies, procedures, and rules), and giving easy direction (presentation).

In summary, both reading strategy instruction and classroom activities are important factors in reading instruction. To conduct reading instruction, not only reading strategy instruction but also classroom activities should be carefully and considerably designed to facilitate students in developing reading skill.

5.3 IMPLICATIONS

The implications from the findings in the Thai context are presented as follows.

First, Thai teachers can help their students learn how to read English text better if they follow a quantum learning-and-teaching model in their reading instruction (Abdulah, 2012; Fadillah, 2013; Khasanah, 2012; Koeswandi & Saleh, 2014; Martika & Hermayawati, 2016; Suwarni et al., 2014). Moreover, teachers should spend more time in class using the five teaching practices found to be used at the moderate level: (Item 3 "My teachers let me think about whether the content of the text fit my reading purpose", Item 6 "My teachers let me adjust my reading speed according to what I read", Item 7 "My teachers taught me to decide what to read closely and what to ignore when I read", Item 23 "My teachers taught me to use typographical features like bold face and italics to identify key information" and Item 33 "My teachers encouraged me to take part in classroom activities").

The findings from this study can be interpreted to show that as the use of the investigated teaching practices seems to result in the students' positive perceptions

of the usefulness of the teaching practices, using a quantum learning-and-teaching model in reading instruction is recommended in a reading class. Abdulah (2012) and Koeswandi and Saleh (2014) recommended that the quantum learning-and-teaching model could be applied as a reading comprehension model as the results of their study showed that quantum teaching lessons improved the students' language proficiency and as well they assisted the teachers in providing an appropriate learning atmosphere.

Martika and Hermayawati's (2016) study also confirmed that the quantum learning-and-teaching model bettered their students' reading skill and learning behaviours. In addition, Fadillah (2013) found that the activities and characteristics of quantum learning gave a positive effect on the students' abilities in learning reading since they encouraged an enjoyable and comfortable learning atmosphere. Moreover, Khasanah (2012) emphasized that the quantum learning-and-teaching model is a good choice for creative reading instruction, especially to motivate student interest.

Moreover, its characteristics are also beneficial in English class in various skills which might develop EFL students' English proficiency. In the Thai context, even where students perceive that their teachers use a quantum learning-and-teaching model in reading strategy instruction at high level of usage, teachers should apply it more. For more proficient readers, teachers should train their students to take an overall view of the text and to read with a purpose (Aebersold & Field, 1997; Arce, 2000; Duffy & Roehler, 1993; Peaty, 2012).

DePorter et al. (1999) further mentioned that receiving complete information and explaining the learning purpose can easily activate and recall students' prior knowledge. For classroom activities, breaking reading text into small parts and treating everyone fairly are also useful for more proficient readers. DePorter et al. and Peaty stated that breaking content into chunks helps students learn it easily. In addition, DePorter et al. further confirmed that students learn more when the classroom atmosphere is friendly.

Additionally, teachers should spend more time in class teaching how to take notes while reading, letting students review text first by noting its characteristics, and teaching students to get back on track when losing concentration, especially with less proficient readers. DePorter et al. (1999), Ontario Ministry of Education (2004), and Peaty (2012) suggest that organizing information tools, such as note taking and mind

mapping, help students manage their thoughts and ideas well. Besides, text organization helps readers with analyzing information and relationship of ideas from the text (Chacón, 2002). DePorter et al. also found that maintaining concentration with reading text facilitates students' comprehension. To teach less proficient readers, teachers should apply two classroom strategies more paying attention to everything in the class and encouraging students to take part in classroom activities. DePorter et al. stated that everything in the classroom sends a message to students. Moreover, DePorter et al. mentioned that students who feel the sense of team belonging in a classroom mostly succeed in their learning goals.

In conclusion, to complete their learning goals, students should be highly motivated and active when participating in the reading instruction. Institutions or schools, thus, need to support their teachers in terms of both teaching materials and teaching process to make sure this is possible.

5.4 RECOMMENDATIONS FOR FURTHER RESEARCH

Since the present study was conducted with limited scope, the findings should not be overgeneralized. There are some limitations that should be considered in further research.

1. The present study was a survey study and the sample size of the participants was small. Moreover, the semi-structure interview was contributed to the collected qualitative data by only six participants. Thus, the generalizability is thus limited. Further research may employ other methodology and involve a larger scale in order to be more valid and generalizable.

2. The participants were asked to complete the questionnaires in their English class during the lessons. Each lesson lasted only 50 minutes; however, the researcher asked the teachers to administer the questionnaire for about 20 to 30 minutes. Further research should provide participants more time to complete questionnaires and more opportunity to ask questions so that the findings could be more reliable.

3. In addition, the researcher was the participants' English teacher. Even though the researcher had told them to recall their experience about their teachers' teaching practices in the previous reading course, it is possible that the participants might have been confused and answered the questionnaire based on their perceptions

regarding their present teacher. Therefore, further research could be done within the semester at the end of the course instruction.

4. The present study investigated the perceptions regarding the use and usefulness of a quantum learning-and-teaching model in reading instruction. The finding of this study has shed some light on English reading instruction among Thai secondary school students. However, more studies should be conducted to investigate the use and usefulness of a quantum learning-and-teaching model in English language teaching in other contexts.

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APPENDICES

APPENDIX A

Questionnaire

แบบสอบถามความคิดเห็นนักเรียนเกี่ยวกับการใช้และประโยชน์ของการใช้

Quantum Learning-and-Teaching Model สำหรับการสอนการอ่าน

ในรายวิชาภาษาอังกฤษเสริมทักษะ 3 และ 4

คำชี้แจง:

- ผู้ตอบแบบสอบถามนี้คือ นักเรียนระดับชั้นมัธยมศึกษาปีที่ 3 โรงเรียนศึกษานารีวิทยา ที่เรียนวิชาภาษาอังกฤษเสริมทักษะ 3 และ 4 ในปีการศึกษา 2561
- คำถามแบ่งออกเป็น 2 ตอนดังนี้

  ตอนที่ 1 ความคิดเห็นเกี่ยวกับการใช้ Quantum Learning-and-Teaching Model

  ตอนที่ 1.1 ความคิดเห็นเกี่ยวกับการใช้ Quantum Learning-and-Teaching Model สำหรับการสอนกลยุทธ์การอ่าน

  ตอนที่ 1.2 ความคิดเห็นเกี่ยวกับการใช้ Quantum Learning-and-Teaching Model สำหรับการจัดกิจกรรมการเรียนการสอน

  ตอนที่ 2 ความคิดเห็นเกี่ยวกับประโยชน์ของการใช้ Quantum Learning-and-Teaching Model

