ผลของการสอนการอ่านตามทฤษฎีพหุปัญญาที่มีต่อความเข้าใจในการอ่านของนักเรียน
มัธยมศึกษาปีที่ 4 โรงเรียนสาธิตจุฬาลงกรณ์มหาวิทยาลัย

นางมณฑิรา เอมมาโนชญ์

วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาครุศาสตรมหาบัณฑิต
สาขาวิชาการสอนภาษาอังกฤษเป็นภาษาต่างประเทศ
ภาควิชาหลักสูตร การสอน และเทคโนโลยีการศึกษา
คณะครุศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย
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EFFECTS OF READING INSTRUCTION BASED ON MULTIPLE INTELLIGENCES THEORY ON READING COMPREHENSION OF TENTH GRADE STUDENTS AT CHULALONGKORN UNIVERSITY DEMONSTRATION SCHOOL

Mrs. Monthira Emanoch

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

**A Thesis Submitted in Partial Fulfillment of the Requirements
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Thesis Advisor   Associate Professor Sumalee Chinokul, Ph.D.

Accepted by the Faculty of Education, Chulalongkorn University in Partial

Fulfillment of the Requirements for the Master's Degree

....Dean of the Faculty of Education

(Professor Sirichai Kanjanawasee, Ph.D.)

THESIS COMMITTEE

....Chairman

(Assistant Professor Apasara Chinwonno, Ph.D.)

.... Thesis Advisor

(Associate Professor Sumalee Chinokul, Ph.D.)

.... External Examiner

(Assistant Professor Jirada Wudthayagorn, Ph. D.)

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หน้า

การวิจัยในครั้งนี้มีวัตถุประสงค์เพื่อศึกษาผลของการสอนการอ่านตามทฤษฎีพหุปัญญาที่มีต่อความเข้าใจใน
การอ่าน โดยกลุ่มตัวอย่างที่ใช้ในการวิจัยเป็นนักเรียนชั้นมัธยมศึกษาปีที่ 4 โรงเรียนสาธิตจุฬาลงกรณ์มหาวิทยาลัย
จำนวน 13 คน ที่ลงทะเบียนวิชาเลือกเสรี " Reading Varieties" ในภาคเรียนที่ 2 ปีการศึกษา 2551 การทดลอง
ใช้เวลาทั้งสิ้น   13   สัปดาห์ เครื่องมือที่ใช้ในการวิจัย   คือ   แบบทดสอบความรู้ภาษาอังกฤษแบบสมิทธิภาพ
แบบทดสอบการปฏิบัติงาน   แบบสอบถามความคิดเห็น   แบบจดบันทึกของผู้เรียน และแบบสัมภาษณ์ วิเคราะห์
ข้อมูลโดยใช้สถิติบรรยาย วิลคอกซัน และการวิเคราะห์เนื้อหา

ผลการวิจัยพบว่า 1) คะแนนเฉลี่ยหลังการอ่านของแบบทดสอบความรู้ภาษาอังกฤษแบบสมิทธิภาพไม่
แตกต่างกับคะแนนเฉลี่ยก่อนการทดลองอย่างมีนัยสำคัญทางสถิติที่ระดับ 0.05   2) คะแนนเฉลี่ยหลังการสอนของ
แบบทดสอบการปฏิบัติงานสูงกว่าคะแนนเฉลี่ยก่อนการทดลองอย่างมีนัยสำคัญทางสถิติที่ระดับ 0.05   3) คะแนน
ค่าเฉลี่ยจากแบบสอบถามความคิดเห็นต่อกิจกรรมที่หลากหลายที่ใช้ในการสอนการอ่านตามทฤษฎีพหุปัญญามีค่าเฉลี่ย
3.09 (ส่วนเบี่ยงเบนมาตรฐาน = 0.543) ซึ่งแสดงให้เห็นว่านักเรียนมีเจตคติที่ดีต่อการสอนการอ่านตามทฤษฎี
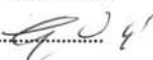พหุปัญญา

ภาควิชา หลักสูตร การสอน และเทคโนโลยีการศึกษา   ลายมือชื่อนิสิต ....
สาขาวิชา การสอนภาษาอังกฤษเป็นภาษาต่างประเทศ   ลายมือชื่อ อ. ที่ปรึกษาวิทยานิพนธ์.หลัก..................
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MONTHIRA EMANOCH : EEFECTS OF READING INSTRUCTION BASED ON MULTIPLE INTELLIGENCES THEORY ON READING COMPREHENSION OF TENTH GRADE STUDENTS AT CHULALONGKORN UNIVERSITY DEMONSTRATION SCHOOL. THESIS ADVISOR : ASSOC. PROF. SUMALEE CHINOKUL, Ph.D., 164 pp.

The objectives of this research were to examine how reading instruction based on Multiple Intelligences Theory (MI) affects reading comprehension. The subjects were 13 tenth graders studying at Chulalongkorn University Demonstration School and enrolling in an elective course "Reading Varieties" in semester 2, academic year 2008. The duration of the experiment lasted for 13 weeks. The instruments used in this research were the proficiency reading test, the performance-based reading test, a questionnaire, students' log, and interviews. The data were analyzed using descriptive statistics, the wilcoxon matched-pairs signed- rank test, and content analysis.

The finding revealed that (1) the posttest mean score from the proficiency reading test was not higher than the pretest mean score at the significance level of 0.05; (2) the posttest mean score from the performance-based reading test was higher than the pretest mean score at the significance level of 0.05; (3) the mean score from the questionnaire eliciting students' opinions toward various activities based on Multiple Intelligences Theory designed for teaching reading was found positive with the mean score of 3.09 (S.D.= 0.543). These findings confirm that reading instruction based on Multiple Intelligences Theory positively affects students' reading comprehension.

Department : Curriculum, Instruction, and Educational Technology   Student's Signature

Field of Study : Teaching English as a Foreign Language.   Advisor's Signature

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CHAPTER I

INTRODUCTION

This chapter discusses the rationale why reading instruction based on Multiple Intelligences Theory is an alternative approach to enhance students' reading comprehension and motivation in reading class. It also presents research questions, objectives of the study, the statements of hypotheses, the scope of the study, the definitions of terms, and the significance of the study.

Background and Statement of the Problem

Of all four skills, listening, speaking, reading and writing, reading may be considered the most important language skill. Especially, in the information age, reading is a skill that can be seen and used in daily routine more than other skills (Suriyamanee, 1994). Grabe and Stoller (2002) stated that reading ability helps people acquire knowledge and learn new information. Thus, people are required to have a very good command of reading skills.

Moreover, reading English is important because there are many sources of knowledge which are mostly published in English. Chrystal (1997) disclosed that 85 per cent of the textbooks and newspapers in the world published in English. Alderson (1984) stated that reading a foreign language such as English is important to academic studies, professional success, and personal development.

The Ministry of Education emphasizes the importance of reading English in the Basic Educational Curriculum B.E. 2544 (2001) and thus issues the policy for reading to be a core subject to enhance students' reading ability. However, the focus of reading instruction is on reading comprehension and reading strategies, (Jarichitpaiboon, 2002) which students need training how to go beyond simply understanding the explicit message conveyed by the author (Block, Gambrell & Pressley, 2002).

In second language reading situation, there is a problem that students have poor reading ability. Sangthongjhin (1986), Wisaijorn (2003), and Wichadee (2006) reveals that Thai students' reading ability in the level of secondary school, high school, and university ranges from low to medium, that it needs improvement. Students' reading ability is below standard; they cannot comprehend the text.

The problems of reading in some part might stem from teachers who do not use the appropriate approach to teach. Teachers use passive reading approach beginning with translating words, sentences, and asking close-ended questions about the details of the story and vocabularies. Leetim (2001) and Mejang (2004) mention that most teachers do not involve students with tasks. This passive reading instruction may lead to the reason why students cannot understand the text at the level of interpretative and applied comprehension. Through this teaching method, students ability to develop reading skills is questionable. Students may be good at translating from English to their native tongue or vice versa but they may not become fluent readers in English.

In addition, Cobb (2001) states that teachers do not have various activities besides reading and writing. They are not planning activities that extend beyond the measure of pencil and paper type tasks. Similarly, Kegan (1998) and Currie (2003) also claim that in the traditional classroom, teachers treat the students the same way. They present the same exercises to all students at the same time and thus the students' different interests or needs are ignored. Mejang (2004) mentions that the activities used are mostly individual. Thus, students do not have enthusiasm and motivation. They cannot share the information and ideas or help each other.

Reading instruction needs to involve reading students in more active tasks. Students need training on reading strategies to overcome the difficulties while reading. Teaching reading strategies also helps students read independently and control their

own process of reading. Recent L2 reading research suggests that reader's metacognitive awareness of their reading processes and strategies enhances proficiency (Auerbach & Paxton, 1997). Reading strategies can be taught to students and when taught, strategies help improve students' performance on test's comprehension and recall. Similarly, the study of Song (1998) found that strategy training is effective in enhancing EFL reading. Thus, reading strategies should be taught to students to develop or improve the reading ability and help students become strategic readers.

Besides, Harris and Sipay (1979) mention that in teaching reading, teachers should consider texts and activities that respond to the individual differences because each person has a different basic background knowledge. Also, the activities should be fun and challenging. Mejang (2004) suggests that the activities are not only the individual type but also group work helps students create interaction. Students can share knowledge and information. It also motivates them in reading and develops their reading ability.

That is why teachers should find a more effective approach to teach reading by changing from their traditional way of translating and rote learning exercises to an alternative approach. Multiple Intelligences Theory (MI) may be considered as an alternative reading instruction. Multiple Intelligences Theory is a theory which was proposed in 1983 by Gardner, who emphasizes that people are different in capacity in different ways. People have all eight combination types of intelligences but there are one or two types that are strengths and there may be one that is a weakness. Christison (1988) states that most people may be highly developed in one or two intelligences, moderately in one or two, and underdeveloped in the rest. Gardner, Moran, and Kornhaber (2006) proposes that Multiple Intelligences Theory is described an individual's cognitive ability in terms of several relatively independent but interacting

cognitive capacities. Intelligences are not isolated. They can interact with one another in an individual to yield a variety of outcomes. Teachers who believe in Multiple Intelligences Theory will employ various activities that are beyond pencil and paper type tasks to teach reading.

However, it is still controversial whether Multiple Intelligences Theory can help students read in class. Chen (2000) finds that teaching reading based on Multiple Intelligences Theory can increase motivation and achievement in classroom and encourage students to take control of their learning. Additionally, Christison (2001) also shares the same view stating that applying Multiple Intelligences Theory in class is a guide to provide a greater variety of ways for students to learn and to demonstrate their own mastery of learning. In this study on teaching reading based on Multiple Intelligences Theory, students became more engaged in and enthusiastic about reading. Students gained greater understanding of material when they expressed what they had read in ways that were comfortable for them and therefore their reading strategies and skills had improved.

Haley (2004), on the other hand, does not totally agree with the use of Multiple Intelligences Theory in class since it lacks scientific measures. Many psychologists also argue that Gardner's theory is an accurate description of the mind but the application is less effective. When educators apply it in classroom, there is no evidence of success at school. Nevertheless, Gardner (2006) explains that Multiple Intelligences Theory 'was developed as a theory of the mind, not as an educational intervention. The implications of the theory for education is planning education programs for all students.

In this study, the researcher as a teacher investigates how reading instruction based on Multiple Intelligences Theory affects students' reading comprehension and examines what students think about various activities based on Multiple Intelligences Theory. The researcher used various activities that respond to eight types of

intelligences for teaching reading. The activities were to stimulate students' intelligences so that they could use their multiple intelligences to gain knowledge in reading comprehension. The study aimed at providing an empirical evidence of how various activities based on Multiple Intelligences Theory would affect students' reading ability in the classroom.

Research Questions

Two research questions are explored in this study :

1. To what extent does reading instruction based on Multiple Intelligences Theory affect reading comprehension?

2. What are students' opinions about various activities based on Multiple Intelligences Theory designed for teaching reading?

Objectives of the study

This study aims

1. To study the effects of reading instruction based on Multiple Intelligences Theory on reading comprehension.

2. To examine students' opinions about various activities based on Multiple Intelligences Theory designed for teaching reading.

Statement of hypotheses

Cobb (2001) found that after teachers are trained to use Multiple Intelligences teaching strategies in class, the 12 fourth grade low level students improved their reading comprehension. Besides, Haley (2004) found that the impact of implementing the Multiple Intelligences Theory in daily classroom activities had an effect on

students' attitudes toward learning and on students' academic achievement in English. As a result, the hypotheses for this study are set as follows:

1. After students have been taught reading instruction based on Multiple Intelligences Theory, they gain higher reading comprehension ability which will be examined by the following statements

    1.1.1 The students' mean score posttest of the proficiency reading test is significantly higher than the pre-test at the significance level of 0.05.

The students' mean score posttest of the performance-based reading test is significantly higher than the pretest at the significance level of 0.05.

2. Students have a positive opinion towards various activities based on Multiple Intelligences Theory designed for teaching reading. (Mean of opinion scale ≥ 2.0 from the 4 point scale on the questionnaire)

Scope of the study

1. The population for this study is grade 10 students at Chulalongkorn University Demonstration School who enrolled the elective course "Reading Varieties".

2. The variables in this study are as follows:

2.1 Independent variable is reading instruction based on Multiple Intelligences Theory.

2.2 Dependent variables are

    2.2.1 Reading comprehension

    2.2.2 Students' opinions towards various activities based on Multiple Intelligences Theory.

1. Reading instruction based on Multiple Intelligences Theory is defined as a teaching reading strategy which focus on various activities that respond to the eight types of intelligences. Students were activated through reading tasks. In other words, students are encouraged to use various activities based on Multiple Intelligences Theory as a tool to comprehend the reading text and to motivate themselves to read further. Students have an opportunity to use their eight intelligences through multiple activities to gain knowledge in reading comprehension. However, amongst eight lessons, Linguistic, Logical/Mathematical, Visual/Spatial, Bodily, Musical, Interpersonal, Intrapersonal, and Naturalistic Intelligences are focused in each lesson. Besides, students work in a group so as to help each other share knowledge and ideas. The teacher will teach reading based on the developmental sequence of Multiple Intelligences Theory adapted from Lazear (1991) which helps students understand the passage through four stages: awaken the intelligence, amplify the intelligence, teach for / with the intelligence, and transfer of the intelligence.

Multiple Intelligences Theory is defined as a theory which believes that people are different in capacity in different ways. Gardner (1993) devides types of intelligences as follows:

1.1 Verbal / Linguistic Intelligence refers to the ability to understand through the use of word.

1.2 Logical / Mathematical Intelligence refers to the ability to use of logic and mathematical model to represent work and ideas.

1.3 Visual / Spatial Intelligence refers to the ability to comprehend through the use of pictures, graphs, maps or deals with the visual arts including the ability to form mental images and pictures in the mind.

1.4 Bodily/ Kinesthetic Intelligence refers to the ability to use the body to express ideas, accomplish tasks, create moods.

1.5 Musical Intelligence refers to the ability to recognize and communicate using melody and rhythm.

1.6 Interpersonal Intelligence refers to the ability to get along with others, understand the feeling of others; work with others to accomplish tasks

1.7 Intrapersonal Intelligence refers to the ability to learn through self-knowledge leading to understand of motive, goal, strength and weaknesses.

1.8 Naturalistic Intelligence refers to the ability to distinguish and categorize objects or phenomena in nature.

From an educational perspective, teachers who believe in Multiple Intelligences Theory will provide learning activities that build on learners' intelligences so that learners can use their particular intelligences to gain knowledge in other areas. In this study, learners use their multiple intelligences to gain knowledge in reading comprehension through reading activities in class. To measure the multiple intelligences of students, the Multiple Intelligences Inventory was used. (See Appendix B)

2. Reading comprehension refers to the students' reading ability at the level of literal and interpretative comprehension. This is the ability to understand main ideas, supporting details, draw inferences and read between the lines to determine what is meant. Students' reading comprehension is evaluated from two types of tests: the proficiency reading test and the performance- based reading test.

2.1.*The proficiency reading test* refers to a traditional method as paper-based; multiple choice, standardized reading comprehension test i.e.; PET (The Preliminary English Test), Cambridge University from which in this study, the researcher only selects the reading comprehension section to test the students. Two parallel forms of the Preliminary English Test (PET 1 and PET 2) served as the pretest

and posttest to measure students' reading comprehension ability before and after the treatment.