  ตอนที่ 2.1 ความคิดเห็นเกี่ยวกับประโยชน์ของการใช้ Quantum Learning-and-Teaching Model สำหรับการสอนกลยุทธ์การอ่าน

  ตอนที่ 2.1 ความคิดเห็นเกี่ยวกับประโยชน์ของการใช้ Quantum Learning-and-Teaching Model สำหรับการจัดกิจกรรมการเรียนการสอน

โดยแบบสอบถามนี้มีวัตถุประสงค์เพื่อทราบความคิดเห็นของนักเรียนเกี่ยวกับการใช้และประโยชน์ของการใช้ Quantum Learning-and-Teaching Model สำหรับการสอนอ่านในรายวิชาภาษาอังกฤษเสริมทักษะ 3 และ 4 ขอให้นักเรียนตอบคำถามทุกข้อตามความเป็นจริง ผู้วิจัยจะรักษาคำตอบของนักเรียนเป็นความลับและใช้ในการประมวลผลเพื่อการวิจัยครั้งนี้เท่านั้น

ข้อมูลทั่วไปของผู้ตอบแบบสอบถาม

1. ชื่อ-นามสกุล..... ชั้น ม.3/..... เลขที่.....
2. เพศ ☐ ชาย ☐ หญิง
3. อายุ ☐ 14 ปี ☐ 15 ปี ☐ 16 ปี
4. จำนวนปีที่เรียนภาษาอังกฤษ ..... ปี

5. เกรดวิชาภาษาอังกฤษเสริมทักษะ 3

☐ 0.00 ☐ 1.00 ☐ 1.50 ☐ 2.00 ☐ 2.50 ☐ 3.00 ☐ 3.50 ☐ 4.00

6. เกรดวิชาภาษาอังกฤษเสริมทักษะ 4

☐ 0.00 ☐ 1.00 ☐ 1.50 ☐ 2.00 ☐ 2.50 ☐ 3.00 ☐ 3.50 ☐ 4.00

ตอนที่ 1: ความคิดเห็นเกี่ยวกับการใช้ Quantum Learning-and-Teaching Model

ตอนที่ 1.1: ความคิดเห็นเกี่ยวกับการใช้ Quantum Learning-and-Teaching Model สำหรับการสอนกลยุทธ์การอ่านและการจัดกิจกรรมการเรียนการสอน

กรุณาทำเครื่องหมาย ✓ลงในแบบสอบถามเพื่อแสดงความคิดเห็นของนักเรียนตามความเป็นจริง

เกณฑ์การประเมิน 5 = ใช้บ่อยมาก

4 = ใช้บ่อย

3 = ใช้บางครั้ง

2 = ใช้นาน ๆ ครั้ง

1 = ไม่เคยใช้เลย

ข้อ	ประเด็น	5	4	3	2	1
1	My teacher informed me of the reading purpose. คุณครูบอกจุดประสงค์ในการอ่านแก่ฉัน					
2	My teacher taught me to take notes while reading to help me understand what I read. คุณครูให้ฉันจดบันทึกขณะอ่านเพื่อช่วยให้ฉันเข้าใจในบทอ่าน					
3	My teacher let me think about whether the content of the text fit my reading purpose. คุณครูให้ฉันคิดว่าเนื้อหาที่อ่านตรงกับจุดประสงค์ของฉันหรือไม่					
4	My teacher taught me to underline or circle information in the text to help me remember it. คุณครูให้ฉันขีดเส้นใต้หรือวงกลมข้อมูลในบทอ่านเพื่อช่วยให้ฉันจำสิ่งที่อ่านได้					
5	My teacher taught me to try to picture or visualize information to help remember what I read. คุณครูให้ฉันลองจินตนาการภาพหรือนึกภาพข้อมูลในใจเพื่อช่วยให้ฉันจำสิ่งที่ฉันอ่านได้					

6	My teacher let me adjust my reading speed according to what I read. คุณครูให้ฉันปรับความเร็วในการอ่านตามสิ่งที่ฉันอ่าน					
7	My teacher taught me to decide what to read closely and what to ignore when I read. คุณครูให้ฉันตัดสินใจขณะอ่านว่าสิ่งใดควรอ่านอย่างตั้งใจและสิ่งใดควรมองข้าม					
8	My teacher let me try to guess what the content of the text was about when I read. คุณครูให้ฉันพยายามคาดการณ์เรื่องราวของบทอ่านในขณะที่อ่าน					
9	My teacher taught me to ask myself questions I liked to have answered in the text. คุณครูให้ฉันตั้งคำถามเกี่ยวกับสิ่งที่ฉันอ่านเพื่อจะหาคำตอบในบทอ่าน					
10	My teacher asked me to guess the meaning of unknown words or phrases when I read. คุณครูให้ฉันคาดเดาความหมายของคำหรือวลีที่ฉันไม่ทราบในขณะที่อ่าน					
11	When text became difficult, my teacher taught me to pay closer attention to what I read. เมื่อบทอ่านยาก คุณครูให้ฉันตั้งใจอ่านมากขึ้น					
12	My teacher let me read slowly and carefully to make sure I understood what I read. คุณครูให้ฉันอ่านบทอ่านอย่างช้า ๆ และระมัดระวังเพื่อให้แน่ใจว่าฉันเข้าใจในสิ่งที่อ่าน					
13	My teacher told me to try to get back on track when I lost concentration. คุณครูให้ฉันพยายามตั้งใจอ่านเมื่อฉันเสียสมาธิ					
14	My teacher taught me to use context clues to help me better understand what I read.					

	คุณครูให้ฉันใช้การเดาคำศัพท์จากปริบทเพื่อช่วยให้ฉันเข้าใจในสิ่งที่ฉันอ่านมากขึ้น					
15	My teacher let me use reference materials (e.g., a dictionary) to help me understand what I read. คุณครูให้ฉันใช้เอกสารอ้างอิง เช่น พจนานุกรม เพื่อช่วยให้ฉันเข้าใจในบทอ่าน					
16	My teacher taught me to use tables, figures, and pictures in the text to increase my understanding. คุณครูให้ฉันดูตาราง แผนภูมิ และรูปภาพ ต่าง ๆ ในบทอ่านเพื่อเพิ่มความเข้าใจในสิ่งที่อ่าน					
17	My teacher asked me to check my understanding when I came across new information. คุณครูให้ฉันตรวจสอบความเข้าใจเมื่อฉันอ่านพบข้อมูลใหม่					
18	My teacher asked me to translate from English into my native language when I read. คุณครูให้ฉันแปลจากภาษาอังกฤษเป็นภาษาไทยในขณะที่อ่าน					
19	My teacher let me think about what I knew to help me understand what I read. คุณครูให้ฉันคิดเกี่ยวกับสิ่งที่ฉันรู้เพื่อช่วยให้เข้าใจในบทอ่าน					
20	My teacher taught me to take an overall view of the text to see what it was about before reading it. คุณครูให้ฉันสังเกตภาพรวมของบทอ่านก่อนเพื่อให้เข้าใจว่าบทอ่านเป็นเรื่องเกี่ยวกับอะไร					
21	My teacher let me review the text first by noting its characteristics like length and organization. คุณครูให้ฉันพิจารณาบทอ่านเป็นอันดับแรก โดยสังเกตลักษณะ เช่น ความยาวของเรื่อง และ องค์ประกอบต่าง ๆ ของเรื่อง เป็นต้น					
22	My teacher taught me to paraphrase to better understand what I read. คุณครูให้ฉันถอดความเพื่อช่วยให้ฉันเข้าใจในบทอ่านมากขึ้น					

23	My teacher taught me to use typographical features like bold face and italics to identify key information. คุณครูให้ฉันดูลักษณะด้านการพิมพ์ เช่น ตัวหนาและเอียง เพื่อระบุข้อมูลที่สำคัญของบทอ่าน					
24	My teacher taught me to critically analyze and evaluate the information presented in the text. คุณครูให้ฉันวิเคราะห์และประเมินข้อมูลที่อยู่ในบทอ่านอย่างมีวิจารณญาณ					

ตอนที่ 1.2: ความคิดเห็นเกี่ยวกับการใช้ Quantum Learning-and-Teaching Model สำหรับการสอนกลยุทธ์การอ่านและการจัดกิจกรรมการเรียนการสอน

ข้อ	ประเด็น	5	4	3	2	1
25	My teacher paid attention to everything in the classroom. คุณครูให้ความสำคัญกับสิ่งต่าง ๆ ที่เกิดขึ้นในชั้นเรียน					
26	My teacher knew my attempts. คุณครูเห็นความพยายามของฉัน					
27	My teacher appreciated my success. คุณครูชื่นชมกับความสำเร็จของฉัน					
28	My teacher treated my friends and me fairly. คุณครูปฏิบัติกับเพื่อนและฉันอย่างเท่าเทียมกัน					
29	My teacher had a good relationship with me. คุณครูมีความสัมพันธ์ที่ดีกับฉัน					
30	My teacher made reading lessons fun. คุณครูทำให้การเรียนการสอนอ่านสนุกสนาน					
31	My teacher asked and supported me to try something new. คุณครูแนะและคอยสนับสนุนให้ฉันลองทำสิ่งใหม่ๆ					
32	My teacher let me work with other students in pairs or in groups. คุณครูให้ฉันทำงานกับเพื่อนคนอื่นทั้งเป็นคู่หรือเป็นกลุ่ม					

33	My teacher encouraged me to take part in classroom activities. คุณครูกระตุ้นให้ฉันมีส่วนร่วมในการทำกิจกรรมต่าง ๆ ในห้องเรียน					
34	My teacher acted as a facilitator. คุณครูทำหน้าที่เป็นผู้ให้ความสนับสนุนและช่วยเหลือนักเรียน					
35	My teacher told me the lesson objectives. คุณครูบอกจุดประสงค์ของการเรียนแก่ฉันและเพื่อน ๆ					
36	My teacher cared about what I was doing. คุณครูใส่ใจกับสิ่งที่ฉันกำลังทำ					
37	My teacher explained what she/he expected of me. คุณครูบอกให้ฉันทราบว่าคาดหวังอะไรจากฉัน					
38	My teacher told me that learning responsibility belonged to me and involved me in making decisions about classwork. คุณครูบอกว่าฉันควรมีความรับผิดชอบต่อการเรียนของฉัน โดยให้ฉันมีส่วนร่วมในการเลือกกิจกรรมการเรียนการสอนในชั้นเรียน					
39	My teacher used pictures, posters, realia, and props when teaching. คุณครูใช้รูป โปสเตอร์ ของจริง และ อุปกรณ์ประกอบการสอน					
40	My teacher accepted me the way I was. คุณครูยอมรับในสิ่งที่ฉันเป็น					
41	My teacher offered a variety of class activities such as watching videos, interpreting passages, group games, listening to music, role-playing, and mind mapping. คุณครูจัดกิจกรรมที่มีความหลากหลาย เช่น การดูวีดีโอ, การตีความบทอ่าน, การเล่นเกมส์, การฟังเพลง, การเล่นบทบาทสมมติ, และการใช้แผนผังความคิด					
42	My teacher broke the reading text into small parts. คุณครูแบ่งบทอ่านให้เป็นส่วนย่อย ๆ					

43	My teacher reviewed the learnt content frequently. คุณครูทบทวนบทเรียนบ่อย ๆ					
44	My teacher used graphic organizers and mind maps to make lessons easier to understand. คุณครูใช้ผังกราฟฟิกและแผนผังความคิดประกอบการสอนเพื่อให้นักเรียนเข้าใจบทเรียนง่ายขึ้น					
45	My teacher's explanation helped me to create images in my mind. คำอธิบายของคุณครูช่วยให้ฉันสามารถสร้างจินตนาการได้					
46	My teacher's direction was easy to follow. คำสั่งของคุณครูง่ายต่อการปฏิบัติตาม					
47	My teacher's eye contact, facial expression, voice, gesture, and posture helped me to understand his/her explanation. สายตา สีหน้า น้ำเสียง กิริยา และท่าทางของคุณครูช่วยให้ฉันเข้าใจคำอธิบายของเขา					
48	My teacher paid attention to my problems, encouraged me to solve problems, and told me solutions. คุณครูให้ความใส่ใจในปัญหาของฉัน ให้กำลังใจฉันในการแก้ปัญหาและบอกทางแก้ปัญหากับฉัน					
49	My teacher told me what I would do later. คุณครูบอกให้ฉันรู้ว่ากำลังจะทำกิจกรรมอะไรต่อไป					

ตอนที่ 2: ความคิดเห็นเกี่ยวกับประโยชน์ของการใช้ Quantum Learning-and-Teaching Model

ตอนที่ 2.1: ความคิดเห็นเกี่ยวกับประโยชน์ของการใช้ Quantum Learning-and-Teaching Model สำหรับการสอนกลยุทธ์การอ่าน

กรุณาทำเครื่องหมาย ✓ลงในแบบสอบถามเพื่อแสดงความคิดเห็นของนักเรียนตามความเป็นจริง

เกณฑ์การประเมิน 5 = มีประโยชน์มากที่สุด
4 = มีประโยชน์มาก
3 = มีประโยชน์ปานกลาง
2 = มีประโยชน์น้อย
1 = ไม่มีประโยชน์เลย