2.2 *The performance-based reading test* refers to an alternative assessment as well as a story map. The performance-based reading test is also employed as the pretest and posttest to measure students' reading comprehension ability before and after the treatment. To do the performance-based reading test, students with different intelligences work as a heterogeneous group. In this study, the performance-based reading test is story map that contains the items of setting, time, place, characters, plot, problems , and resolution (Appendix D).

3. Students are Grade - 10 students at Chulalongkorn University Demonstration School who enrolled an elective course in "Reading Varieties" which are Science and Art Program.

Significance of the study

Theoretically, this study is significant because it explores the tenets of individual difference principle in a reading classroom. In this study, the ultimate goal of the pedagogy is derived from using Multiple Intelligences Theory to improve the reading ability of students individually and as a group.

Pedagogically and practically, the findings of this study may be for teachers to develop their own teaching methods and strategies with consideration that learners will be different. It deals with issues concerning teaching and learning that may be useful in promoting students' reading achievement. The study also illustrats how multiple activities can be conducted to enhance students' reading comprehension based on sample lesson plans and how the researcher designs their lessons throughout the semester. It may inspire EFL teachers to change their way of teaching reading. The

empirical data gained from this study may support the idea that teaching reading using multiple activities is an alternative way to teach reading.

CHAPTER II

LITERATURE REVIEW

This part of the study will explore the theoretical foundations as well as research and other related literature concerned with the application of Multiple Intelligences Theory and reading in classroom. The chapter will be divided into four main headings: 1) Reading Instruction: reading strategy, and reading comprehension 2) Multiple Intelligences Theory (MI): definition, activities, and assessments. 3) reading instruction based on Multiple Intelligences Theory 4) Summary**.**

Reading Instruction

Pressley (2001) mentioned that reading instruction refers to five areas of instruction: phoneme awareness, phonics, vocabulary, and comprehension strategies but reading instruction in nowadays focus on teaching reading skills / strategies for understanding such as elements as content, textual features, rhetorical elements, and cultural background. The same as Susser and Robb (1999) who said that skills building emphasizes skills/strategies for text comprehension.

In addition, Grabe (2004) mentioned the implication for second language reading instruction aims to develop for effective reading comprehension as follows: 1) ensure word recognition fluency; 2) emphasize vocabulary learning and create a vocabulary-rich environment; 3) activate background knowledge in appropriate ways; 4) ensure effective language knowledge and comprehension skills; 5) teach text structures and discourse organization; 6) promote the strategic reader rather than teach individual strategies; 7) build reading fluency and rate; 8) promote extensive reading; 9) develop intrinsic motivation for reading; 10) plan a coherent curriculum for student learning.

Reading Strategies

Reading strategies are considered an important part of reading instruction. Li and Wilhelm (2008) cited Vacca and Vacca (1989) state that not only reading instruction should help students realize that reading is actually an interaction between reader and writer but also a complex cognitive processing operation. In academic contexts, the learner must know how and when to integrate the various language skills so as to learn and remember information . Besides, Li and Wilhelm (2008) cited Nunan (1999) that readers also need to think (predicting, reasoning, confirming,etc.), write (marking between the lines or taking notes), speak and listen (questioning and discussing). Since the 1980s, more reading texts have become available to help learners acquire effective reading strategies and more attention has been given to training teachers in reading strategy instruction. Barr and others (2007) mentioned that when students have problems in print skill and / or vocabulary knowledge, comprehension strategies can solve the problem. Duffy and Roehler (1993) stated that teachers must explicitly teach both the reasoning employed by experts when making sense of text and how to apply these mental processes while reading such as monitoring strategies, organizing strategies, access strategies, etc. Similarly, Li and Wilhelm (2008) stated that explicitly teaching strategies helps to develop learners' metacogntive awareness of how and when they use strategies. Such awareness can help to foster learner autonomy and prepare students for self access learning.

1. Types of reading strategies

Barnette (1988), Nunan (1989), Anderson (1999) and Grabe and Stoller (2002) divide reading strategies in a similar way. Barnette (1988) divided reading strategies into two categories: text-level strategies and word level strategies. Text level strategies are those which readers use in trying to understand the entire passage or large parts of it. These include using background knowledge, surveying the text and making predictions

about what it will be about, skimming and looking for the organization of a paragraph or passage. Word-level strategies, on the other hand, are strategies that involve individual words or phrases. Examples of these strategies are guessing the meaning of a word from context and understanding the meaning of a word through recognizing word families.

Similarly, Nunan (1989) also divided reading strategies as text level and word level such as activating background knowledge, predicting, guessing meaning from context, skimming, scanning, finding referents, finding the main idea, finding supporting details, and making inferences.

However, Anderson (1999) viewed and divided reading strategies slightly differently. He classified reading strategies into three types: cognitive, metacognitive and compensating reading strategies.

Cognitive reading strategies predict the content of an upcoming passage or section of the text, concentrating on grammar to understand unfamiliar constructions, understanding the main idea to comprehend the entire reading, expanding vocabulary and grammar to increase reading, guessing the meaning of unfamiliar words or phrases, analyzing theme, style, and connections to improve reading comprehension, distinguish between opinions and facts in reading, breaking down larger phrases into smaller parts to understand difficult passage, linking first language with words in English, creating a map or drawing of related ideas to enable to understand the relationships between words and ideas, and writing a short summary to help understanding the main ideas.

Metacognitive reading strategies set goals to improve areas that are important. One example would be making lists of relevant vocabulary to prepare for new reading. Another could be working with classmates to develop reading skills, taking

opportunities to practice to keep progress steady, and evaluating what has beene learned to focus on reading.

Compensating reading strategies are relying on self-knowledge to improve reading comprehension, taking notes to recall important details, trying to remember to help develop better comprehension skills, reviewing the purpose and tone of reading passage to remember more effectively, and using picturing scenes to help remember and understand the reading. Reviewing key ideas and details , using physical action to remember information, and classifying words into meaningful groups helps to remember them more clearly.

According to Grabe and Stoller (2002), they do not divide reading strategies into types as Anderson (1999). Reading strategies are specifying a purpose for reading, planning what to do / what steps to take, previewing the text, predicting the contents of the text , finding answers to posed questions, connecting text to background knowledge, summarizing information, making inferences, connecting one part of the text to another, guessing the meaning of a new word from context, words and ideas, and writing a short summary to help understand the main ideas.

2. *The description of reading strategies used in the study*
Making connections (text-to-self)

Making connections refers to compensating reading strategy in which readers use background knowledge and experiences and bring them to the text. Text-to-self connections are highly personal connections that a reader makes between a piece of reading material and the reader's own experience of life. Some key phrases that prompt text-to-self connections are, 'This reminds me of….' (Appendix K, page 150). 'What is this similar to in my life'?, 'How is it different from my life?', 'How does this relate

to my life?' 'Has something like this ever happened to me?' 'What were my feelings when I read this?'

Asking classmates for help

It is also a compensating reading strategy that students can ask their friends about vocabulary / words that they do not understand. Students learn that it is important to ask for help when they are having difficulties. They learn not to let pride or embarrassment keep them from asking for help. They also learn that everyone needs help occasionally, and that it is nothing to be ashamed of. This strategy is as jigsaw reading that students help each other so as to understand the missing point. In China, the study of Li and Wilhelm (2008) found that Chinese participants preferred using strategies 'asking for help from peers or teachers' as strategies to aid comprehension of academic texts.

Using physical actions

This strategy is also a compensating reading strategy that refers to acting out stories students are reading or writing. For instance, the use of role-playing or inventing something with the hands to remember and understand the text.

Identifying cause and effect

Learning to identify cause and effect is a cognitive reading strategy. It could include creating a map or drawing of related ideas to enable students to understand what has happened. The reason something happens is the cause. The effect is what happens.

Drawing a timeline

Drawing a timeline is a cognitive reading strategy. It is used to put the thing in order. It helps students understand sequencing or what happened such as events in history or steps in an experiment. It helps students understand the text clearly.

Activating background knowledge

Activating background knowledge is a compensating reading strategy. Teachers should select texts that build on what they already know or understand to activate their background knowledge. Background knowledge is the information a student already has about a certain subject or content area. Students gain knowledge about a wide range of topics through their daily lives, interests, experiences, family, and community. When students read or write, they draw on their background knowledge to help make sense of new information. Similarly, The National Reading Panel Report (NICHD, 2000) pointed out that the strategy of activating background knowledge refers to recalling experiences and knowledge of texts before reading, for the purpose of linking new content to prior understanding. In activating background knowledge, students should activate knowledge that is relevant to the text topic and use important text cues, such as the title, headings, and pictures so that their knowledge statements link to the new text.

Guessing meanings from the context

Guessing meaning from context is another cognitive reading strategy. It might look at the unknown word and decide its part of speech or break the work down into syllables.

Nation (1983) gives a very good model on how to guess unknown words.

1. Look at the unknown word and decide its part of speech. Is it a noun, a verb, an adjective, or an adverb?

2. Look at the clause or sentence containing the unknown word. If the unknown word is a noun, what does this noun do, or what is done to it? And what adjectives describe it? What verb is it near? If it is a verb, what nouns does it go with?

3. Look at the relationship between the clause or sentence containing the unknown word and other sentences or paragraphs. Sometimes this relationship will be

signaled by conjunctions like but, because, if, when, or by adverbs like however, as a result. The possible types of relationship include cause and effect, contrast, time, exemplification, and summary.

4. Use the knowledge from steps 1 to 3 to guess the meaning of the word.

5. Check whether the guess is correct.

See that the part of speech of the guess is the same as the part of speech of the unknown word. If it is not the same, then something is wrong with the guess.

Replace the unknown word with the guess. If the sentence makes sense, the guess is probably correct.

Break the unknown word into its prefix, root, and suffix, if possible.

If the meanings of the prefix and root correspond to the guess, it is good. If not, look at the guess again, but do not change anything if it seems reasonable.

Reading strategy Instruction: Methods and procedure

Kitao (1995) noted that methods of teaching reading can be divided into two categories: inductive and deductive methods. Deductive methods involve teaching students directly how to read, that is teaching them specific skills or strategies. Leu and Kinzer (1995) stated that deductive instruction is a method framework containing these four steps: present the skill or rule, provide examples of the skills or rule, provide guide practice and provide independent practice. Inductive methods involve having students read, with varying amounts of guidance, and expecting that, through the experience of reading, they will develop reading skills and strategies. Although instructional strategies can be categorized, the distinctions are not clear cut. The direct instruction strategy is highly teacher directed and is among the most commonly used. This strategy includes methods such as lecture, didactic questioning, explicit teaching, practice and drill, and demonstrations. The direct instruction strategy is effective for providing

information or developing step- by –step skills. Direct instruction is usually deductive. That is, the rule or generalization is presented and then illustrated with examples. Direct instruction methods are widely used by teachers, particularly in the higher grades. Indirect instruction is mainly student-centered. Examples of indirect instruction methods include reflective discussion, concept information, concept attainment, cloze procedure, problem solving, and guided inquiry. Indirect instruction seeks a high level of student involvement in observing, investigating, drawing inferences from data. In direct instruction, the role of teacher shifts from lecturer/ director to that of facilitator, supporter, and resource person. The teacher arranges the learning environment, provides opportunity for student involvement, and, when appropriate, provides feedback to students while they conduct the inquiry. However, indirect instruction is more time consuming than direct instruction, teachers relinquish some control, and outcomes can be unpredictable and less safe. Indirect instruction is not the best way of providing detailed information or encouraging step-by-step skill acquisition.

The National Reading Panel report (NICHD, 2000) pointed out that teachers need to provide direct, deductive, and explicit instruction in strategic ways throughout the reading process. Teachers need to demonstrate these strategies through modeling, guided practice, and application so that students can understand what they have read (Armbruster and others, 2001). Similarly, Ryder and Graves (1994) stated that when students are first learning strategies, the teacher provides direct, deductive, and explicit instruction. As the students begin to use the strategies on their own to guide their reading. The teacher provides supportive instruction, giving them the help they need to use the strategies while reading particular texts. Through this process, the students move toward independent use of the strategies to direct their reading. The teacher provides explicit information to students about comprehension strategies through explanations and mental modeling. The teacher then talks about and demonstrates the

thinking processes that he or she uses while working through a text. Mental modeling refers to the teacher explaining what he or she is doing, focusing on the reasoning involved while carrying out the task. (Roehler & Duffy, 1991). The U.S.Department of Education (2008) pointed out that teachers should provide adolescents with direct and explicit instruction in comprehension strategies to improve students' reading comprehension. Comprehension strategies are routines and procedures that readers use to help them make sense of texts. These strategies include, but are not limited to, summarizing, asking and answering questions, paraphrasing, and finding the main idea. As the lesson begins, it is important for teachers to tell students specifically what strategies they are going to learn, tell them why it is important for them to learn the strategies, model how to use the strategies by thinking aloud with a text, provide guided practice with feedback so that students have opportunities to practice using the strategies, provide independent practice using the strategies, and discuss with students when and where they should apply the strategies when they read and the importance of having the will to use the strategies along with the skill. Even if students know how to use strategies as they read, research demonstrates that they have to make the effort to actually use them when they read on their own. Li and Wilhelm (2007) stated that explicitly teaching strategies develops learners' metacognitive awareness of how and when they use strategies. Such awareness can help to foster learner autonomy and prepare students for self access learning.

Miller and Perkins (1990) mentioned that as with any reading comprehension teaching strategy, the teacher 1) demonstrates how the skill should be performed; 2) gives guided practice by working through application examples;3) gives independent practice; and 4) provides feedback by giving application information and correction.

Anderson (1999) suggested five elements that can be included in teacher explanations about strategy use: 1.) what the strategy is; 2) why the strategy should be

learned ;3) how to use the strategy; 4) when and where the strategy is to be learned; and 5) how to evaluate the use of a strategy.

Schlick (2001) divided the steps of strategy instruction as follows:

1. Lesson introduction

The teacher makes the strategy clear to students so that they know what and why they are learning. The teacher explains the reading strategy in language that students will understand and describes how, when, and why readers use the strategy. Examples of things to say: Today we are going to learn, 'We call this strategy', 'What this mean is', 'Successful readers use this strategy', This will help you', 'You can use this when'.

2. Modeling the strategy

Modeling means that the teacher shows students how to use the strategy and talks through his/her thinking (think aloud). In other words, the teacher reads a sample text aloud to students and also shows it on an overhead transparency. It is very important that students can see the text as the teacher demonstrates. The teacher demonstrates why, when and how students use the strategy so that they can 'see it in action' before trying it themselves. Examples of things to say are: 'I am going to model', 'I often use this when', 'The way to do this is…', and 'This is what I say to myself as I use the strategy'.

3. Guided practice

After the teacher models the strategy, the teacher guides students to try it out with teacher's support. After the teacher models and thinks aloud, the teacher asks students to try and explain the next paragraph or page with the teacher. Also, the teacher guides students to articulate their thinking as they try out the strategy. In this step, the teacher should provide practice in small groups or pairs before asking students to try it on their own.

4. Independent practice

The teacher provides an opportunity for students to try out the strategy on their own by using the same text or new material. The teacher asks students to read it and use the strategy on their own. The teacher observes or listens as students now try the strategy independently.

5. Debriefing

The teacher reinforce students' understanding of the strategy by debriefing with them. The teacher reviews the strategy and helps students to articulate their metacognitive use of the strategy. The teacher guides students to monitor how the strategy is working for them and discuss the steps they used as they tried out the strategy.

Reading Comprehension

1. *Definition, factors that influence comprehension, and teaching reading*
 comprehension

Comprehension is the essence of reading. Duffy and Roehler (1993) stated that the writer creates a text to communicate a message; the reader's task is to comprehend that message. Urquhart and Weir (1998) viewed that comprehension is not considered only as a product of reading, but also as a process because readers have to use many strategies in solving problems to get meaning from the text.

Various definitions of reading comprehension are explained by scholars (Barnitz, 1985 ; Urquhart and Weir claimed Pugh, 1978 ; Block, Gambrell & Pressley, 2002; Farris, Fuhler & Walther, 2004). Most of them state that reading comprehension is the ability to comprehend the text and it concerns both product and process of reading. Reading comprehension is an interactive process involving the reader, the text and the context. During the reading process, readers construct a meaningful

representation of text through an interaction of their conceptual and linguistic knowledge with the cues that are in the text.