ข้อ	ประเด็น	5	4	3	2	1
1	My teacher informed me of the reading purpose. คุณครูบอกจุดประสงค์ในการอ่านแก่ฉัน					
2	My teacher taught me to take notes while reading to help me understand what I read. คุณครูให้ฉันจดบันทึกขณะอ่านเพื่อช่วยให้ฉันเข้าใจในบทอ่าน					
3	My teacher let me think about whether the content of the text fit my reading purpose. คุณครูให้ฉันคิดว่าเนื้อหาที่อ่านตรงกับจุดประสงค์ของฉันหรือไม่					
4	My teacher taught me to underline or circle information in the text to help me remember it. คุณครูให้ฉันขีดเส้นใต้หรือวงกลมข้อมูลในบทอ่านเพื่อช่วยให้ฉันจำสิ่งที่อ่านได้					
5	My teacher taught me to try to picture or visualize information to help remember what I read. คุณครูให้ฉันลองจินตนาการภาพหรือนึกภาพข้อมูลในใจเพื่อช่วยให้ฉันจำสิ่งที่ฉันอ่านได้					
6	My teacher let me adjust my reading speed according to what I read. คุณครูให้ฉันปรับความเร็วในการอ่านตามสิ่งที่ฉันอ่าน					

7	My teacher taught me to decide what to read closely and what to ignore when I read. คุณครูให้ฉันตัดสินใจขณะอ่านว่าสิ่งใดควรอ่านอย่างตั้งใจและสิ่งใดควรมองข้าม					
8	My teacher let me try to guess what the content of the text was about when I read. คุณครูให้ฉันพยายามคาดการณ์เรื่องราวของบทอ่านในขณะที่อ่าน					
9	My teacher taught me to ask myself questions I liked to have answered in the text. คุณครูให้ฉันตั้งคำถามเกี่ยวกับสิ่งที่ฉันอ่านเพื่อจะหาคำตอบในบทอ่าน					
10	My teacher asked me to guess the meaning of unknown words or phrases when I read. คุณครูให้ฉันคาดเดาความหมายของคำหรือวลีที่ฉันไม่ทราบในขณะที่อ่าน					
11	When text became difficult, my teacher taught me to pay closer attention to what I read. เมื่อบทอ่านยาก คุณครูให้ฉันตั้งใจอ่านมากขึ้น					
12	My teacher let me read slowly and carefully to make sure I understood what I read. คุณครูให้ฉันอ่านบทอ่านอย่างช้า ๆ และระมัดระวังเพื่อให้แน่ใจว่าฉันเข้าใจในสิ่งที่อ่าน					
13	My teacher told me to try to get back on track when I lost concentration. คุณครูให้ฉันพยายามตั้งใจอ่านเมื่อฉันเสียสมาธิ					
14	My teacher taught me to use context clues to help me better understand what I read. คุณครูให้ฉันใช้การเดาคำศัพท์จากปริบทเพื่อช่วยให้ฉันเข้าใจในสิ่งที่ฉันอ่านมากขึ้น					

15	My teacher let me use reference materials (e.g., a dictionary) to help me understand what I read. คุณครูให้ฉันใช้เอกสารอ้างอิง เช่น พจนานุกรม เพื่อช่วยให้ฉันเข้าใจในบทอ่าน					
16	My teacher taught me to use tables, figures, and pictures in the text to increase my understanding. คุณครูให้ฉันดูตาราง แผนภูมิ และรูปภาพ ต่าง ๆ ในบทอ่านเพื่อเพิ่มความเข้าใจในสิ่งที่อ่าน					
17	My teacher asked me to check my understanding when I came across new information. คุณครูให้ฉันตรวจสอบความเข้าใจเมื่อฉันอ่านพบข้อมูลใหม่					
18	My teacher asked me to translate from English into my native language when I read. คุณครูให้ฉันแปลจากภาษาอังกฤษเป็นภาษาไทยในขณะที่อ่าน					
19	My teacher let me think about what I knew to help me understand what I read. คุณครูให้ฉันคิดเกี่ยวกับสิ่งที่ฉันรู้เพื่อช่วยให้เข้าใจในบทอ่าน					
20	My teacher taught me to take an overall view of the text to see what it was about before reading it. คุณครูให้ฉันสังเกตภาพรวมของบทอ่านก่อนเพื่อให้เข้าใจว่าบทอ่านเป็นเรื่องเกี่ยวกับอะไร					
21	My teacher let me review the text first by noting its characteristics like length and organization. คุณครูให้ฉันพิจารณาบทอ่านเป็นอันดับแรก โดยสังเกตลักษณะ เช่น ความยาวของเรื่อง และ องค์ประกอบต่าง ๆ ของเรื่อง เป็นต้น					
22	My teacher taught me to paraphrase to better understand what I read. คุณครูให้ฉันถอดความเพื่อช่วยให้ฉันเข้าใจในบทอ่านมากขึ้น					
23	My teacher taught me to use typographical features like bold face and italics to identify key information.					

	คุณครูให้ฉันดูลักษณะด้านการพิมพ์ เช่น ตัวหนาและเอียง เพื่อระบุข้อมูลที่สำคัญของบทอ่าน					
24	My teacher taught me to critically analyze and evaluate the information presented in the text. คุณครูให้ฉันวิเคราะห์และประเมินข้อมูลที่อยู่ในบทอ่านอย่างมีวิจารณญาณ					

ตอนที่ 2.2: ความคิดเห็นเกี่ยวกับประโยชน์ของการใช้ Quantum Learning-and-Teaching Model สำหรับการจัดกิจกรรมการเรียนการสอน

ข้อ	ประเด็น	5	4	3	2	1
25	My teacher paid attention to everything in the classroom. คุณครูให้ความสำคัญกับสิ่งต่าง ๆ ที่เกิดขึ้นในชั้นเรียน					
26	My teacher knew my attempts. คุณครูเห็นความพยายามของฉัน					
27	My teacher appreciated my success. คุณครูชื่นชมกับความสำเร็จของฉัน					
28	My teacher treated my friends and me fairly. คุณครูปฏิบัติกับเพื่อนและฉันอย่างเท่าเทียมกัน					
29	My teacher had a good relationship with me. คุณครูมีความสัมพันธ์ที่ดีกับฉัน					
30	My teacher made reading lessons fun. คุณครูทำให้การเรียนการสอนอ่านสนุกสนาน					
31	My teacher asked and supported me to try something new. คุณครูแนะและคอยสนับสนุนให้ฉันลองทำสิ่งใหม่ๆ					
32	My teacher let me work with other students in pairs or in groups. คุณครูให้ฉันทำงานกับเพื่อนคนอื่นทั้งเป็นคู่หรือเป็นกลุ่ม					

33	My teacher encouraged me to take part in classroom activities. คุณครูกระตุ้นให้ฉันมีส่วนร่วมในการทำกิจกรรมต่าง ๆ ในห้องเรียน					
34	My teacher acted as a facilitator. คุณครูทำหน้าที่เป็นผู้ให้ความสนับสนุนและช่วยเหลือนักเรียน					
35	My teacher told me the lesson objectives. คุณครูบอกจุดประสงค์ของการเรียนแก่ฉันและเพื่อน ๆ					
36	My teacher cared about what I was doing. คุณครูใส่ใจกับสิ่งที่ฉันกำลังทำ					
37	My teacher explained what she/he expected of me. คุณครูบอกให้ฉันทราบว่าคาดหวังอะไรจากฉัน					
38	My teacher told me that learning responsibility belonged to me and involved me in making decisions about classwork. คุณครูบอกว่าฉันควรมีความรับผิดชอบต่อการเรียนของฉัน โดยให้ฉันมีส่วนร่วมในการเลือกกิจกรรมการเรียนการสอนในชั้นเรียน					
39	My teacher used pictures, posters, realia, and props when teaching. คุณครูใช้รูป โปสเตอร์ ของจริง และ อุปกรณ์ประกอบการสอน					
40	My teacher accepted me the way I was. คุณครูยอมรับในสิ่งที่ฉันเป็น					
41	My teacher offered a variety of class activities such as watching videos, interpreting passages, group games, listening to music, role-playing, and mind mapping. คุณครูจัดกิจกรรมที่มีความหลากหลาย เช่น การดูวีดีโอ, การตีความบทอ่าน, การเล่นเกมส์, การฟังเพลง, การเล่นบทบาทสมมติ, และการใช้แผนผังความคิด					
42	My teacher broke the reading text into small parts. คุณครูแบ่งบทอ่านให้เป็นส่วนย่อย ๆ					

43	My teacher reviewed the learnt content frequently. คุณครูทบทวนบทเรียนบ่อย ๆ					
44	My teacher used graphic organizers and mind maps to make lessons easier to understand. คุณครูใช้ผังกราฟฟิกและแผนผังความคิดประกอบการสอนเพื่อให้นักเรียนเข้าใจบทเรียนง่ายขึ้น					
45	My teacher's explanation helped me to create images in my mind. คำอธิบายของคุณครูช่วยให้ฉันสามารถสร้างจินตนาการได้					
46	My teacher's direction was easy to follow. คำสั่งของคุณครูง่ายต่อการปฏิบัติตาม					
47	My teacher's eye contact, facial expression, voice, gesture, and posture helped me to understand his/her explanation. สายตา สีหน้า น้ำเสียง กิริยา และท่าทางของคุณครูช่วยให้ฉันเข้าใจคำอธิบายของเขา					
48	My teacher paid attention to my problems, encouraged me to solve problems, and told me solutions. คุณครูให้ความใส่ใจในปัญหาของฉัน ให้กำลังใจฉันในการแก้ปัญหาและบอกทางแก้ปัญหากับฉัน					
49	My teacher told me what I would do later. คุณครูบอกให้ฉันรู้ว่ากำลังจะทำกิจกรรมอะไรต่อไป					

APPENDIX B

Semi-structured Interview Questions

1. What did your teacher do to help you learn how to read?
2. What aspect of this class did you enjoy the most? Why?
3. What aspect of this class did you dislike the most? Why?
4. What reading strategies did your teacher teach?
5. What reading strategies you learned were the most helpful?
6. What reading strategies you learned were the least helpful?
7. What activities did your teacher use in your reading class?
8. What activities did you find the most helpful?
9. What activities did you find the least helpful?
10. Are there other things would you like your reading teacher to do to help you learn how to read better?

APPENDIX C

Table of Modified Questionnaire Items in Reading Strategy Instruction

Item no.	Mokhtari and Sheorey's (2002)	Modified questionnaire items
1	I have a purpose in mind when I read.	My teachers informed me of the reading purpose.
2	I take notes while reading to help me understand what I read.	My teachers taught me to take notes while reading to help me understand what I read.
3	I think about what I know to help me understand what I read.	My teachers let me think about what I knew to help me understand what I read.
4	I take an overall view of the text to see what it is about before reading it.	My teachers taught me to take an overall view of the text to see what it was about before reading it.
6	I think about whether the content of the text fits my reading purpose.	My teachers let me think about whether the content of the text fit my reading purpose.
7	I read slowly and carefully to make sure I understand what I am reading.	My teachers let me read slowly and carefully to make sure I understood what I read.
8	I review the text first by noting its characteristics like length and organization.	My teachers let me review the text first by noting its characteristics like length and organization.
9	I try to get back on track when I lose concentration.	My teachers told me to try to get back on track when I lost concentration.

Item no.	Mokhtari and Sheorey's (2002)	Modified questionnaire items
10	I underline or circle information in the text to help me remember it.	My teachers taught me to underline or circle information in the text to help me remember it.
11	I adjust my reading speed according to what I am read.	My teachers let me adjust my reading speed according to what I read.
12	When reading, I decide what to read closely and what to ignore.	My teachers taught me to decide what to read closely and what to ignore when I read.
13	I use reference materials (e. g. a dictionary) to help me understand what I read.	My teachers let me use reference materials (e.g., a dictionary) to help me understand what I read.
14	When text becomes difficult, I pay closer attention to what I am reading.	When text became difficult, my teachers taught me to pay closer attention to what I read.
15	I use tables, figures, and pictures in text to increase my understanding.	My teachers taught me to use tables, figures, and pictures in the text to increase my understanding.
17	I use context clues to help me better understand what I am reading.	My teachers taught me to use context clues to help me better understand what I read.
18	I paraphrase (restate ideas in my own words) to better understand what I read.	My teachers taught me to paraphrase to better understand what I read.
19	I try to picture or visualize to help remember what I read.	My teachers taught me to try to picture or visualize information to help remember what I read.

Item no.	Mokhtari and Sheorey's (2002)	Modified questionnaire items
20	I use typographical features like bold face and italics to identify key information.	My teachers taught me to use typographical features like bold face and italics to identify key information.
21	I critically analyze and evaluate the information presented in the text.	My teachers taught me to critically analyze and evaluate the information presented in the text.
23	I check my understanding when I come across new information.	My teachers asked me to check my understanding when I came across new information.
24	I try to guess what the content of the text is about when I read.	My teachers let me try to guess what the content of the text was about when I read.
26	I ask myself questions I like to have answered in the text.	My teachers taught me to ask myself questions I liked to have answered in the text.
28	When I read, I guess the meaning of unknown words or phrases.	My teachers asked me to guess the meaning of unknown words or phrases when I read.
29	When reading, I translate from English into my native language.	My teachers asked me to translate from English into my native language when I read.