Factors that influence comprehension are not only from linguistic knowledge but also include prior knowledge of readers. Cooper and others (1979) stated that readers' language development and background of experiences assume important positions in the act of reading. Barnitz (1985) notes that prior knowledge can influence an interpretation of a text by providing an overall context for the information being encoded, comprehended, and recalled. Readers use their knowledge of the world and their pragmatic, discourse, syntactic, morphological and phonological knowledge in constructing and reconstructing meaning. Bruce and Henderson (1999) noted that comprehension involves not only the readers' language proficiency but also prior knowledge. Readers use to connect prior knowledge with the new information to construct the meaning (Farris, Fuhler, & Walther, 2004). Prior knowledge of the world is seen as being organized into cognitive schemata. According to schema theory, interaction must occur between the readers' existing knowledge, which is often culturally based and new information which is presented in the text. However, Barr and others (2006) pointed out that the knowledge and language of the reader and the author influences comprehension, phonology, lexicon, and the syntax.

In addition, Duffy and Roehler (1993) distinguish teaching comprehension from word recognition and vocabulary, remembering, and content goals. Since when the reader knows the meanings of words, it does not mean that they comprehend the overall text. However, recognizing and knowing the meanings of words are only a small part of the overall process. Also, teaching comprehension is not teaching students only to remember factual information or recall what was read to answer questions about information contained in the reading selection, with recall being the primary focus. However, it is teaching students to combine new information from text with old

information from prior experiences and actively build new understandings. In addition, teaching comprehension does not only mean teaching students to know the content but also it involves teaching students to understand the process of reasoning or how to comprehend. Students are able to apply these processes to the context of texts they are reading. Duffy and Roehler (1993) state that to ensure that students learn how expert readers comprehend; teachers must explicitly teach both the reasoning employed by experts when making sense of text and how to apply these mental processes while reading

2.The level of comprehension

Since readers are different in the ability to think, to apply what they know to old and new situations, to judge and evaluate, language knowledge and background knowledge, the interpretation or decoding the printed text are different. Therefore, the level of comprehension is thought. Many scholars , Burmeister (1976), Dallman and others (1978), Raygor and Raygor (1985), seem to share the same concepts when they refer to reading comprehension. However, the definitions as well as the key terms they gave for reading comprehension are slightly different.

Burmeister (1976) outlined seven levels of comprehension that are memory and translation, interpretation, analysis , synthesis , and evaluation. Dallman and others (1978) classified comprehension into three levels: factual , interpretative or inferential, and evaluative level. Raygor and Raygor (1985) divided levels of comprehension into three types: literal, interpretative, and applied comprehension.

In Burmeister (1976) , 'memory' and 'transition' means remembering or recognizing just what the author has said. The concept is similar to Dallman and others (1978) but he used the word 'factual level' which means understanding the information that is directly stated in the written materials such as knowing the meaning of words,

finding the main idea, selecting significant details, and following directions. Raygor and Raygor (1985) use the word 'literal meaning' which refers to what is actually said such as facts and details, rote learning and memorize surface understanding.

According to 'interpretative level', Burmeister (1976), Dallman et. Al. (1978), and Raygor and Raygor (1985) define it as what is implied such as drawing inferences, tapping the prior knowledge/experience, attaching new learning to old information, making logical leaps and educated guesses and reading between the lines to determine what is meant by what is stated.

Besides, Burmeister (1976) defined 'analysis level' as the knowledge dissection of something and the examination of the parts that compose the whole. 'Synthesis level' is the integration, recognition, or fusion of ideas, used from various sources. 'Evaluation' is the formulation of a standard and the judging of an idea or object in a relationship to that standard. In these levels, Dallman and others (1978) combine it to the 'evaluative level' that refers to making evaluation about what is read or critical reading. It involves the capacity for making comparisons and appraisals. Raygor and Raygor (1985) use a different phrase. They use 'applied comprehension' which refers to extending the concepts or ideas such as analyzing, synthesising and applying. Kitao (1995) stated that in recent years, there has been a growing interest in the reading strategies used by second/foreign language readers; how or whether these can be taught in order to improve reading comprehension.

Multiple Intelligences Theory

1. Definition, Activities, and Assessments

Multiple Intelligences Theory is a theory developed in 1983 by Gardner, a psychologist and a professor at Harvard University. He pointed out that intelligence is a capacity in all human-beings. All humans have multiple intelligences as the combinations, but they differ in the strengths (Richards and Rodgers, 2001). In other words, each person possesses multiple intelligences. He/ she can use his /her diverse intelligences to learn in other areas in different ways. That is why all intelligences are important since people can use a variety of ways to learn and demonstrate understanding. It is different from the traditional way that states intelligence is only limited to linguistic and logic types of intelligences.

However, since Multiple Intelligences Theory has been proposed in general education, it was not actually aimed for language education. Thus, there are no goals stated for Multiple Intelligences Theory instruction in linguistic terms. That is why there is no syllabus for MI-based language teaching. There is merely a basic developmental sequence that has been proposed by Lazear (1991). The sequence consists of four stages (Richard and Rodgers, 2001):

Stage I: Awaken the Intelligence

Learners can be sensitized to the many facets, properties of objects, and events in the world that surrounds them through multi sensory experiences such as touching, smelling, tasting, and seeing and so on.

Stage II: Amplify the Intelligence

Learners strengthen and improve the intelligence by volunteering objects and events.

Stage III: Teach with / for the Intelligence

At this stage the intelligence is linked to some aspect of language learning. This is done via worksheets and small group projects and discussion. It also emphasizes and uses different intelligences in the teaching / learning process.

Stage IV: Transfer of the Intelligence

Learners reflect on the learning experiences of the previous three stages and relate these to issues and challenges in the out-of-class world.

Richard & Rodgers (2001) stated that when applying Multiple Intelligences Theory in classes, there are many activities that go beyond the traditional books, pens and pencils. That is why Armstrong (2001) suggested that teachers should use various activities and materials to enhance students' learning in reading class because students have different intelligences. Therefore, there is no one set of activities that suit all students. He said that "because of these individual differences among students, teachers are best advised to use a broad range of teaching strategies with their students". Reading can be taught effectively with other intelligences, not only linguistic and logical intelligence.

Gardner grouped intelligences into eight types (Gardner, 1993). The following are the descriptions of eight types of intelligences, and examples of multiple activities based on Multiple Intelligences Theory (Golubtchik, 2000).

1. Verbal / Linguistic intelligence

Verbal / Linguistic intelligence is responsible for the production of language such as poetry, humor, storytelling, grammar, metaphors, similes, abstract reasoning, symbolic thinking, conceptual patterning, reading and writing. Possible activities include reading or writing poetry, stories, ideas or thoughts, designing bulletin boards, creating analogy to explain concepts, rewriting difficult information in a simpler form for younger students and composing scripts that depict historical events.

2. Logical/ Mathematical intelligence

Logical / Mathematical intelligence is most often associated with scientific thinking or inductive or deductive reasoning. This intelligence involves the capacity to recognize patterns, work with abstract symbols (such as numbers and geometric shapes), and discern relationships and / or see connections between separate and distinct pieces of information. Activities might be developing crosswords and other puzzles for classmates to solve, investigating authentic problems and developing possible solutions, diagramming procedures, playing calculator games, categorizing facts and information and composing analogies.

3. Visual / Spatial intelligence

Visual / Spatial intelligence deals with the visual arts (including painting, drawing and sculpting): navigation, mapmaking, and architecture (which involve the use of space and knowing how to get around in it); and games such as chess (which require the ability to visualize objects from different perspectives and angles). The key sensory base of this intelligence is the sense of sight, but also the ability to form mental images and pictures in the mind. Activities include such as drawing or painting a picture, poster, chart or sketch representing what they have learned, making a three-dimensional model such as physical map, creating colorful designs, shapes and patterns to illustrate a scene, imagining and visualizing how literacy or historic figures might have changed events, taking photographs or using a video camera to create a pictorial report, creating Venn Diagrams or concept maps to explain information to others and developing color-coding systems to categorize information.

4. Bodily / Kinesthetic intelligence

Bodily / Kinesthetic intelligence is the ability to use the body to express emotion (as in dance and body language), to play a game (as in sports) and to create a new product (as an invention). Possible activities include dramatizing a literary or

historical event, role-playing, creating a dance or movement that tells a story, going on fieldtrips to appropriate sites., participating in learning centers, learning outdoors, and building puppets and putting on a show related to content.

5. Musical intelligence

Musical intelligence includes such capacities as the recognition and use of rhythmic and tonal patterns, and sensitivity to sounds from the environment, the human voice, and musical instruments. Activities include writing an original song, rap, jingle or cheer, playing instruments, composing music that conveys the theme or mood of the lesson, researching, comparing, and contrasting music of different cultures or time periods, identifying rhythmic patterns in music or poetry, and performing a rap or a song that summarizes information.

6. Interpersonal intelligence

Interpersonal intelligence involves the ability to work cooperatively with others in a group as well as the ability to communicate, verbally and nonverbally, with other people. It builds on the capacity to notice distinctions among others such as contrasts in moods, temperament, motivations, and intentions. It includes genuine empathy for another's feelings, fears, anticipations, and beliefs. Activities might be participating in jigsaw activities, working on interactive computer software, E-mail, and the internet, joining any group project, sharing cooperative learning strategies, interviewing, and peer tutoring.

7. Intrapersonal intelligence

Intrapersonal intelligence involves knowledge of the internal aspects of the self, such as knowledge of feelings, the range of emotional responses, thinking processes, self – reflection, and a sense of intuition about spiritual reality. Intrapersonal intelligence allows people to be conscious of their consciousness as they watch themselves as an outside observer. Possible activities include writing journal entries

that summarize content and any personal reactions to content, completing independent assignments, reflecting in a journal about their learning process, creating personal files of a topic they have studied, personalizing a character and writing his/ her "autobiography", and self-assessing projects and products to determine how to improve learning.

    8. Naturalistic intelligence

Naturalistic intelligence involves the ability to discern, comprehend, and appreciate the various flora and fauna of the world of nature as opposed to the world created by human-beings. It involves such capacities as recognizing and classifying species, growing plants and raising or taming animals, knowing how to appropriately use the natural world (e.g. living the land), and having a curiosity about the natural world, its creatures, weather patterns, physical history, etc. In working with and developing the naturalist intelligence one often discovers a sense of wonder, awe and respect for all the various phenomena and species (plant and animal) of the natural world. Possible activities include going on field trips and nature walks, forecasting and tracking the weather, observing the sky, clouds, stars and space, hiking in natural surroundings, recording changes or development over time, photographing nature and predicting the effects of extreme natural phenomena.

Gardner (2006) suggests the ninth intelligence, Existential Intelligence, which refers to the ability to contemplate phenomena or questions beyond sensory data such as the infinite and infinitesimal. Examples of questions are 'Why they are here on Earth?', 'What was the world was like before they were born?', 'If there really is another dimension', etc. People who are smart in existential intelligence are able to understand issue likes the significance of life and death and the experience of love. Possible activities are planning a charity event, maintain current event notebooks with a focus on human stories, locate and read romantic poetry.

Besides, since each person possesses multiple intelligences, people can demonstrate their understanding in different ways. That is why the assessment that teachers use should allow students to show their strength and perform adequately. It should be an authentic assessment which emphasizes what students know and how students perform from different perspectives (Chen, 2000). It should not only be a pen and paper task type that only learners who are verbal/linguistic intelligence can respond since the other types of learners cannot show what they have learned. It moves away from the use of standardized measures of achievement and ability to apply more authentic assessment techniques, including portfolio and performance-based assessment (Plucker, Callahan, and Tomchin, 1996). Brualdi (1996) pointed out that traditional tests (e.g., multiple choice, short answer, and essay) require students to show their knowledge in a predetermined manner. A better approach to assessment is to allow students to explain the material in their own ways using the different intelligences such as student portfolios, independent projects, student journals, and assigning creative task. Chen (2000) stated that the teacher should assign a set of eight different assessments to all students (See Appendix L). The results of these enable the teacher to perceive an individual students' performance by different modes of assessments. The teacher may invite students to choose from several integrated MI-based assessments. Costanzo and Paxton (1999) stated that teachers use diverse assessment formats to invite students to think about their own learning as well as the effectiveness of activities. Some students are better at understanding in some ways but not in other ways.

Gardner (1993) proposed the eight general features of the assessment approach as follows: 1) emphasis on assessment rather than testing; 2) assessment as simple, natural and occuring in a reliable schedule; 3) ecological validity that students can develop their strength; 4) use of instruments that are 'intelligence fair'; 5) use of multiple measures; 6) sensitivity to individual differences, developmental levels and

forms of expertise; 7) use of intrinsically interesting and motivating materials, and 8) use of assessment to benefit students.

Reading instruction based on Multiple Intelligences Theory

Reading is an important input of language and it is one of the most essential parts in English Language Teaching. However, teaching English as a foreign language (EFL) has not been successful, students can not acquire the ability to read.

Yao (2006) found that the major problem is teaching method. In the reading class, students are taught reading as a way of practicing grammar. They do discrete point exercise, for example, filling in the blanks and decoding materials in their textbook with controlled or guided writing. Students'language abilities and understanding are limited to a sentence level. Also, they are not taught the reading strategies to improve their comprehension.

That is why teachers should find a more effective approach to teach reading changing fron the traditional way of translating to an alternative approach. Therefore, reading instruction based on Multiple Intelligences is proposed. Many researchers apply reading with Multiple Intelligences Theory by using various activities based on Multiple Intelligences to activate students' intelligences and students use their particular intelligences to comprehend the text.

Christison (2001) states that teaching reading based on Multiple Intelligences Theory, a reading lesson may begin with typical prereading activities (reviewing earlier material, predicting what will happen next), followed by silent reading or reading aloud with discussion of vocabulary and text meaning. Learners can then complete a project, individually or in groups, to demonstrate their understanding of the text. The teacher offers a choice of tasks or projects such as descriptive writing, map drawing, illustration, creation of a dialogue, making a timeline, song writing and retelling. Christison and Kennedy (2001) refer to Lezlie's experience in teaching reading that Lezlie began the

group reading lesson with pre-reading questions based on what the class had already or were about to read. Then, while the students read aloud, Lezlie encouraged them to apply all the skills they had already learned, reminding them to use their finger, a pencil, or a book mark to help guide their eyes which activates bodily intelligence. She made sure to allow them ample time to use decoding strategies before giving a prompt. After reading, she had a post-reading activity that students could express what they read in a way that was comfortable for them. Renee , for example would 'role play' the story after she finished reading. This alternative form of expression seemed to make meaning of the text and embedded it in her memory. Acosta (2000) teaches reading by starting a reading lesson by assigning students read aloud. Then, she asks them to discuss the questions and do a mini-research project. Students are allowed to present their projects in many ways according to their ideas. Golubtchik (2000) notes that in a real classroom situation, teachers can not individualize instruction for each student. What teachers can do is teach in a variety of ways and regularly offer an exciting range of activities to the students. When teachers are planning a unit, they should try to incorporate various types of intelligences into the activities.

Besides, Kuzniewski (1998) found that students increased reading comprehension skills after teachers were trained in Multiple Intelligences Theory and then incorporated it in English. Also, the 12 low scoring fourth grade students improved their reading comprehension through the use of Multiple Intelligences Teaching Strategies and activities (Cobb, 2001). Haley (2004) determined that 15 foreign language and English as a second language (ESL) teachers and 450 students grade 8-12 from six different states exemplified the impact of implementing the Theory of Multiple Intelligences in daily classroom activities compared with a control group in which the students are taught by the teacher-centered method which relied heavily on the use of rote drill and memorization, without cooperative learning or group

activities. Results showed that most students in both the experimental and control groups demonstrated growth in oral and written proficiency in the target language. However, most students expressed positive feelings about teachers who used a variety of instructional strategies and assessment practices that addressed the multiple intelligences. The same as Acosta (2000) found that Multiple Intelligences based instruction had an effect on students' attitudes toward learning and on students' academic achievement in English.

Summary

Based on Multiple Intelligences Theory, everybody is smart but in different ways. There are eight types of intelligences that are equally important: linguistic, logical, visual, musical, interpersonal, intrapersonal, and naturalistic intelligences. People who are smart are not only linguistic and logical intelligences as viewed in the traditional way. Everyone has multiple intelligences as a combination but are different in strengths. In addition, intelligences can be developed or improved by training or practicing. People can use their particular intelligence to learn in other areas successfully. In the study, eight lesson plans are highlighted with the different intelligences. For example, Lesson 1, students use their musical intelligences to comprehend the text, the focused intelligence is musical intelligence.

There are many ways to apply Multiple Intelligences Theory in reading class but the highlight is that teachers give various types of teaching strategies and activities for students who are different intelligences so they can make choices about how they want to demonstrate their understanding. They need not include activities for developing all the eight intelligences within each lesson. However, teachers must be sure that students will be stimulating all eight intelligences so that they can develop and improve their intelligences and use them to comprehend the text by their own.