APPENDIX D

Table of Modified Questionnaire Items in Classroom Activities

Item no.	Questionnaire Items	Quantum Learning-and-Teaching Model
25	My teacher paid attention to everything in the classroom.	Everything speaks
26	My teacher knew my attempts.	Acknowledge every effort
27	My teacher appreciated my success.	If it's worth learning, it's worth celebrating.
28	My teacher treated my friends and me fairly.	A hidden power of intention
29	My teacher had a good relationship with me.	Rapport
30	My teacher made reading lessons fun.	Joy and wonder
31	My teacher asked and supported me to try something new.	Risk taking / Considering the difficulty of content and degree of personal risk
32	My teacher let me work with other students in pairs or in groups.	Belonging
33	My teacher encouraged me to take part in classroom activities.	Belonging

Item no.	Questionnaire Items	Quantum Learning-and-Teaching Model
34	My teacher acted as a facilitator.	Modeling
35	My teacher told me the lesson objectives.	Purpose
36	My teacher cared about what I was doing.	Beliefs about learners, learning, and teaching
37	My teacher explained what she/ he expected of me.	Agreements, policies, procedures, and rules
38	My teacher told me that learning responsibility belonged to me and involved me in making decisions about classwork.	Keeping the community going
39	My teacher used pictures, posters, realia, and props when teaching.	Environment (Using peripherals, Using props, Seating, Using aroma, pets, and other organic elements, and Using music.)
40	My teacher accepted me the way I was.	From their world to our world
41	My teacher offered a variety of class activities such as watching videos, interpreting passages, group games, listening to music, role- playing, and mind mapping.	Considering learning styles and multiple intelligences
42	My teacher broke the reading text into small parts.	Considering the difficulty of content and degree of personal risk

Item no.	Questionnaire Items	Quantum Learning-and-Teaching Model
43	My teacher reviewed the learnt content frequently.	Considering the difficulty of content and degree of personal risk
44	My teacher used graphic organizers and mind maps to make lessons easier to understand.	Use of metaphor, imagery, and suggestion
45	My teacher' s explanation helped me to create images in my mind.	Modality matching
46	My teacher' s direction was easy to follow.	Four principles of powerful communication / Effective communication
47	My teacher' s eye contact, facial expression, voice, gesture, and posture helped me to understand his/her explanation.	Non-verbal communication
48	My teacher paid attention to my problems, encouraged me to solve problems, and told me solutions.	Effective presentation packages
49	My teacher told me what I would do later.	Anchoring

APPENDIX E

Table of Developing Questionnaire

Part 1: Perceptions regarding the use and usefulness of the quantum learning-and-teaching model in reading strategy instruction

No.	Items	Quantum learning-and-teaching model
1	My teacher informed me of the reading purpose. (Adapted from Item 1 of Mokhtai & Sheorey's SORs (2002))	- Tenets (Everything is on purpose) - Foundation (Purpose) - Teaching Design Frame (Enroll) - Learn skills (Tapping creative genius)
2	My teacher taught me to take notes while reading to help me understand what I read. (Adapted from Item 2 of Mokhtai & Sheorey's SORs (2002))	- Tenets (Everything is on purpose) - Design (Considering the difficulty of content and degree of personal risk) - Learn skills (Organizing information)
3	My teacher let me think about whether the content of the text fit my reading purpose. (Adapted from Item 6 of Mokhtai & Sheorey's SORs (2002))	- Tenets (Everything is on purpose) - Design (From their world to our world)
4	My teacher taught me to underline or circle information in the text to help me remember it. (Adapted from Item 10 of Mokhtai & Sheorey's SORs (2002))	- Tenets (Everything is on purpose) - Teaching Design Frame (Label)

No.	Items	Quantum learning-and-teaching model
5	My teacher taught me to try to picture or visualize information to help remember what I read. (Adapted from Item 19 of Mokhtai & Sheorey's SORs (2002))	- Tenets (Experience before label) - Design (Considering learning styles and multiple intelligences / Demonstrate and Review / Use of metaphor, imaginary, and suggestion
6	My teacher let me adjust my reading speed according to what I read. (Adapted from Item 11 of Mokhtai & Sheorey's SORs (2002))	- Foundation (Principles)
7	My teacher taught me to decide what to read closely and what to ignore when I read. (Adapted from Item 12 of Mokhtai & Sheorey's SORs (2002))	- Foundation (Principles) - Learn skills (Tapping creative genius)
8	My teacher let me try to guess what the content of the text was about when I read. (Adapted from Item 24 of Mokhtai & Sheorey's SORs (2002))	- Atmosphere (Joy and wonder / Risk taking) - Teaching design frame (Enroll)
9	My teacher taught me to ask myself questions I liked to have answered in the text. (Adapted from Item 26 of Mokhtai & Sheorey's SORs (2002))	- Atmosphere (Joy and wonder) - Facilitation - Learn skills (Tapping creative genius)
10	My teacher asked me to guess the meaning of unknown words or phrases when I read.	- Atmosphere (Risk taking)

No.	Items	Quantum learning-and-teaching model
	(Adapted from Item 28 of Mokhtai & Sheorey's SORs (2002))	
11	When text became difficult, my teacher taught me to pay closer attention to what I read. (Adapted from Item 14 of Mokhtai & Sheorey's SORs (2002))	- Foundation (Principles)
12	My teacher let me read slowly and carefully to make sure I understood what I read. (Adapted from Item 7 of Mokhtai & Sheorey's SORs (2002))	- Foundation (Principles)
13	My teacher told me to try to get back on track when I lost concentration. (Adapted from Item 9 of Mokhtai & Sheorey's SORs (2002))	- Foundation (Principles)
14	My teacher taught me to use context clues to help me better understand what I read. (Adapted from Item 17 of Mokhtai & Sheorey's SORs (2002))	- Foundation (Principles / Keeping the community going) - Teaching design frame (Label) - Learn skills (Tapping creative genius)
15	My teacher let me use reference materials (e.g., a dictionary) to help me understand what I read. (Adapted from Item 13 of Mokhtai & Sheorey's SORs (2002))	- Foundation (Keeping the community going)
16	My teacher taught me to use tables, figures, and pictures in the text to	- Environment (Using peripherals)

No.	Items	Quantum learning-and-teaching model
	increase my understanding. (Adapted from Item 15 of Mokhtai & Sheorey's SORs (2002))	- Learn skills (Tapping creative genius)
17	My teacher asked me to check my understanding when I came across new information. (Adapted from Item 23 of Mokhtai & Sheorey's SORs (2002))	- Design (From their world to our world / Teaching design frame)
18	My teacher asked me to translate from English into my native language when I read. (Adapted from Item 29 of Mokhtai & Sheorey's SORs (2002))	- Design (From their world to our world)
19	My teacher let me think about what I knew to help me understand what I read. (Adapted from Item 3 of Mokhtai & Sheorey's SORs (2002))	- Design (From their world to our world / Considering learning styles and multiple intelligences / Teaching design frame / Learn skills)
20	My teacher taught me to take an overall view of the text to see what it was about before reading it. (Adapted from Item 4 of Mokhtai & Sheorey's SORs (2002))	- Teaching design frame (Enroll and Experience) - Facilitation - Learn skills (Tapping creative genius)
21	My teacher let me review the text first by noting its characteristics like length and organization. (Adapted from Item 8 of Mokhtai & Sheorey's SORs (2002))	- Teaching design frame (Enroll) - Facilitation

No.	Items	Quantum learning-and-teaching model
22	My teacher taught me to paraphrase to better understand what I read. (Adapted from Item 18 of Mokhtai & Sheorey's SORs (2002))	- Teaching design frame (Demonstrate and Review)
23	My teacher taught me to use typographical features like bold face and italics to identify key information. (Adapted from Item 20 of Mokhtai & Sheorey's SORs (2002))	- Teaching design frame (Label) - Learn skills (Tapping creative genius)
24	My teacher taught me to critically analyze and evaluate the information presented in the text. (Adapted from Item 21 of Mokhtai & Sheorey's SORs (2002))	- Teaching design frame (Demonstrate)

Part 2: Perceptions regarding the use and usefulness of the quantum learning-and-teaching model in classroom activities

No.	Items	Quantum learning-and-teaching model
25	My teacher paid attention to everything in the classroom.	- Tenets (Everything is on purpose)
26	My teacher knew my attempts.	- Tenets (Acknowledge every effort)
27	My teacher appreciated my success.	- Tenets (If it's worth learning, it's worth celebrating.)
28	My teacher treated my friends and me fairly.	- Atmosphere (A hidden power of intention)

No.	Items	Quantum learning-and-teaching model
29	My teacher had a good relationship with me.	- Atmosphere (Rapport)
30	My teacher made reading lessons fun.	- Atmosphere (Joy and wonder)
31	My teacher asked and supported me to try something new.	- Atmosphere (Risk taking)
32	My teacher let me work with other students in pairs or in groups.	- Atmosphere (Belonging) - Design (Considering the difficulty of content and degree of personal risk)
33	My teacher encouraged me to take part in classroom activities.	- Atmosphere (Belonging)
34	My teacher acted as a facilitator.	- Atmosphere (Modeling)
35	My teacher told me the lesson objectives.	- Foundation (Purpose)
36	My teacher cared about what I was doing.	- Foundation (Beliefs about learners, learning, and teaching)
37	My teacher explained what she/he expected of me.	- Foundation (Agreements, policies, procedures, and rules)
38	My teacher told me that learning responsibility belonged to me and involved me in making decisions about classwork.	- Foundation (Keeping the community going)
39	My teacher used pictures, posters, realia, and props when teaching.	- Environment
40	My teacher accepted me the way I was.	- Design (From their world to our world)
41	My teacher offered a variety of class activities such as watching videos,	- Design (Considering learning styles and multiple intelligences)

No.	Items	Quantum learning-and-teaching model
	interpreting passages, group games, listening to music, role-playing, and mind mapping.	
42	My teacher broke the reading text into small parts.	- Design (Considering the difficulty of content and degree of personal risk)
43	My teacher reviewed the learnt content frequently.	- Design (Considering the difficulty of content and degree of personal risk)
44	My teacher used graphic organizers and mind maps to make lessons easier to understand.	- Design (Use of metaphor, imagery, and suggestion)
45	My teacher's explanation helped me to create images in my mind.	- Presentation (Modality matching)
46	My teacher's direction was easy to follow.	- Presentation (Four principles of powerful communication / Effective communication packages)
47	My teacher's eye contact, facial expression, voice, gesture, and posture helped me to understand his/her explanation.	- Presentation (Non-verbal communication)
48	My teacher paid attention to my problems, encouraged me to solve problems, and told me solutions.	- Presentation (Effective communication packages)
49	My teacher told me what I would do later.	- Presentation (Anchoring)

APPENDIX F

Table of Developing Questionnaire

No.	Items	Quantum Learning-and-Teaching Model																																	
							2. Context sets																					3. Content							
		1. Tenets					2.1 Atmosphere						2.2 Foundation					2.3 Environment					2.4 Design					3.1 Presentation 2.12					3.2 Facilitation	3.3 Learn skills	
		1.1 Everything speaks	1.2 Everything is on purpose	1.3 Experience before label	1.4 Acknowledge every effort	1.5 If it's worth learning, it's worth celebrating.	2.1.1 A hidden power of intention	2.1.2 Rapport	2.1.3 Joy and wonder	2.1.4 Risk taking	2.1.5 Belonging	2.1.6 Modeling	2.2.1 Purpose	2.2.2 Principles	2.2.3 Beliefs about learners, learning, and teaching	2.2.4 Agreements, policies, procedures, and rules	2.2.5 Keeping the community going	2.3.1 Using peripherals.	2.3.2 Using props.	2.3.3 Seating	2.3.4 Using aroma, pets, and other organic elements.	2.3.5 Using music.	2.4.1 From their world to our world	2.4.2 Considering learning styles and multiple	2.4.3 Considering the difficulty of content and degree	2.4.4 Teaching Design Frame	2.4.5 Use of Metaphor, imagery, and suggestion	3.1.1 Modality matching	3.1.2 Four principles of powerful communication	3.1.3 Non-verbal communication	3.1.4 Effective communication packages	3.1.5 Anchoring	Big Picture, Multi-Sensory, Chunking, Frequent review, Eliciting thinking strategy, and Debriefing moments of learning	3.3.1 Organizing Information	3.3.2 Tapping creative genius
Topic 1: Reading strategy instruction (Adapted from Mokhtai & Sheorey, 2002)																																			
	From																																		