In the study, reading comprehension refers to the level of literal and interpretative comprehension. The proficiency reading test (PET) measures reading comprehension in the level of literal and interpretative. The test involves reading real-world notices and other short texts for the main message, reading multiple texts for specific information and detailed comprehension, specific information while disregarding redundant material, reading for detailed comprehension, understanding attitude, opinion and writer purpose. Reading to understanding the meaning of vocabulary, grammar in a short text, and to understand the lexico-structural patterns in the text. It is in both the level of literal and interpretative comprehension.

Similarly, the performance-based reading test measures reading comprehension both of literal and interpretative comprehension. The performance-based reading test consists of seven items: setting, time, place, characters, problems, plots and resolution. Setting, the time, places, and characters measure the reading comprehension in the level of literal comprehension. Problems, plots (plots/events that lead to the resolution), and resolutions measure reading comprehension in the level of interpretative comprehension because students have to draw inferences and read between the lines to determine what happened before the resolution.

In my thesis, according to Anderson (1999), the reading strategies use all the three types of intelligences: cognitive, metacognitive and compensating reading strategies. Cognitive reading strategies are creating a map or drawing of related ideas to enable to understand the relationships between words and ideas. Metacognitive reading strategies are working with classmates to develop reading skills. Compensating reading strategies are picturing scenes that help remember and understand reading, and using physical action to remember information. The researcher teaches reading strategies into the third stage: teach for / with the intelligence.

The instructional strategies used in this study are direct ,deductive, and explicit teaching since they are widely used by teachers, particularly in the higher grades that are in the study grade ten students. Besides, this strategy is easier to plan and to use. Also, it is suitable for a lesson that has a limitation of time (100 minutes) and many activities for one lesson per week. The strategy instruction procedure used in the study is lesson introduction, modeling, guided practice, independent practice and debriefing. For example, in the study, in lesson 5 "From Rags to Riches", the researcher as a teacher introduces when, why, and how students use the drawing a timeline strategy (lesson introduction). Then, the researcher as a teacher demonstrates drawing a timeline on the blackboard (modeling). Next, the teacher asks students to work in pairs and asks them what happened from line 19-23 before they draw a timeline (guided practice). Next, the teacher asks the students to read the text silently and gives each student a different worksheet to write down what happened in each period. The students, then, share the details and help one another to draw a timeline (independent practice). Lastly, the teacher asks students to conclude the story by using timelines and to tell when and why they use drawing a timeline and how it helps them comprehend the text (debriefing).

Besides, reading strategies selected are representative of each types of strategy such as cognitive, metacognitive and compensation strategies, and relates to eight intelligences. For example, making connections (text-to-self) relates to intrapersonal intelligence, asking classmates for help relates to interpersonal intelligence, using physical actions relates to bodily / kinesthetic intelligence, identifying cause and effect relates to logical / mathematical intelligence, drawing a timeline relates to visual intelligence, guessing meaning from the context relates to linguistic intelligence. Besides, some strategies are even not related directly to the intelligence, which supports the focused intelligence. For instance, making connection

strategy and musical intelligence, students listened to music and make connections (text-to-self) how they feel after they listened to the music. Activating background knowledge and naturalistic intelligence, students ask themselves what they know about animal's behavior that predicts the weather before they read the text.

In the study, the developmental sequences of reading instruction based on Multiple Intelligences adapted from Lazear (1991) are as follows:

Stage I: Awaken the Intelligence

In this stage, the researcher uses music and activities to trigger the focused intelligence that makes use of sensory bases: seeing, hearing and feeling. For example, in Lesson 1, "Music and Moods", the researcher as a teacher turned on the music only one minute to activate the senses of students through hearing and feeling.

Stage II: Amplified the Intelligence

In this stage, the researcher strengthens / improves the focused intelligence of students by assigning them to do more activities or exercises which activates students' background knowledge. For example, in Lesson 1 "Music and Moods", the researcher as a teacher turned on different kinds of songs and asks students how they feel. In Lesson 7 'Nature's Weather Forecasters', the researcher as a teacher gave worksheets asking about what they knew about animal's behavior before a storm.

Stage III: Teach for / with the Intelligence

The researchers use the focused intelligence and relevant reading strategies in the teaching process. In this stage, small group work   and / or pair work were employed. In Lesson 1, 'Music and Moods', students are taught about making connections strategy (text- to- self) that students try to connect their life / experiences with the text. Students will work in pairs and think about their own experiences about the feelings of different types of music that affects their moods. Then, they share their experiences with their peers. It is said that students use their musical intelligence and

making connection strategy to comprehend the text. In this step, the researcher as a teacher uses strategy instruction according to Schilk (2001): lesson introduction, modeling, guided practice, independent practice , and debriefing.

Stage IV: Transfer of the Intelligence

Students use the focused intelligence learned from the previous three stages to complete the tasks. In this stage, small group work is mostly employed. Students in each group help one another to complete the tasks. For example, in lesson 1, "Music and Moods", students use the knowledge they learnt from the previous three stages to draw a picture.

Figure 2.1 : Developmental sequence of Multiple intelligences Theory

Developmental Sequence of MI (Adapted from Lazear, 1991)	
1. Awaken the intelligence	**Use music or exercises** / activities to trigger the focused intelligence that make use of sensory bases: seeing, hearing and feeling.
2. Amplify the intelligence	Strengthen / improve the focused intelligence through **doing activities or exercises which activates students' background knowledge.**
3. Teach for / with the intelligence	Use the focused intelligence and relevant reading strategies in teaching process.The strategy instruction procedure: lesson introduction, modeling, guided practice, independent practice, and debriefing are used. (In this stage, small group work and / or pair work will be employed.)
4. Transfer of the intelligence	Use the focused intelligence learned from the previous three stages to complete the tasks. (In this stage, **small group work will be mostly also employed.)** The tasks go beyond the classroom, integrating into daily living, into challenging and problem solving.

CHAPTER III

RESEARCH   METHODOLOGY

This study presented the research methodology to explore the effects of reading instruction based on Multiple Intelligences Theory on reading comprehension and students' opinions about multiple activities designed for teaching reading. It includes the following topics: research design, research procedure: the preparation and the implementation.

1. Research Design

To evaluate the effects of reading instruction based on Multiple Intelligences Theory, quantitative data was mainly considered. Qualitative data was used to confirm the results.

The design of this research is one-group pretest-posttest experimental design. This design attempts to use the subjects as their own controls and to eliminate the need for a control group design (Selinger & Shohamy, 1989). In this study, reading instruction based on Multiple Intelligences Theory is a treatment. After treatment, the researcher examines whether the posttest means scores of the proficiency reading test and the performance- based reading test are higher than the pretest. In other words, the posttest means scores from the proficiency reading test and the performance-based reading test are dependent variable. Reading instruction based on Multiple intelligences Theory is an independent variable. Students' posttest means score were used to estimate the statistical significance in the group. In short, Figure 3.1 presented the diagram of the design of the study is presented in figure 3.1.

Figure 3.1: *The Diagram of a reading instruction based on Multiple Intelligences*

Theory

Phase 1: The Preparation of Reading Instruction Based on Multiple Intelligences

Theory

Stage 1.1: Specify the population and samples

Stage 1.2: Conduct needs analysis survey

Stage 1.3: Explore and study the basic concepts and related documents.

Stage 1.4: Construct lesson plans and research instruments

Stage 1.5: Verify the effectiveness of lesson plans and research instruments

Stage 1.6: Pilot test lesson plans and revise.

Phase 2: The Implementation of reading instruction based on Multiple

Intelligences Theory

Stage 2.1: Students' survey to explore Multiple Intelligences profile (MI profile)

Stage 2.2: Pretest

Administer the proficiency reading test and the performance-based

reading test

Stage 2.3: During the experiment

-Conduct the instruction

-Elicit students'opinions about multiple activities designed

for teaching reading in each lesson with students' logs

Stage 2.4: Posttest

Administer the proficiency reading test and the performance-based

reading test

Stage 2.5: Elicit students' opinions about various activities based on Multiple

Intelligences Theory with the questionnaire and interviews.

Stage 2.6: Analysis of the effectiveness of the instruction

-Compare group's mean scores of pretest and post test of the

proficiency reading test and the performance-based reading test

-Analyze Student logs, Questionnaires, Interviews

2. Research Procedures

There were two stages of research procedures. The first stage involved the preparation of reading instruction based on Multiple Intelligences Theory. The second stage involved the implementation of reading instruction based on Multiple Intelligences Theory.

Phase 1: The preparation of reading instruction based on Multiple Intelligences Theory

Stage 1.1 Specify the population and samples

The population of this study included 245 Grade-10 students who were studying English (reading) in semester two, academic year 2008 at Chulalongkorn University Demonstration School. The sample of this study was 13 students, consists of 6 boys and 7 girls who are from Science and Art Program and voluntarily enrolled in the elective course "Reading Varieties". They were the type of linguistic, logical, visual, interpersonal, intrapersonal, and naturalistic intelligences. Most of them were intrapersonal intelligence (5 out of 13) and interpersonal intelligence (4 out of 13). The details of multiple intelligences are the following Table 3.1:

Table 3.1: Students's Multiple Intelligences Profile

Student number	Strength (Intelligence)	Weakness (Intelligence)
1	Interpersonal	Naturalistic, bodily
2	Logical	Bodily, visual
3	Naturalistic	Musical, bodily
4	Naturalistic	Visual, Musical
5	Interpersonal	Visual
6	Intrapersonal	Bodily
7	Intrapersonal	Visual, musical

Student number	Strength (Intelligence)	Weakness (Intelligence)
8	Linguistic, interpersonal intrapersonal, visual	Logical, naturalistic
9	Intrapersonal	Logical, naturalistic
10	Visual	Interpersonal, musical, bodily
11	Linguistic, interpersonal	Logical
12	Intrapersonal	Naturalistic
13	Linguistic, visual	Bodily, naturalistic

After knowing the students' profile, the researcher as a teacher forms group of students as heterogeneous group so that they share the different classmates' strengths to improve their learning. Table 3.2 shows the details of students' intelligences in each group:

Table 3. 2 : Students' intelligences in each group

Group	Student number	Types of intelligences
1	1	Interpersonal intelligence
	2	Logical intelligence
	3	Naturalistic intelligence
2	4	Naturalistic intelligence
	5	Interpersonal intelligence
	6	Intrapersonal intelligence
	7	Intrapersonal intelligence
3	8	Linguistic, interpersonal, intrapersonal, visual intelligence

Group	Students	Types of intelligences
3	9	Intrapersonal intelligence
	10	Visual intellignece
4	11	Linguistic, interpersonal intelligence
	12	Intrapersonal intelligence
	13	Linguistic, visual intellignece

Stage 1.2 Conduct needs analysis

Needs analysis was conducted using a questionnaire to find out about the reading topics / passages which students are interested in. These passages are included in the lesson plans.The reading passages were 'Music and Moods', 'The Love Letters', 'Body Language in the United States', 'Space Tours not so Far off', 'From Rags to Riches', 'Term Paper Trouble', 'Nature's Weather Forecasters', 'Common Questions about Dreams', 'Africa Safari, 'Gift Giving', 'Home Sweet Home','Bugs for Life', 'Into the Desert', 'Kho Phagan', 'The Biology of Music', and 'The Bottle'.

Reading passages are from the textbooks for grade ten students and high school level as follows: Richards and Samuela (2003) 'Strategic Reading I' , Billings and others (2003) 'Adventures in Reading and Writing', and Lawley (2001) 'Differences: Practice Book 1'. The text involves all eight intelligences : linguistic, logical / mathematical, bodily / kinesthetic, visual, musical, interpersonal , intrapersonal and naturalist intelligences. Sixteen topics were presented to the students. Two topics were presented for each intelligence. The subjects were asked to rate the satisfaction on a five point scale (See Appendix A).

Needs analysis was conducted with one hundred and fifty four students Grade 10 students in semester 1, academic year 2008 so that the researcher can prepare reading passages and lesson plans to teach the participants in semester 2. Table 3.3 showed the results of needs analysis of Grade-10 studentsof Chulalongkorn University Demonstration School. Finally, the top eight selected topics served as topics for an eight-unit elective course called "Reading Varieties".

Table 3.3: Results from the needs survey questionnaire

Topics	Total scores	N	$\overline{X}$	S.D.	Rank
Common questions about dream	5	154	3.42	1.07	5
Body Language in the United States	5	154	3.47	1.02	2
Africa Safari	5	154	2.92	1.10	
Gift Giving	5	154	3.00	1.13	
Bugs for Life	5	154	2.49	1.17	
From Rags to Riches	5	154	3.43	1.15	3
Nature's Weather Forecasters	5	154	3.43	1.16	4
Home Sweet Home	5	154	3.32	1.11	
Into the Desert	5	154	2.92	1.17	
Koh Phangan	5	154	2.73	1.13	
Music and Moods	5	154	3.56	1.19	1
The Biology of Music	5	154	3.03	1.08	
Space Tours not so far off	5	154	3.40	1.19	7
Term Paper Trouble	5	154	3.42	1.24	6

Topics	Total scores	N	$\overline{X}$	S.D.	Rank
The Bottle	5	154	2.91	1.26	
The Love Letters	5	154	3.39	1.29	8

All the eight topics identified from the needs analysis stages were taken as the topics for this course. However, the researcher resequenced the topics according to what the students like and dislike and whether the topic was concrete or abstract so as to motivate students in reading. Eight lessons were presented in the following table 3.4:

Table 3.4 : Resequencing eight topics included in the elective course
'Reading Varieties'

Lesson	Title
1	Music and Moods
2	The Love Letters
3	Body Language in the United States
4	Space Tours not so Far off
5	From Rags to Riches
6	Term Paper Trouble
7	Nature's Weather Forecasters
8	Common Questions about Dreams

Stage 1.3 Explore and study the basic concepts and related documents

The basic concepts and related documents dealing with reading instruction based on Multiple Intelligences Theory were explored. The theories and concepts can be summarized as follows:

The proposed framework of reading instruction based on Multiple Intelligences Theory

In the present study, the framework of study has adapted Multiple Intelligences sequences of teaching proposed by Lazear (1991). The stages of instruction are as follows:

The first stage is to 'awaken the intelligence'. In this stage, a particular intelligence can be activated or triggered through exercises and activities which use the sensory bases-sight, sound, taste, touch, smell, speech, and communication with others.

The second stage is 'amplify the intelligence'. The purpose of this stage was expanding, deepening and nurturing an awakened or activated intelligence. The students are able to strengthen and improve their intelligences in this stage.

The third stage is "teach for / with the intelligence". The purpose of this stage was to allow group of students to use the focused intelligence and relevant reading strategies in enhancing reading comprehension.

The fourth stage is "transfer the intelligence". Students used the intelligences learned based from the previous three stages to complete the tasks.

Stage 1.4 Construct lesson plans and research instruments

Lesson plans are instructional instruments. The aim is to help the researcher as a teacher conducts the course effectively through a reading instruction based on Multiple Intelligences Theory. The information about MI-based language teaching was studied and constructs into lesson plans. Eight lesson plans were developed based on the sequence of teaching adapted from Lazear (1991). Each lesson plan included the title of the lesson, audience, time, MI focused, reading strategy focused, terminal and enabling objectives, materials and evaluation (See appendix K). Also, the instruments for collecting the data included the performance-based reading test, the questionnaire for eliciting students' opinions, interviews, and students' logs.

Stage 1.5 Verify the effectiveness of the lesson plans and research instruments

1.5.1 Verifying the effectiveness of the *Lesson Plans*

Three EFL experts who have more than 5 years exposure to teaching reading to high school students were invited to verify the lesson plans using the evaluation form (Appendix J) designed by the researcher. Three lesson plans (Lessons 1, 2 and 7) were submitted to the experts as representative lesson plans. The three lesson plans are 'Music and Moods', 'The Love Letters', ' Nature's Weather Forecasters. There were two parts of the evaluation form: 7 three- point attitude scale questions (appropriate, not sure, not appropriate) and additional comments. The responses of the first part of the evaluation form obtained from the experts were calculated by Item-Objective Congruence Index (IOC) (Turner and Carlson, 2003) and presented in Table 3.5-3.7

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

IOC means the index of ingruence

R means total scores from the opinion of the specialists

N means numbers of the specialists

Figure 3.2 : IOC Congruence Index

The data taken from these experts are interpreted. The IOC value is higher than 0.5, it is accepted. However, if it is lower than 0.5, that point must be revised. This approach helped confirm the reliability and validity of the lesson plans.