1	1	My teacher informed me of the reading purpose.		✓										✓												✓ Enroll										✓
2	2	My teacher taught me to take notes while reading to help me understand what I read.		✓																					✓										✓	
3	6	My teacher let me think about whether the content of the text fit my reading purpose.		✓																				✓												
4	10	My teacher taught me to underline or circle information in the text to help me remember it.		✓																								✓ Label										
5	19	My teacher taught me to try to picture or visualize information to help remember what I read.			✓																					✓		✓ Demonstrate and Review	✓									
6	11	My teacher let me adjust my reading speed according to what I read.														✓																						
7	12	My teacher taught me to decide what to read closely and what to ignore when I read.														✓																						✓
8	24	My teacher let me try to guess what the content of the text was about when I read.								✓	✓																	✓ Enroll										

9	26	My teacher taught me to ask myself questions I liked to have answered in the text.								✓																										✓		✓
10	28	My teacher asked me to guess the meaning of unknown words or phrases when I read.									✓																														
11	14	When text became difficult, my teacher taught me to pay closer attention to what I read.													✓																										
12	7	My teacher let me read slowly and carefully to make sure I understood what I read.													✓																										
13	9	My teacher told me to try to get back on track when I lost concentration.													✓																										
14	17	My teacher taught me to use context clues to help me better understand what I read.													✓			✓									✓ Label													✓
15	13	My teacher let me use reference materials (e.g., a dictionary) to help me understand what I read.																✓																						
16	15	My teacher taught me to use tables, figures, and pictures in the text to increase my understanding.																	✓																					✓
17	23	My teacher asked me to check my understanding when I came across new information.																						✓			✓ Enroll												
18	29	My teacher asked me to translate from English into my native language when I read.																						✓															

19	3	My teacher let me think about what I knew to help me understand what I read.																					✓	✓		✓ Enroll									✓
20	4	My teacher taught me to take an overall view of the text to see what it was about before reading it.																								✓ Enroll and Experience							✓		✓
21	8	My teacher let me review the text first by noting its characteristics like length and organization.																								✓ Enroll							✓		
22	18	My teacher taught me to paraphrase to better understand what I read.																								✓ Demonstrate and Review									
23	20	My teacher taught me to use typographical features like bold face and italics to identify key information.																								✓ Label									✓

24	21	My teacher taught me to critically analyze and evaluate the information presented in the text.																								✓ Demonstrate											
Topic 2: Quantum Learning-and-Teaching Model																																				
25	1	My teacher paid attention to everything in the classroom.	✓																																	
26	2	My teacher knew my attempts.				✓																														
27	3	My teacher appreciated my success.					✓																													
28	4	My teacher treated my friends and me fairly.						✓																												
29	5	My teacher had a good relationship with me.							✓																											
30	6	My teacher made reading lessons fun.								✓																										
31	7	My teacher asked and supported me to try something new.									✓																									
32	8	My teacher let me work with other students in pairs or in groups.										✓														✓										
33	9	My teacher encouraged me to take part in classroom activities.										✓																								
34	10	My teacher acted as a facilitator.											✓																							
35	11	My teacher told me the lesson objectives.												✓																						
36	12	My teacher cared about what I was doing.														✓																				
37	13	My teacher explained what she/he expected of me.															✓																			

38	14	My teacher told me that learning responsibility belonged to me and involved me in making decisions about classwork.																✓																				
39	15	My teacher used pictures, posters, realia, and props when teaching.																	✓	✓	✓	✓	✓															
40	16	My teacher accepted me the way I was.																					✓															
41	17	My teacher offered a variety of class activities such as watching videos, interpreting passages, group games, listening to music, role-playing, and mind mapping.																						✓														
42	18	My teacher broke the reading text into small parts.																							✓													
43	19	My teacher reviewed the learnt content frequently.																							✓													
44	20	My teacher used graphic organizers and mind maps to make lessons easier to understand.																									✓										
45	21	My teacher’s explanation helped me to create images in my mind.																										✓									
46	22	My teacher’s direction was easy to follow.																											✓		✓						
47	23	My teacher’s eye contact, facial expression, voice, gesture, and posture helped me to understand his/her explanation.																												✓							
48	24	My teacher paid attention to my problems, encouraged me to solve problems, and told me solutions.																													✓						
49	25	My teacher told me what I would do later.																														✓					

APPENDIX G

Validation of Reading Instruction Perceptions Questionnaire

Part 1: Perceptions regarding the use and usefulness of the quantum learning-and-teaching model in reading strategy instruction

Item	Score rated by experts			Content validity score	Interpretation
	A	B	C		
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	0	0.6	revised
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	0	+1	0.6	revised
12	+1	+1	+1	1	reserved
13	+1	+1	0	0.6	revised
14	+1	-1	+1	0.3	revised
15	+1	+1	+1	1	reserved
16	0	-1	-1	-0.6	revised
17	+1	+1	+1	1	reserved
18	+1	+1	+1	1	reserved
19	+1	+1	+1	1	reserved
20	+1	+1	+1	1	reserved
21	+1	+1	+1	1	reserved
22	+1	+1	+1	1	reserved
23	+1	+1	+1	1	reserved
24	+1	+1	0	0.6	revised
Mean				0.8375	

Part 2: Perceptions regarding the use and usefulness of the quantum learning-and-teaching model in classroom activities

Item	Score rated by experts			Content validity score	Interpretation
	A	B	C		
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

Item	Score rated by experts			Content validity score	Interpretation
	A	B	C		
7	+1	+1	+1	1	reserved
8	+1	+1	+1	1	reserved
9	+1	+1	+1	1	reserved
10	+1	-1	+1	0.3	revised
11	+1	0	+1	0.6	revised
12	+1	0	+1	0.6	revised
13	+1	0	+1	0.6	revised
14	+1	+1	+1	1	reserved
15	0	+1	+1	0.6	revised
16	+1	+1	+1	1	reserved
17	+1	+1	+1	1	reserved
18	+1	+1	+1	1	reserved
19	0	+1	+1	0.6	revised
20	+1	+1	+1	1	reserved
Mean				0.865	

Part 2: Semi-structured interview questions

Item	Score rated by experts			Content validity score	Interpretation
	A	B	C		
1	+1	+1	+1	1	reserved
2	+1	0	+1	0.6	revised
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	0	+1	0.6	revised
8	+1	+1	+1	1	reserved
9	+1	+1	+1	1	reserved
Mean				0.911111	

BIOGRAPHY

Name	Miss Siriluk Pukdeyotin
Date of Birth	April 16, 1992
Educational Attainment	2014: Bachelor of Education (English Major)
Work Position	Head of Foreign Language Department, Suksanareewittaya School
Publications	Pukdeyotin, S., & Chumworatayee, T. (2019). *Thai Secondary School EFL Students' Perceptions towards their Teachers' Use and the Usefulness of the Quantum Learning-and-Teaching Model in Reading Instruction.* Paper presented at the The 8th LITU International Graduate Conference.
Work Experiences	Head of Foreign Language Department, Suksanareewittaya School