Table 3.5: The percentage of the experts' opinions on reading instruction based on

Multiple Intelligences Theory lesson plan (Lesson Plan 1)

Item	Experts'opinions			IOC
	Appropriate (+1)	Not sure (0)	Not Appropriate (-1)	
1. Content Objective				
1.1 Terminal objective	3	0	0	1
	(100%)	(0%)	(0%)	
1.2 Enabling objective	3	0	0	1
	(100%)	(0%)	(0%)	
2. Applying MI focused in the teaching procedures				
2.1 Awaken the intelligence	3	0	0	1
	(100%)	(0%)	(0%)	
2.2 Amplify the intelligence	3	0	0	1
	(100%)	(0%)	(0%)	
2.3 Teach for / with the intelligence	1	0	2	-0.33
	(33.3%)	(0%)	(66.7%)	
2.4 Transfer of the intelligence	2	0	1	0.33
	(100%)	(0%)	(0%)	
3. Evaluation	2	1	0	0.67
	(66.7%)	(33.3%)	(0%)	
Grand Mean Score of IOC				**0.667**

Note: N = 3

From Table 3.5, most of the items got an Item-Objective Congruence Index

value that was higher than the criterion set (IOC > 0.5) except the items of 2.3 and 2.4

'teach for / with the intelligence' and 'transfer of the intelligence' that IOC was less

than 0.5.   However, grand mean score of IOC is 0.667 (IOC >0.5) shows that overall,

the experts were satisfied with lesson plan 1. However, there were a few comments and

suggestions for editing given by the experts as follows:

Expert A: The strategy-based instruction is not clear. The activities in the step of

'transfer of the intelligences' does not match with the focused

intelligence.

Expert B: The strategy-based instruction that used in Lesson 1 seems not to

connect with the MI-based instruction.

Expert C: The stage 'teach for /with the intelligence' seems to be teacher-directed.

Teacher explained all things and do not give students think by themselves.

Taken the experts' additional comments, the researcher adjusted the Lesson Plan 1 by adding more steps of strategy instruction: lesson introduction, modeling, guided practice, independent practice, and debriefing. Also, the researcher changed the activities in the step of 'transfer of the intelligence' from assigning students singing to drawing from listening to music. Besides, the reading strategy was changed from predicting to making connection (text-to-self) so that students can connect their experiences to how music affects moods. In addition, in the stage of 'teach for/with the intelligence', the researcher activated the students' metacognitive awareness about reading strategy via questions to enhance the student- centered approach.

Table 3.6: The percentage of the experts' opinions on reading instruction based on Multiple Intelligences Theory lesson plan (Lesson Plan 2)

Item	Experts' opinions			IOC
	Appropriate (+1)	Not sure (0)	Not Appropriate (-1)	
1. Content Objective				
1.1 Terminal objective	3 (100%)	0 (0%)	0 (0%)	1
1.2 Enabling objective	3 (100%)	0 (0%)	0 (0%)	1
2. Applying MI focused in the teaching procedures				
2.1 Awaken the intelligence	3 (100%)	0 (0%)	0 (0%)	1
2.2 Amplify the intelligence	2 (66.7%)	0 (0%)	1 (33.3%)	0.33
2.3 Teach for / with the intelligence	1 (33.3%)	0 (0%)	2 (66.7%)	-0.33
2.4 Transfer of the intelligence	3 (100%)	0 (0%)	0 (0%)	1
3. Evaluation	3 (100%)	0 (0%)	0 (0%)	1
Grand Mean Score of IOC				**0.714**

Note: N = 3

Table 3.6 showed that overall, the experts are satisfied with Lesson 2 because IOC 0.714 , was higher than the criterion set (0.714 > 0.5). However, the experts suggested changes in the teaching procedure indicated by item 2.2 and 2.3, IOC = 0.33 < 0.5. The following comments were given:

Expert A: The way to 'amplify the intelligence' and the connection between MI-based instruction are not appropriate.

Expert B: The way to 'amplify the intelligence' and the connection between MI-based instruction are not clear. Strategy is not relevant with the focused intelligence.

Expert C: Strategy is not relevant with the focused intelligence the same as expert B

The researcher adjusted Lesson Plan 2 by changing the activities in the step of'amplified the intelligence' from reading poems about love to discussing the message from a whisper game in the stage of 'awaken the intelligence'. Besides, the researcher changed the strategy instruction from predicting to asking classmates for help.

Table 3.7: The percentage of the experts' opinions on reading instruction based on Multiple Intelligences Theory lesson plan (Lesson Plan 7)

Item	Experts'opinions			IOC
	Appropriate (+1)	Not sure (0)	Not Appropriate (-1)	
1. Content Objective				
1.1 Terminal objective	3 (100%)	0 (0%)	0 (0%)	1
1.2 Enabling objective	3 (100%)	0 (0%)	0 (0%)	1
2. Applying MI focused in the teaching procedures				
2.1 Awaken the intelligence	2 (66.7%)	1 (33.3%)	0 (0%)	0.67
2.2 Amplify the intelligence	2 (66.7%)	0 (0%)	1 (33.3%)	0.33
2.3 Teach for / with the intelligence	2 (66.7%)	0 (0%)	1 (33.3%)	0.33

Table 3.7 (Continue)

	Experts'opinions			IOC
	Appropriate (+1)	Not sure (0)	Not Appropriate (-1)	
2.4 Transfer of the intelligence	3 (100%)	0 (0%)	0 (0%)	1
3.Evaluation	3 (100%)	0 (0%)	0 (0%)	1
Grand Mean Score of IOC				**0.761**

Note: N = 3

From Table 3.7, most of the items got an Item-Objective Congruence Index

value that was higher than the criterion set (IOC > 0.5) except the items of 2.2

'Amplify the intelligence' and 2.3 'Teach for / with the intelligence' that IOC was less

than 0.5. However, the grand mean score of IOC is 0.761 (IOC > 0.5) which shows

that overall, the experts were satisfied with Lesson Plan 7. The experts gave some

comments and suggestions as follows:

Expert A: Activity in the stage of 'amplify the intelligence' is not appropriate.

Expert B: The strategy used is not appropriate.

Expert C: Activity in the stage of 'amplify the intelligence' is not appropriate.

The researcher adjusted Lesson Plan 7 by changing the activities in

amplifying the intelligence from looking at pictures of weather and telling what the

weather is like to supposing themselves as animals and ask them to explain what they

will do before a storm. Besides, the strategy is changed from 'drawing a mind map' to

'activating background knowledge'.

Afterwards, the researcher adjusted the lesson plans according to the

experts' suggestions. The researcher asked the experts to approve the revised versions.

The final version was approved by the experts. Table 3.8 shows a long range plan of the

reading instruction based on Multiple Intelligences Theory.

Table 3.8: Long Range Plan of the reading Instruction based on MI Theory

Week	Lesson	Topic	Reading Strategies	MI in the lesson	MI highlighted	MI Activities/ Assessments
1	-	-MI Inventory -The proficiency reading pretest (PET1)	-	-	-	-
2	-	The performance-based reading pretest	-	-	-	-
3	1	Music and Moods	-Making connections (text-to-self)	Linguistic, Intrapersonal, Visual, Musical Intelligences	Musical Intelligence	Listening to music and drawing a picture.
4	2	The Love Letters	- Asking classmates for help.	Interpersonal, Intrapersonal, Logical Intelligences	Interpersonal Intelligence	Brainstorming and presentation
5	3	Body Language in the United States	- Using physical actions	Bodily, Interpersonal, Linguistic Intelligences	Bodily Intelligence	Mime and role play
6	4	Space Tours not so far off	- Identify cause and effect	Logical , Visual, Interpersonal, Linguistic Intelligence	Logical Intelligence	Write a report why Thailand should / should not have a space tour.
7	5	From Rags to Riches	- Drawing a timeline	Visual, Interpersonal intelligence	Visual intelligence	Drawing a picture and a timeline
8	6	Term Paper Trouble	- Making connections (Text-to-self)	Intrapersonal, Logical, and Linguistic Intelligence	Intrapersonal Intelligence	Discuss the experiences about term paper trouble, and write Self- reflection about plagiarism.
9	7	Nature's Weather Forecasters	Activating background knowledge	Naturalistic, Intrapersonal, Linguistic Intelligence	Naturalistic Intelligence	Observing the animals' behaviors and write a prediction of the weather.

Table 3.8 (Continue)

Week	Lesson	Topic	Reading Strategies	MI in the lesson	MI highlighted	MI Activities/ Assessments
10	8	Common Questions about Dreams	-Guessing meanings from the context.	Linguistic, Visual, Interpersonal, Intrapersonal Intelligences	Linguistic intelligence	Reading ability based on writing production(write an experience about dreams.
11		The proficiency reading posttest (PET 2)	-	-	-	-
12		The performance-based reading posttest	-	-	-	-
13		-MI Theory explanation -Questionnaire - Interview	-	-	-	-

In Table 3.8, it shows that the researcher as a teacher activates students'

intelligences as much as possible because people have all eight intelligences in the

combination. Intelligences are not isolated. However, teachers can highlight on one

intelligence. For example, Lesson 1 'Music and Moods', students learned reading

strategy 'making connection' (text-to-self). Students have to recall how they feel when

they listen to different kinds of music. They have to use intrapersonal intelligence to

think about their experiences. Then , they write their experiences in a woeksheet. It

implies that they use linguistic intelligence. When the teacher turns on music, they

listen and close their eyes. Then, draw a picture. It shows that they use musical and

visual intelligence. However, the highlight intelligence is musical intelligence.

1.5.2   Verifying the effectiveness of *The performance- based reading test*

Three EFL experts who got more than 5 years experience assessment areas at the level of high school were invited to validate the performance – based reading test and scoring. From Table 3.9, the results from the evaluation form revealed that the experts were not satisfied overall with the performance-based reading test. It is indicated by IOC of a grand mean score of 0.147 ($<$ 0.5.). However, item 3 ' Text used for the performance-based reading test is 0.67 ($>$0.5). It shows the content validity. It implies that the text that measures students' reading comprehension is appropriate for the students.

Table 3.9: *Percentage of experts' opinions on the performance-based reading test*

Item	Experts'opinions			IOC
	Appropriate (+1)	Not sure (0)	Not Appropriate (-1)	
1. Task	3 (100%)	0 (0%)	0 (0%)	1
2 Instruction	1 (33.3%)	0 (0%)	2 (66.7%)	-0.33
3 Text used for the performance-based reading test	2 (66.7%)	1 (33.3%)	0 (0%)	0.67
4. Scoring	0 (0%)	0 (0%)	3 (100%)	-0.75
Grand Mean Score of IOC				**0.147**

Note: N =3

The following are the experts' comments and suggestions:

Expert A: Suggests that the text is interesting. It is appropriate to the students but the words are rather easy for grade -10 students. Thus, students may not need to use their strategies in reading. Besides, the instruction is not appropriate.

Also, in case each item has 1 point, the scoring rubric changed from a full score of 4 to 5. Scores were suggested as follows:

5   means   all five sections are correct and complete.

4   means   four sections are correct and complete.

3	means	three sections are correct and complete.
2	means	two sections are correct and complete.
1	means	one section is correct and complete.
0	means	all are incorrect.

(0.5 or 0.25 will be further deducted for each mistake or incomplete idea).

Expert B: Suggests that it is not necessary to assess and evaluate reading comprehension by rubric score. The researcher may use scores instead. Also, each item should not have an equal scores. The items that have 2 points full should be the items that measure reading comprehension problems such as plot and resolution.

The rest of the items that seem to measure the memory such as setting, time. places, and characters, should be given the full score value of 1 point.

Expert C: Suggests that teacher should explain the item 'problem', 'plot', and 'resolution' in the performance-based reading test and the symbols "arrows" before students do the performance-based reading test. Besides, the evaluation is changed from rubric scores. Besides, each item should not have the equal score. In addition, the instruction is not clear.

The researcher adjusted the performance – based reading test according to the experts' suggestions and then asked them to approve the revised versions. The final versions were approved by the experts. The researchers changes rubric scores 1 2 3 4 to raw scores. The full points are 10. Setting, time, place and characters are 1 point each. Problems, plots and resolutions are 2 points each. Instruction, the researcher changed the direction from *Work in group. Reading a text 'A Necklace in the Grass'. Then, writing notes in a story map given* (30 minutes) to 'Work ***in a small group. Read the reading text 'A Necklace in the Grass'. Then complete the given story map are used 30 minutes***.

1.5.3 Verifying the effectiveness of *the Questionnaire for Eliciting Students' opinions*

The questionnaires were validated by three experts in the area of EFL teaching and language assessment who have more than five years in teaching reading with high school students. There were two parts of this evaluation form. First, five 4-rating- scale items were employed for the quantitative data; and at the end of this part, the experts were asked to give their additional comments on their overall assessment of the questionnaire. The expert's validation on the first part is quantitatively presented in the following table:

Table 3.10: *Percentage of experts' opinions on the questionnaire*

Items	Opinions				
	Excellent	Good	Moderate	Poor	
	4	3	2	1	$\overline{X}$
1. Instrument's explanation is clear.	-	-	3	-	2
2. Instruction is clear.	1	1	1	-	3
3. Questions are purposeful and Support the study	1	1	1	-	3
4. The language used is appropriate to the participants.	1	-	2	-	2.67
5. The format of the questionnaire is appropriate toparticipants.	1	-	2	-	2.67

All experts were satisfied with the questionnaire ($\overline{X} \geq 2.0$). There were additional comments given by the experts as follows:

Expert 1: Suggested to change the form of questionnaire to be a table so as to avoid the mistake or misunderstanding of each students. Also, "ฉัน" should change to "ข้าพเจ้า.

Expert 2: Commented about the words that were not consistent such as เพื่อความเข้าใจการอ่าน and เพื่อ เข้าใจเนื้อเรื่อง / จับใจความ.

Expert 3: The word "ทักษะ" should change to"ความสามารถ". Also, it should not have the

negative sentence such as 'I do not like the multiple activities' or 'the activities do not

enhance reading comprehension'. Besides, some items needed clarification. For

example, in item 4 the word "Multiple Intelligences" should be clarify as to what it is

otherwise the students may not understand. Item 4 should change from "ข้าพเจ้าเห็นว่าการ

สอนการอ่านตามทฤษฎีพหุปัญญา ทำให้ข้าพเจ้าตระหนักถึงทักษะทางพหุปัญญาที่ฉันถนัด" to "ข้าพเจ้าเห็นว่า

การสอนการอ่านตามทฤษฎีพหุปัญญา ทำให้ตระหนักถึงความสามารถทางพหุปัญญาที่ข้าพเจ้าถนัด/ไม่ถนัด ได้แก่

ความสามารถเกี่ยวกับภาษา, ความสามารถในการใช้เหตุผล, ความสามารถในการเคลื่อนไหว, ความสามารถที่รับรู้

ได้ด้วยสายตา, ความสามารถในการเข้าใจตนเอง, ความสามารถในการเข้าใจผู้อื่น, และความสามารถในการเข้าใจ

ธรรมชาติ.

Besides, the rate should have 4 scales instead of 5 scales by cutting

'neutral'. Therefore, the scales are:1) strongly disagree 2)disagree 3)agree and 4)

strongly agree.

The researcher adjusted the questionnaire according to the experts' suggestions

as follows:

The researcher changed the questionnaire to a table and used the word "เข้าใจเนื้อ

เรื่อง. The word "ทักษะ is changed to "ความสามารถ" and the negative sentences were

deleted. Besides, the researcher clarified what types of multiple intelligences there are

and changed from 5 to 4 scales.

Research Instruments

The instruments used in this study were as follows:

Multiple Intelligences Inventory (adopted from Grave and Arka, 1998)

It is used to learn about students' intelligences so as to place them in heterogeneous groups. Students can learn the strength and weakness of others . They learn to respect to each other. Students can develop / improve intelligences from learning from others . Multiple Intelligences Inventory helps teachers get to know the students. Currie (2003) proposed if   teachers are aware of the students' intelligence profile of the class, strategies can be developed in order to use the students' intelligences strengths to acquire knowledge more effectively.

Grave and Arka's (1988) Multiple Intelligences Inventory is used to survey students'intelligences since the language and vocabularies are not too difficult. It is an appropriate version for tenth grade students.

The inventory consisted of 8 types of intelligences. Each has 6 intelligence items. The total are 48 items (See Appendix B) The researcher translated the information into Thai (See Appendix C) and give them 10 minutes to finish. Multiple Intelligences Inventory were validated by an expert in the areas of translation.

The Proficiency Reading Test

The researcher requested the proficiency reading test from the University of Cambridge. Before the experiment, the students are asked to do pre-test at the first week and post-test in week 11.

 The proficiency reading test refers to the reading comprehension test of Cambridge University is a standardized test for students between grades 10-12. It is used for measuring English language ability to cope linguistically in a range of everyday situations in contact with native and non-native speakers of English for general purposes. The reading section consists of 5 parts (35 questions). Two parallel

forms (PET 1 and 2) of the Preliminary English Test (PET) Test served as the proficiency reading test employed as the pretest and posttest to measure students' reading comprehension ability before and after the treatment.

In the study, the researcher used only the reading section to measure students' reading comprehension. In the reading section, each of the 35 questions is worth one mark. The details are as follows:

Table 3.11: *The content of Preliminary English Test (PET)*

Part	Task type and format	Task focus	Number of Questions
1	Three-option multiple choices.Five short discrete texts: signs and messages, postcards, notes, e-mails, labels, etc., plus one example.	Reading real-world notices and other short texts for the main message	5
2	Matching Five items in the form of descriptions of people to match to eight short adapted – authentic texts.	Reading multiple texts for specific information and detailed comprehension	5
3.	True / False Ten items with an adapted-authentic long text.	Processing a factual text. Scanning for specific information while disregarding redundant material.	10
4.	-Four- option multiple choice -Five items with an adapted-authentic long text.	Reading for detailed comprehension; understanding attitude, opinion and writer purpose. Reading for gist, inference and global meaning.	5
5.	Four-option multiple choice-cloze	Understanding of vocabulary and grammar in a short text. structural patterns in the text.	10

The Preliminary English Test (PET) is appropriate as being the instrument to measure reading comprehension in the study because the text deals with using English in daily life such as reading read-world notices, reading multiple texts for specific information, reading for detailed comprehension, understanding attitude, opinion and writer purpose, reading for gist, inference and global meaning, and understanding of vocabulary and grammar in a short text. Students have to use reading strategies such as making connection (text-to-self), guessing meanings from contexts and their multiple intelligences to comprehend the text. Since there is variety on the test itself and there are a lot of illustrations on the test, students can use their visual intelligence and other intelligences to understand the text. Moreover, the Preliminary English Test (PET) is accorded with the aim of the study that expect students to understand the text at the literal and interpretative levels. In this study, the researcher received permission to use the Preliminary English Test (PET) as a pre and post test from Cambridge University.

The Performance-based Reading Test

In this study, the performance – based reading test is another main instrument for collecting the data and evaluates how students use their intelligences to understand the text. The performance-based reading test employed is a story map that aims to see how students use their logical, visual, interpersonal, and linguistic intelligences to understand the text. The performance-based reading test consists of 7 items : setting, time, place, characters, problems, plots, and resolutions (See Appendix D). Setting, time , and place is one element. Character, problem, plot, and resolution are different elements. The researcher as a teacher gives a number of points to each element box and students obtain a raw score. Items of setting, time, place, and characters are 1 point each. Problems, plots and resolutions are 2 points each.

The full scores are 10 points which mean 'excellent'. It refers that all items are correct and complete. Scoring from 8-9 points means 'good'. It refers that one or two

items are incorrect and/or incomplete. 5-7 points means 'fair'. It refers that 3-5 items are incorrect and/or incomplete. Below 5 points means 'need to improve'. It refers that more than 5 items are incorrect and/or incomplete. The researcher as a teacher uses a key word to check the answers. Grammar' errors are not deducted.

The student will work in group to complete the performance-based reading test. Students with different intelligences work together. There are four groups. Each group has 3 – 4 students. The researcher assigns the performance-based reading test during the first week and post test in week 12. The researcher gives 50 minutes to finish the pre and post portions of the performance – based reading test.

Questionnaire

The questionnaire for eliciting students' opinions is used to examine students' opinions toward various activities based on Multiple Intelligences Theory designed for teaching reading (Appendix E). It was a 4-point scale questionnaire. The four options were 1) strongly disagree 2) disagree 3) agree and 4) strongly agree. The questionnaire was designed to collect students' demographic characteristics and their opinions towards multiple activities designed for teaching. The questionnaire consisted of two parts. The first part, which was about personal information, consisted of three questions: gender of the respondent, respondents' GPA, and the respondent's latest grade in the English subject (reading). The other part, which was about information related to students' opinions toward the multiple activities consisted of 4 likert scales 16 questions and an open-ended question that ask about the preference (like and dislike) of reading instruction based on Multiple Intelligences Theory in elective course "Reading Varieties".

The researcher distributed the questionnaires at the end of the course (Week 13) as a quantitative instrument to examine the students' opinions towards multiple intelligence activities.

Student logs

By the end of each lesson, students would be asked to write student logs showing their opinion toward the activities' preference and how they used post-reading activities to comprehend the text. It is as a qualitative data to confirm quantitative data. The researcher provided some guided topics/questions for students to follow to avoid missing the important points. For example, do you like the activities in Lesson 1 'Music and Moods'? How post – reading activity help you comprehend the text?

The results of the students' log were analyzed using content analysis and the data was used to help confirm and triangulate with the data from the questionnaire to find out about the students' opinions in Multiple Intelligences activities.

5. Interviews

On week 13 (the last week), the researcher asked the questions based on the questionnaire to support the students' logs. It is also qualitative data to confirm quantitative data. The main question was about the preference and comprehension of reading instruction based on Multiple Intelligences Theory compared with conventional teaching reading, translation to suggest teachers whether there is effective approach in teaching reading.

All 13 students were asked to be interviewed to receive more in-depth analysis and confirmation of their opinions toward reading instruction based on Multiple Intelligences Theory, and how Multiple Intelligences Theory enhances reading comprehension and multiple activities designed for teaching reading.

The semi-structured interviews were carried out with audiotape recording in a one-to-one discussion basis. The interviews were conducted in Thai in order to obtain as much information as possible. The interviews were conducted after students finishing the questionnaire. A set of questions were in accord with the Questionnaire for eliciting students' opinions, and were designed as an interview framework. These

questions asked students to give more details on what they thought about the activities of reading instruction based on Multiple Intelligences Theory. The questions that used for interviews are as follows:

Question 1: In the aspect of reading comprehension, between reading instruction based on Multiple Intelligences Theory that used various activities in teaching and the traditional way of teaching reading that focuses on translating, which one helps you understand the text better? Why?

Question 2: Compared teaching reading in "Reading Varieties" course that uses various activities with the traditional way of teaching reading that focus on translating, which one do you prefer and why?

All of the instruments for collecting the data were summarized and presented in the following table.

Table 3.12: The summary of the research instrument for collecting data

Instruments	Research Questions	Types of instruments	Time of distribution	Analysis
1. The Proficiency Reading Test (PET)	**RQ.1** To what extent does reading instruction based on Multiple Intelligences Theory affect students' reading comprehension?	A standardized test for use with students between grades 10-12.	Before and after the treatment	1. Descriptive Statistics 2. The Wilcoxon Matched-Pairs Signed-Rank Test

Table 3.12 (Continue)

Instruments	Research Questions	Types of instruments	Time of distribution	Analysis
2.The Performance-Based Reading Test	**RQ 1** To what extent does reading instruction based on Multiple Intelligences Theory affect students' reading comprehension?	An alternative test developed to evaluate reading comprehension	Before and after the treatment	1. Descriptive Statistics 2. The Wilcoxon Matched-Pairs Signed- Rank Test
3.Questionnaire for eliciting students' opinions toward multiple activities designed for teaching reading	**RQ 2** What are students' opinions about various activities based on Multiple Intelligences Theory designed for teaching reading?	Likert scale semi-structured	After the treatment	1. Mean score and S.D. 2. Content analysis

Table 3.12 (Continue)

Instruments	Research Questions	Types of instruments	Time of distribution	Analysis
4. Interview	**RQ 1** To what extent does reading instruction based on Multiple Intelligences Theory affect students' reading comprehension **RQ 2** What are students' opinions about multiple activities designed for teaching reading?	Semi-Structured	After the treatment	1. Content analysis 2. Percentage
5.Students' logs	**RQ 1** To what extent does reading instruction based on Multiple Intelligences Theory affect students' reading comprehension	Guided topics	By the end of each unit	1.Content analysis 2. Percentage

Table 3.12 (Continue)

Instruments	Research Questions	Types of instruments	Time of distribution	Analysis
5. Students' log	**RQ 2** What are students' opinions about multiple activities designed for teaching reading?			

Stage 1.6 Pilot test lesson plans and revise.

To ensure that the lesson plans were effective and to reduce unforeseen problems, a pilot study was carried out in semester one of academic year 2008. The samples in the pilot study consisted of 23 students from Grade 10 room number 5 who were studying English (reading).

After the pilot, the problem found was timing. Students could barely finish writing 5–minute student logs.

Phase 2: The Implementation of reading instruction based on Multiple Intelligences Theory

The implementation of reading instruction based on Multiple Intelligences Theory was carried out with one sample group in Semester two of academic year 2008. The experimental group's schedule was on Thursday at 10.20 – 12.00 a.m. The stage of implementation was as follows:

Stage 2.1: Students' survey to explore Multiple Intelligences profile (MI profile.

In the first week, students were able to asked and do the Multiple Intelligences Inventory as well as to learn what each student's strength and weakness are and then set the group. Students who have different intelligences are in the same group so that they help each other and use their different intelligences to complete the task.

Stage 2.2: Pretest

Administer the proficiency test and the performance reading test

In the first week, the Preliminary English Test (PET) Test serves as the proficiency reading test employ the pretest and posttest to measure students' reading comprehension ability before and after the treatment. The proficiency reading test (PET 1) as a pretest was administered to the students (35 items, 45 minutes).

The second week, students conducted the performance test. Before the students do the performance-based reading test, the researcher as a teacher explained the instruction and words that appear in the text such as setting, places, problems, plot and resolution by giving an example "Mae Nark Phra Khanong" story. Next, students do the performance-based reading test.

Stage 2.3: During the experiment

Conduct the instruction. Students get the treatment for 8 weeks (8 units) by using reading instruction based on Multiple intelligences Theory. By the end of each lesson, students were asked to write a 5-minute student log to show their preference toward activities and how post-reading activity helps them comprehend their reading text. The students' post –reading activity was graded according to the scores.

Stage 2.4: Posttest

At the end of the experiment period (Week 11-12), all of the participants have to do the post test. The proficiency-based reading test (PET) and the performance

–based reading test will be distributed in order to examine the effectiveness of reading instruction based on Multiple Intelligences Theory on reading comprehension.

Stage 2.5: Students' opinions about various activities based on Multiple Intelligences Theory designed for teaching reading with the questionnaire and interviewing.

At week 13, the researcher gives the questionnaires to ask the students' opinions about multiple activities designed for teaching reading. However, before students do the questionnaires, the researcher as the teacher defines Multiple Intelligences Theory and how to apply Multiple Intelligences Theory in 'Reading Varieties' so that students understand what advantage they got from this course. Then, students were interviewed about the opinions about vaious activities based on Multiple Intelligences Theory designed for teaching reading.They were asked how it helped them comprehend the text compared with the grammar translation method, if it is fun , and whether they used / improved / develop their multiple intelligences to comprehend the text.

Stage 2.6: Analysis of the effectiveness of the instruction

To evaluate the effectiveness of the instruction, the data obtained from the pre and post of the proficiency reading test (PET) test and the performance-based reading test were statically analyzed by the Wilcoxon Matched-Pairs Signed-Rank Test. In addition, the data from questionnaires, students' logs and interviews confirmed the effectiveness of the instruction. Questionnaires were analyzed by mean scores and S.D. Student logs and interviews were analyzed by content analysis and percentage. In other words, they were the answers of data analysis of research question 1 and 2 as follows:

2.6.1 Data analysis for research question 1

Research question one is concerned with the effects of reading instruction based on Multiple Intelligences Theory on reading comprehension. The independent variable (IV) was the reading instruction based on Multiple Intelligences Theory. The dependent

variable (DV) was the proficiency reading test and the performance-based reading tests. To analyze the data, the Wilcoxon Matched-Pairs Signed-Rank Test, was conducted to determine the differences between the posttest scores of the proficiency reading test within the group. In addition, the Wilcoxon Matched-Pairs Signed-Rank Test was used to analyze the performance-based reading test scores within group.

Moreover, the results of the data obtained from three instruments: questionnaires, interviews, and students' logs were analyzed to confirm and triangulate the data from the proficiency reading test and the performance- based reading test. The data from the questionnaire (only item 15) was analyzed using $\overline{X}$ and S.D. The data from the interviews were analyzed by content analysis and percentage. The data from the student logs were analyzed qualitatively by content analysis.

2.6.2 Data analysis for research question 2

Research question 2 was about students' opinions about variou activities based on Multiple Intelligences Theory design for teaching reading. The data from the questionnaire for eliciting students' opinions about various activitiesbased on Multiple Intelligences Theory design for teaching reading was analyzed using $\overline{X}$ and S.D. The data from student logs were analyzed qualitatively by content analysis in order to collect students' opinions, suggestions, and comments, and also analyzed using percentage to obtain the students' opinions about multiple activities design for teaching reading. The data from the interviews were analyzed by content analysis and percentage to get the opinions and suggestions about various activities designed for teaching reading.

Figure 3 sums up the implementation of reading instruction based on Multiple Intelligences Theory.

Figure 3: The implementation of reading instruction based on Multiple Intelligences Theory
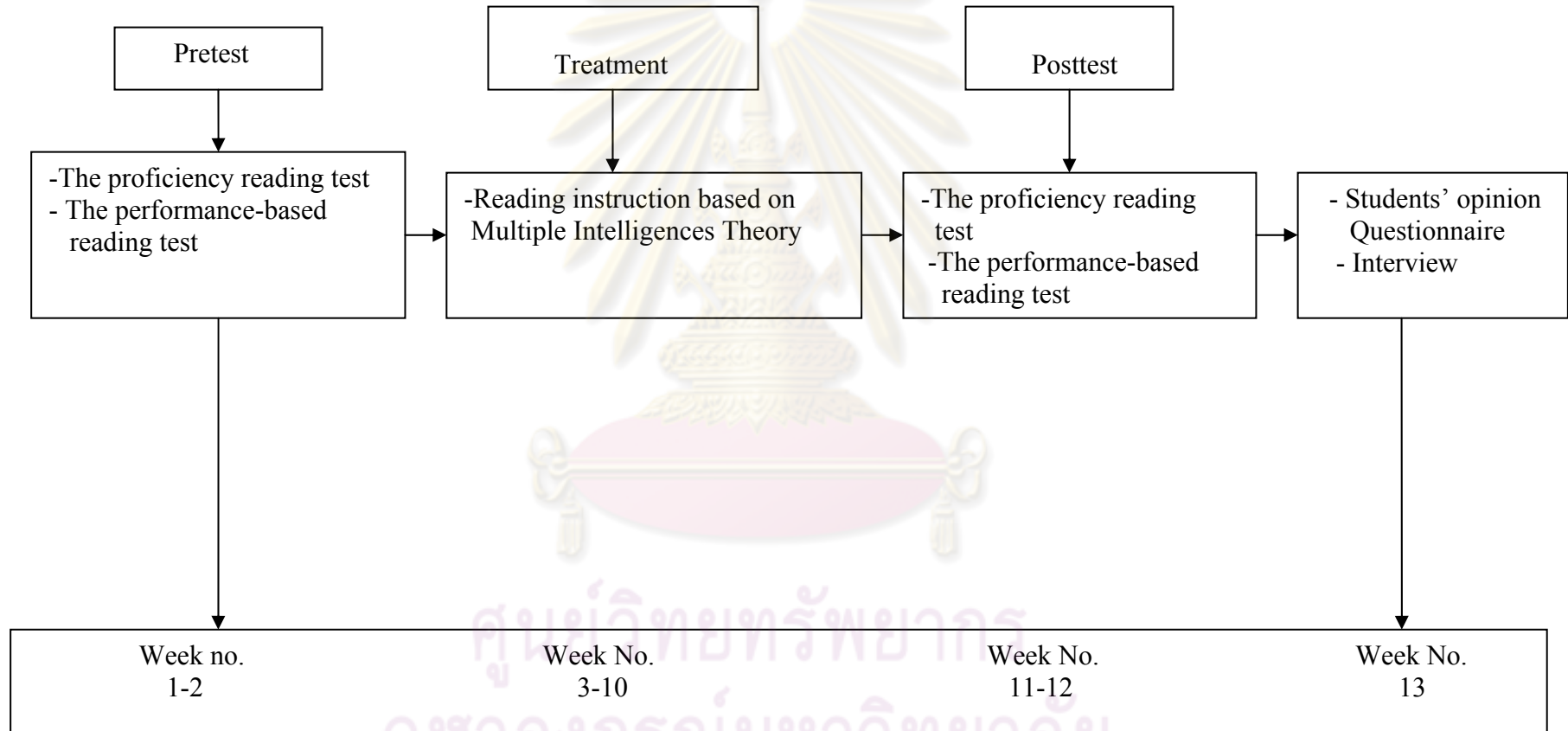
Summary

This study is experimental research. The research has been conducted in two main phases as follows:

Phase 1: The preparation of reading instruction based on Multiple Intelligences Theory

Phase 2: The implementation of reading instruction based on Multiple Intelligences Theory

The experiment was based on experimental research design. The study was conducted with 13 Grade-10 students for 13 weeks. After the experiment, the English proficiency and performance scores within the group was compared. In addition, three main types of instruments: questionnaire, interview and student logs were utilized to confirm the results and to collect the data of the students' opinions about various activities based on Muultiple Intelligences Theory designed for teaching reading using $\overline{X}$, S.D. , percentage and content analysis.

CHAPTER IV

RESEARCH FINDINGS

Since the study explores how reading instruction based on Multiple Intelligences Theory affects students' reading comprehension and opinions about multiple activities designed for teaching reading, this chapter is divided into two parts. The first part presents the results of effects of reading instruction based on Multiple Intelligences Theory on reading comprehension. The second part shows the results of opinions about multiple activities designed for teaching reading.

The results of effects of reading instruction based on Multiple Intelligences Theory on reading comprehension.

To evaluate effects of reading instruction based on Multiple Intelligences Theory on reading comprehension, the findings from the proficiency reading test and those from the performance-based reading test are answerable. Moreover, the results of the data obtained from three instruments: interviews, questionnaires, and students' logs were analyzed to confirm and triangulate with the data from the proficiency test and the performance – based reading test.

The findings are reported based on the research questions and the hypotheses.

Research question 1: To what extent does reading instruction based on Multiple Intelligences Theory affect reading comprehension?

Hypothesis 1: After taking reading instruction based on Multiple Intelligences Theory, students will gain higher reading comprehension ability as follows:

> 1.1 The students' posttest score of the proficiency reading test is higher than the pretest at 0.05 level of statistical significance.

> 1.2 The students' posttest score of the performance-based reading test is higher than the pretest at 0.05 level of statistical significance.

Findings from the Proficiency Reading Test

To test the hypothesis that the students' posttest score of the proficiency reading test is significantly higher than the pretest (hypothesis 1.1), the scores gained from the posttest of the proficiency reading test (PET) were compared with the pretest in terms of descriptive statistics: the minimum and maximum scores, mean scores, and S.D., and analyzed by the wilcoxon matched-pairs signed-rank test to determine the differences between the pretest and posttest scores.

Table 4.1: Descriptive statistics of the proficiency reading test scores

	N	**Minimum**	**Maximum**	**Mean**	**S.D.**
Pretest	13	20	33	26.08	4.663
Posttest	13	12	33	24.08	6.171

In Table 4.1, the mean score of the pretest of 13 students is 26.08 (S.D. = 4.663) with the highest score of 33 and the lowest score of 20. The average score of the posttest of those 13 students is 24.08 (S.D. = 6.171) with the highest score being 33 and the lowest one being 12.

To clearly see the differences between the pretest and posttest scores of the proficiency reading test, Figure 4.1 is shown as follows:

Figure 4.1: The results of the pretest and posttest scores of the proficiency reading test
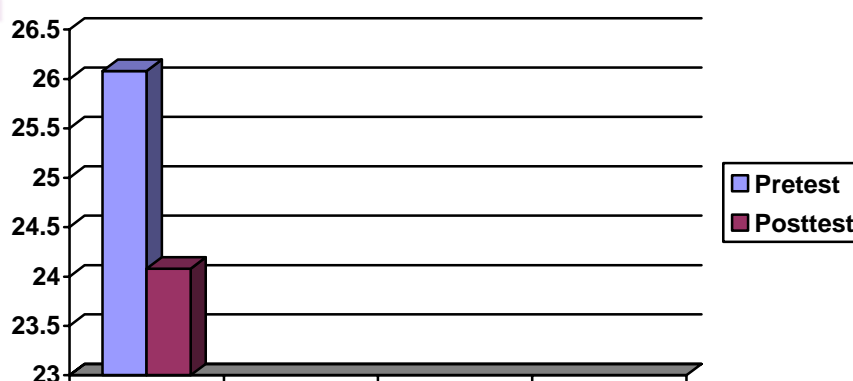
Since the sample is small (N=13), to analyze the differences between the pretest and posttest scores, The Wilcoxon Matched-Pairs Signed-Rank Test is employed.

Table 4.2: The differences between the pretest and posttest scores of the proficiency reading test

Ranks		N	Mean Rank	Sum of Ranks
Posttest-pretest	Negative Ranks	7[a]	7.14	50.00
	Positive Ranks	4[b]	4.00	16.00
	Ties	2[c]		
	Total	13		

a. posttest < pretest
b. posttest >pretest
c. pretest = posttest

Test Statistics [b]

	posttest-pretest
Z	-1.515a
Asymp. Sig. (2-tailed)	0.130

*p < .05
a. Based on positive ranks.
b. Wilcoxon Signed Ranks Test

Table 4.2 shows the difference between the pretest and posttest scores of the proficiency reading test. The table shows that the posttest mean scores of seven students are lower than the pretest while four students get higher scores in the posttest. Two students get the same scores as in the pretest. It is found that the scores from the proficiency reading test of the pretest and posttest are not significantly different at the level of 0.05 (p = 0.130 >0.05).

In conclusion, the posttest scores of the proficiency reading test are not significantly higher than the pretest.

Findings from the Performance – based Reading Test

To test the hypothesis that the students' posttest score of the performance –
based reading test is significantly higher than the pretest (hypothesis 1.2), the scores
gained from the posttest of the performance- based reading test are compared with the
pretest and analyzed by descriptive statistics to obtain the minimum and maximum
scores, mean scores, and S.D.

The results of the pretest and posttest scores are in the following Table 4.3:

Table 4.3: Descriptive statistics of the performance- based reading test scores

	N	**Minimum**	**Maximum**	**Mean**	**S.D.**
Pretest	13	5.5	7.5	6.46	0.946
Posttest	13	4.5	8.5	7.11	1.710

Note: To complete the performance – based reading test, 13 students with different
multiple intelligences work in group (4 groups).

Table 4.3 shows that the pretest mean score of the performance test is 6.46 (S.D.
= 0.946) with the highest score of 7.5 and the lowest score of 5.5. The posttest mean
score of the performance test is 7.11 (S.D. =1.710) with the highest score of 8.5 and the
lowest score of 4.5.

To analyze the differences between the pretest and posttest scores, Wilcoxon
Signed Ranks Test is employed.

Table 4.4: The differences between the pretest and posttest scores of the
performance-based reading test

		Ranks		
		N	**Mean Rank**	**Sum of Ranks**
Posttest-pretest	Negative Ranks	3[a]	5.50	16.50
	Positive Ranks	10[b]	7.45	74.50
	Ties	0[c]		
	Total	13		

a. posttest < pretest
b. posttest >pretest
c. pretest =posttest

Test Statistics [b]	
	posttest-pretest
Z	-2.140[a]
Asymp. Sig. (2-tailed)	0.032

*p < .05

a. Based on positive ranks.

b. Wilcoxon Signed Ranks Test

Table 4.4 shows the difference between the pretest and posttest scores of the proficiency reading test. The table shows that the posttest mean scores of three students are lower than the pretest whereas ten students get higher scores in the posttest. No one gets the same scores as in the pretest. The scores from the performance-based reading test of the pretest and posttest are significantly different at the level of 0.05 (p=0.032 < 0.05).

In conclusion, the posttest scores of the performance-based reading test are significantly higher than the pretest.

Moreover, to clearly see the differences between the pretest and posttest scores of the performance-based reading test, Figure 4.2 is shown as follows:

Figure 4. 2: The results of the pretest and posttest scores of the performance-based reading test
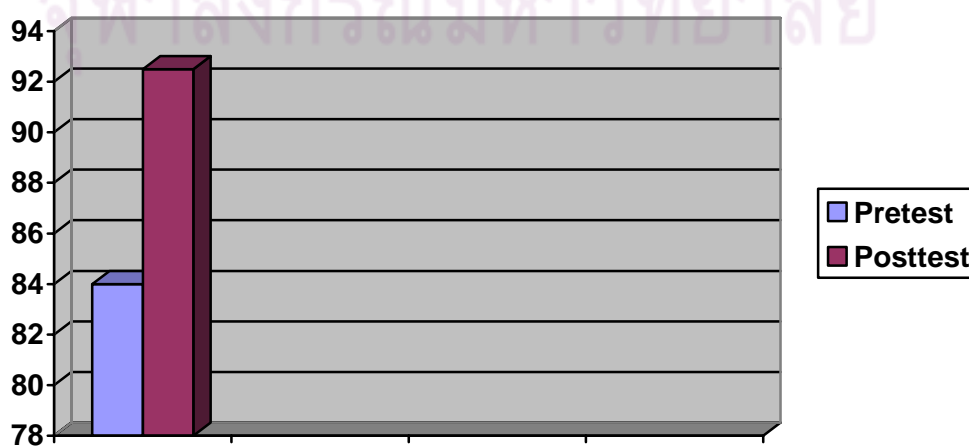
The results of opinions about various activities based on Multiple Intelligences theory

To explore opinions about various activities based on Multiple Intelligences Theory designed for teaching reading, the findings from the questionnaires for eliciting the students' opinions are analyzed to test the hypothesis. Also, additional data elicited from the students' logs, and interviews were analyzed to triangulate and confirm the hypothesis.

The findings will be presented based on the following research questions and the hypotheses.

Research Question 2: What are students' opinions about multiple intelligences activities designed for teaching reading?

Hypothesis 2: Students will have a positive opinions about multiple intelligences activities designed for teaching reading. (Mean of opinion scale≥ 2.0 from the 4- point scale on the questionnaire)

Findings from the questionnaire for eliciting Students' Opinions

Table 4.5 presented the opinions of 13 Grade 10 students that registered in the elective course "Reading Varieties" about multiple activities designed for teaching reading .The questionnaire is divided into two parts. The first part is about personal information: gender and the latest grade of English subject (Reading). The second part consists of 16 close-ended questions and 2 open-ended questions. The data of 16 close-ended questions were analyzed using $\overline{X}$ and S.D.

Table 4.5: $\overline{X}$ *and S.D. of students' opinions toward various activities based on*
Multiple Intelligences Theory designed for teaching reading

Question Items	Opinions				$\overline{X}$	S.D.
	4 **Strongly** **agree**	**3**	**2**	**1** **Strongly** **disagree**		
I think that various activities designed for teaching reading……………….						
1. motivate me in studying in English subject (Reading).	2	10	1	0	3.08	0.493
2. motivate me in reading the text.	4	9	0	0	3.31	0.480
3. help me realize the strength / weakness of intelligence. (Linguistic, logical, bodily, visual musical, intrapersonal, intrapersonal, and naturalistic intelligence).	5	7	1	0	3.31	0.630
4. help me use the intelligence that is my strength. (Linguistic, logical, bodily, visual musical, intrapersonal, intrapersonal, and naturalistic intelligence).	4	8	1	0	3.23	0.599
5. help me develop my intelligence that is weak. (Linguistic, logical, bodily, visual musical, intrapersonal, intrapersonal, and naturalistic intelligence).	3	8	2	0	3.08	0.640
6. help me use my all eight Intelligences. (Linguistic, logical, bodily, visual musical, intrapersonal, intrapersonal, and naturalistic intelligence).	6	7	0	0	3.46	0.519
7. enhance me respect myself.	1	8	4	0	2.77	0.599

Table 4.5 (Continue)

Question Items	Opinions				$\overline{X}$	S.D.
	4	3	2	1		
	Strongly agree			Strongly disagree		
8. enhance me respect the others.	4	9	0	0	3.31	0.480
9. help me change the attitude toward the others.	2	7	4	0	2.85	0.689
10. help me understand myself and others	1	12	0	0	3.08	0.277
11. are various.	1	11	1	0	3.00	0.408
12. are interesting.	1	10	2	0	2.92	0.493
13. are enjoyable than the traditional class.	2	8	3	0	2.92	0.640
13. are enjoyable than the traditional class.	2	8	3	0	2.92	0.640
14. help me understand the text better than reading instruction that focused on translation.	2	10	1	0	3.08	0.493
15. enhances reading comprehension.	2	7	4	0	2.85	0.689
16. I like various activities based on Multiple Intelligences Theory.	3	9	1	0	3.15	0.555
Grand Mean Score					**3.09**	**0.543**

Notes: 1) Agreement was rated using a 4 – point scale: 1 = strongly disagree,

2 = disagree, 3 = agree, 4 = strongly agree.

2) The open-ended questions were analyzed using content analysis.

3) The questionnaires were presented in Thai so that the students could

understand and express their opinions fully without any language barrier.

The mean scores of all items are higher than 2.0, producing the grand mean

score of 3.09. Hypothesis 2 stipulates that 2.0 points from the 4-point scale indicates

positive opinions of the students about multiple intelligences activities for teaching

reading. Therefore, hypothesis 2 is accepted, based on the questionnaire results.

Besides, if considerd some specific aspects drawn from the questionnaire, e.g. item 1 – 2 dealing with motivation, items 4-6 dealing with realization, develop, and use of intelligences, items 7 -10 dealing with respect oneself and others, items 11-13 dealing with atmosphere, items 14 – 15 dealing with reading comprehension, item 16 dealing with conclusion that students like / dislike multiple activities designed for teaching reading or reading instruction based on Multiple Intelligence Theory. Most of students showed positive opinions. The top three points are in the aspect of using intelligences, motivation, and respect.

The highest of the average score is item number 6 involving using intelligences. The statement is as follows:

Item 6: 'I think multiple activities designed for teaching reading help me use all my eight intelligences.' ($\overline{X} = 3.46$).

Secondly, item numbers 2, 3, and 8

Item 2: 'I think multiple activities designed for teaching reading motivates me in reading the text'($\overline{X} = 3.31$).

Item number 3 involves realization of intelligences,

Item 3: 'I think multiple activities designed for teaching reading helps me realize the strengths and weaknesses of intelligence'. ($\overline{X} = 3.31$).

Item number 8 involves respect:

Item 8: 'I think multiple activities designed for teaching reading enhances me respect for others' ($\overline{X} = 3.31$).

Thirdly, item number 4 involves using intelligences:

Item 4: 'I think multiple activities designed for teaching reading help me use the intelligence that is my strength' ($\overline{X} = 3.23$).

Besides, students' opinions on item number 14, and 15 : 'I think that various activities designed for teaching reading help me understand the text better than reading

instruction that focused on translation' (item 14), and 'enhances reading comprehension' (item15) (See the details in Table 4.5). It is shown that the mean score of item number 14 is 3.08 (S.D.=0.493) and item number 15 is 2.85 (S.D.= 0.689). It indicates that students have positive opinions towards various activities based on Multiple Intelligences Theory designed for teaching reading. They agreed that various activities based on Multiple Intelligences Theory help them understand the text better than reading instruction that focused on translation, and enhances reading comprehension. These findings confirm Hypothesis 1 that reading instruction based on Multiple Intelligences Theory affects reading comprehension.

Remarks: Mean of opinion scale≥ 2.0 from the 4- point scale on the questionnaire

Refers to the 'positive opinions'.

At the end of the questionnaire, there was a section of open-ended questions asking for comments about reading instruction based on Multiple Intelligences Theory. In this section, there are two items. Students have to specify why they like and dislike multiple activities designed for teaching reading in "Reading Varieties" course. Their answers imply the strength and weakness of various activities designed for teaching reading. The following table 4.6 are the responses given by students.

Table 4.6: Students' opinions about reading instruction based on Multiple

Intelligences Theory (Open-ended questions)

Strength	Weakness
1.I realize my strength and weakness. (3/13 or 23%)	1. I would like the teacher to teach grammar. (1/13 or 7.7%)
2. I learned my classmate's strength and Weakness. (2/1 or 15.4%)	2. The text in each lesson is short. 1/ 13 or 7.7%)
3. I can develop my weak point. (6/13 or 46.1%)	3. I do not like the text in some lessons. It is boring. (1/13 or 7.7%)
4. The lessons are interesting. (1/13 or 7.7%)	4. We need some more translation in some sentences. (1/13 or 7.7%)
5. The teacher is kind. (1/13 or7.7%)	5. The activities in some parts are too

Table 4.6 (Continue)   .

Strength	Weakness
	long and need more time.
6. The classroom atmosphere is good and lively. (1/13 or 7.7%)	6. Reading instruction based on Multiple Intelligences Theory can not develop my reading comprehension much .(1/13 or 7.7%)
7. The activites are various and interesting (1/13 or 7.7%)	7. The text is not interesting. (1/13 or 7.7%)
8. I can use all my eight intelligences to comprehend the text (4/13 or 30.8%)	8. I do not like some activities in some lessons. (2/13 or 15.4%)
9. I learned reading strategy. (1/13 or 7.7%)	9. I do not like translation. (1/13 or 7.7%)
10. Reading Instruction based on Multiple Intelligences Theory motivates me in reading. (1/13 or 7.7%)	10. I do not like working in group. (1/13 or 7.7%)
11. I have a chance to practice speaking and listening to English as a native speaker. (1/13 or 7.7%)	
12. I like working in a group. (1/13 or 7.7%)	

From the answers to the open-ended question, it is indicated that most students were satisfied with multiple activities designed for teaching reading because they could develop their weak intelligences (46.1%). Also, they can use all their eight intelligences to comprehend the text (30.8%). Moreover, they realized their strength and weaknesses (23%). However, the weakness of multiple activities is that some activities did not impressed them enough (15.4%).

Findings from the students' perception: interviews and the students' logs

According to Multiple Intelligences Theory, people possess eight intelligences and can use their intelligences to gain knowledge in other areas such as reading comprehension. Besides, teachers should use various activities and materials to enhance students' learning in reading class because students have different intelligences. Therefore, there is no one set of activities suited all students. Armstrong (2001) stated that reading can be taught effectively with the other intelligences, not only linguistic and logical intelligence. In addition, Acosta (2000) found that Multiple Intelligences based instruction had an effect on students' attitudes toward learning in English.

Therefore, the additional data elicited from the interviews, and student logs were analyzed to triangulate and confirm how reading instruction based on Multiple Intelligences Theory affect reading comprehension. According to research question 1 and the positive opinions toward multiple activities designed for teaching reading as research question 2 is as follows:

Research Question 1 : To what extent does reading instruction based on Multiple Intelligences Theory affect reading comprehension?

Research Question 2: What are students' opinions about multiple intelligences activities designed for teaching reading?

Findings from the students' perception from the interviews, and students' logs

Findings from the interviews

This part of the research findings focuses on the interview with participants using open-ended questions in order to elicit their opinions whether they would support the idea that reading instruction based on Multiple Intelligences Theory helps enhance reading comprehension. Based on research question 1 which is to elicit participants' opinions about multiple activities designed for teaching reading compared with the traditional way of teaching, which is reading focusing on translating the content of

reading passages.   The questions focus on preference between using multiple activities in teaching reading and the translation. All 13 participants were the interviewees. The following are the responses given by the interviewees. The number and percentage in parentheses are added to indicate the number of students giving that comment.

The following interview contains opinions about multiple activities designed for teaching reading that affect reading comprehension and satisfaction.

T: In the aspect of reading comprehension, between reading instruction based on Multiple Intelligences Theory that used multiple activities in teaching and the traditional way of teaching reading that focuses on translating, which one helps you understand the text better? Why?

The majority (69.2% or 9 out of 13) states that teaching reading with multiple activities as this class helps me understand the main idea better. And 30.8% (or 4 out of 13) shared different views as follows:

7.7 %(1 out of 13) said that teaching reading with multiple activities helped them understand the main idea a lot.

7.7 % (1 out of 13) supported that teaching reading with multiple activities helped them understand the text the same as teaching reading with translation

7.7 % (1 out of 13) said that they were not sure because they did not pay attention in class.

7.7% or (1 out of 13) stated that it depended on the text. They thought that this style was suitable for the text that has no difficult words, or a text that is not too complicated. However, for the text that has many difficult words, teaching reading by translation was better.

T: Compared teaching reading in "Reading Varieties" course that uses multiple activities with the traditional way of teaching reading that focus on translating, which one do you prefer and why?

53.8 % (7 out of 13) stated that they like the way we learned in "Reading Varieties" class because it is more enjoyable. There are many activities that we can use our eight intelligences to understand the text such as drawing, listening to music, role- play and so on. In addition, they said that they could develop their strengths and improve their weakness through multiple activities.

15.4 % or 2 out of 13 stated that they like this style of teaching because they can read with their friends in group. They can share ideas and knowledge. It is fun.

38% or 4 out of 13 has shared different views as follows:

7.7% (1 out of 13) said that they like the way we learned because they do not translate word by word. They are free to read the text so they have more imaginable. Translation does not help them understand the text but it helps them memorize the story. The atmosphere in class is more enjoyable. (1/13 or 7.7 %)

7.7% (1 out of 13) supported that they like teaching reading in "Reading Varieties" course because it enhances them being learner autonomy. When they do not know some words, they try to find the meaning of the words.

7.7% (1 out of 13) said that   they are indifferent with this style because they do not like working in group.

7.7% (1 out of 13) said that   during some lessons, they feel enjoy but in some lessons, they feel bored. Also, when the text is difficult and the teacher does not translate for them, they   skip it and they do not understand the text.

In conclusion, almost all students or 92.3 % had a positive opinion about multiple activities that were used in teaching reading in "Reading Varieties" course because there were many multiple activities, and they could use their eight intelligences to understand the text. Moreover, the activities were fun. In addition, they can develop their strength and improve their weakness through multiple activities. They also liked working in a group because they can exchange some ideas and knowledge.

Findings from the student logs

By the end of each lesson, the students were asked to write 5-minute student logs. There were two questions guiding them to show their opinions about multiple activities designed for teaching reading in each lesson and how they use the particular intelligence via doing post- reading activity to comprehend the text.

This part of the research findings presented results obtained from the students' logs how post-reading activity that focused on one intelligence helped them use their particular intelligences to comprehend the text. The data from students' logs will be catagorized into three aspects: students who have no talent (but be not weak) in the focused intelligence, students who are weak in the focused intelligence, and the students who are talented in the focused intelligence. The researcher compared how they reacted towards particular lesson. For example, in Lesson 1 'Music and Moods' (MI focused: Musical Intelligence), the post-reading activity was drawing a picture from listening to music. From the MI Inventory, no student is talented in musical intelligence, they can nevertheless use their musical intelligence that they have in the combination to comprehend the text. In the students' logs, 12 out of 13 students (92.3%) wrote a personal reflection in the students' logs that drawing a picture from listening to music helps them to understand how different kinds of music affect moods.

In Lesson 3, "The Body Language in the United States" (MI focused: Bodily Intelligence), the post-reading activity was role-play. From the MI inventory, six of the students in this class were weak in bodily intelligence. However, they could use their bodily intelligence that is their weakness to comprehend the text. For example,

S 6: 'Role play helps me understand the text clearly. I act it and then understand the text'.

S 12: 'Role play helps me understand the text because when there are many details in the story, role play helps me easily remember and understand the text'.

In Lesson 6, 'Term Paper Trouble', the post-reading activity was writing an experience about a plagiarism. From the MI Inventory, 5 of 13 students (38.5%)which are most of students in this class were talented in intrapersonal intelligence; they can use their intrapersonal intelligence to comprehend the text.

S 6: 'Writing an experience about plagiarism helps me understand the characters feeling. I know that at the first time that someone does a plagiarism, he /she feel guilty. However, after you did it many times, you do not feel anything'.

S 7: 'Writing an experience about plagiarism helps me understand the text and I promise myself not to copy another's work'.

The following Table 4.7 presented the overall impression to the multiple intelligences activities in each unit.

Table 4.7: The overall impression from students' logs

LESSONS	Students' preferences	
	Like	Dislike
1	12 (92.3%)	(7.7%)
2	11 (84.6%)	2 (15.4%)
3	9 (69.2%)	4 (30.8%)
4	9 (69.2%)	4 (30.8%)
5	13 (100%)	-
6	9 (69.2%)	4 (30.8%)
7	11 (84.6%)	2 (15.4%)
8	10 (76.9%)	3 (23.1%)

Note: N = 13

Table 4.7 showed that Lesson 5, 1, 2, and 7 are the lessons that students like the most. The results showed that Lesson 5 (100%), lesson 1 (92.3%) , Lesson 2 and 7 (84.6%)

In the student log , the students explained why they likeed the activities in Lesson 5, 1, 2, and 7 as follows:

In Lesson 5 'From Rags to Riches', the activities were drawing a picture that you heard from the teacher and drawing a timeline. All 13 students (100%) like the activities. They explained that they liked drawing a timeline. Drawing a timeline helps them comprehend the text easily.

In Lesson 1 'Music and Moods', the activities were listening to music and guessing the music instrument that students heard. They also look at the music instrument pictures and toldl what they were, and drawing a picture from listening to music. 12 out of 13 or 92.3% like the activities in Lesson 1. For example,

S 8: 'I like the activities about music because I like listening to music'.

S 9: 'I like the activities because they are fun and I can learn how music affects moods.'

Only one student or 7.7% does not like those activities.

Student number 1 dislikes the activities,

S 1: 'I do not like the songs that were used in the activities'.

In lesson 2, 'The Love Letters', the activities were the whisper game, and discussions and brainstorming, 84.6% like the activities. On the contrary, 15.4 % disliked the activities.

Student number 6, 7, 8, and 11 like the text and activities because it was fun. Also, student number 1 and 5 like the whisper game and working in a group. Student number 2 and 9 do not like the activities because they do not like working in a group.

In Lesson 7 "Nature's Weather Forecaster", the activities are observing the weather and predicting, doing an exercises about animals' behaviors and writing a report about observing animals' behaviors and prediction. 84.6% like the activities.

S 4: 'I love nature so I like the text and activities involving nature'.

On the contrary, 15.4% of students did not like the activities. The reasons are as follows:

S 8: 'I do not like nature and activities involving nature'.

S 12: 'I do not like animals and activities about animals'.

In conclusion, findings from the student logs showed that 96.2%- 100% of students like reading instruction based on Multiple Intelligences Theory because it helps them comprehend the text and the activities are fun. They can use their eight intelligences to comprehend the text.

Summary

This chapter presented the findings under two main points: the results of effects of reading instruction based on Multiple Intelligences Theory on reading comprehension and opinions about various activities based on Multiple Intelligences Theory designed for teaching reading. To measure reading comprehension, the researcher used both proficiency reading test (PET), and the performance-based reading test as research instruments to test the hypothesis. To help confirm and triangulate with the data from the proficiency reading test and performance-based reading test, students' opinions from questionnaires, interviews, and student logs were analyzed.

According to the wilcoxin matched-pairs signed-rank test, the results showed that the student's posttest mean score of the proficiency reading test were not significantly different from the pretest. Therefore, the posttest means score of the proficiency reading test (PET) was not significantly higher than the pretest. Regarding the performance-based reading test, the results showed a significance difference of the mean scores between pretest and posttest. Thus, the posttest means score was significantly higher than the pretest. Therefore, research hypothesis one, only research

hypothesis 1.2 (the students' posttest score of the performance based reading test is higher than the pretest at 0.05 level of statistical significance) has been accepted.

With regard to the students' opinions about multiple activities designed for teaching reading, the analysis showed a positive degree of satisfaction towards various activities based on Multiple Intelligences Theory designed for teaching reading. Findings from the questionnaire, interviews, and student logs showed that students had positive opinions on various activities based on Multiple Intelligences Theory designed for teaching reading in the aspect of reading comprehension and atmosphere. Consequently, research hypothesis two has been accepted.

CHAPTER V

SUMMARY, DISCUSSIONS, IMPLICATIONS, AND RECOMMENDATIONS

In this chapter, a summary of the study and research findings are firstly presented first in relation to the two hypotheses. The findings are then discussed with support from the relevant theoretical and empirical work on Multiple Intelligences Theory and reading comprehension. Teaching implications and recommendations for future research are presented at the end of the chapter.

5.1 Summary of the study

5.1.1. Objectives

The main objectives of this study is to study the effects of reading instruction based on Multiple Intelligences Theory in reading comprehension and to examine students' opinions about reading instruction based on Multiple Intelligences Theory that uses multiple activities in teaching.

5.1.2　Research Design

This study is based on an experimental research. To study effects of reading instruction based on Multiple Intelligences Theory on reading comprehension, the experimental design was conducted for comparing the posttest mean score (from the standardized English proficiency reading test and the performance-based reading test). Moreover, interviews, questionnaire, and students' logs were employed to elicit students' opinions how reading instruction based on Multiple Intelligences Theory affect reading comprehension.

5.1.3　Procedure

This study was divided into two phases. The first one was about the preparation of reading instruction based on Multiple Intelligences Theory on reading comprehension. In this phase, the instruments were developed and pilot tested to ensure

its content and construct validity. The second phase was about the implementation of reading instruction based on Multiple Intelligences Theory.

The details of two phases are as follows:

Phase I: The preparation of reading instruction based on Multiple Intelligences Theory

Phase one consisted of six sub-stages: 1) specifying the population and sample, 2) conducting needs analysis survey 3) exploring and studying basic concepts and related documents, 4) constructing lesson plans and research instruments, 5) verifying the effectiveness of lesson plans and research instruments, 6) piloting test and revising lesson plans.

Stage 1: Specifying the population and sample

The experiment was prepared by specifying the population and samples. The population of this study were Grade-10 students at Chulalongkorn Demonstration School who were studying the English subject (reading) in semester two, academic year 2008. The samples were 13 students from Chulalongkorn Demonstration School and who enrolled the elective course "Reading Varieties".

Stage 2: Conducting needs analysis survey

Needs analysis was carried out at the end of semester one, academic year 2008 in order to prepare reading passages and lesson plans in semester two. Two topics present each type of intelligence. All one hundred and fifty nine students were asked to choose eight out of sixteen topics which they were interested in. The top eight topics were arranged into eight lessons. However, eight topics obtained from the needs analysis does not run on according to what they are interested in. They were rearranged according to students' likes and dislikes and the topic that was more concrete to abstract so as to motivate students in reading.

Stage 3: Exploring and studying basic concepts and related documents

The theories and basic concepts related to this study were explored. The studied topics were the framework of Multiple Intelligences sequences of teaching proposed by Lazear (1991).

Stage 4: **Constructing lesson plans and research instruments**

The lesson plans and instruments were constructed.Eight lesson plans were developed based on the framework of Multiple Intelligences sequences of teaching proposed by Lazear (1991). Each lesson plan included the title of the lesson, audience, time, MI focused, reading strategy focused, terminal and enabling objectives, materials and evaluation (Appendix K). Also, the instruments for collecting the data included a performance-based reading test, questionnaire for eliciting students' opinions, interviews, and student logs were constructed.

Stage   5: Verifying the effectiven   ess   of lesson plans and research instruments

To verify the effectiveness of the lesson plans and research instruments, the checklists and evaluation form were constructed and presented to the experts in the fields of ESL/EFL, Language Instruction, Language Assessment, and Evaluation for evaluating the effectiveness of the instruments. The revisions and modifications were made according to the experts' comments.

Stage 6: Piloting test and revising the lesson plans.

A pilot study was carried out at the end of semester one, academic year 2008. The sample in the pilot study consisted of 23 students from Grade 10 Room 5 who were studying English subject (Reading). Lesson 1 "Music and Moods" was tried out to identify some potential problems and revision.

Phase II: The implementation of readi ng instruction based on Multiple Intelligences Theory

The implementation of reading instruction based on Multiple Intelligences Theory was composed of seven stages: 1) to survey students' strength and weakness of intelligences , 2) to pretest, 3) to assign the instruction, 4) to posttest, 5) to elicit students' opinions with the questionnaire, and interviews , 6) to evaluate the effectiveness of the instruction, and 7) conclusion.

Stage 1: Survey students' strength and weakness

According to prior reading instruction based on Multiple Intelligences Theory, students were assigned to do the Multiple Inventory so that the researcher as a teacher was able to keep students' MI profile and set the group according to their different intelligences.

Stage 2: Pretest

Students were pre tested with the proficiency reading test (PET) and the performance-based reading test to compare their reading comprehension before and after the treatment.

Stage 3: Assigning the instruction

The instructional intervention was taught to 13 Grade-10 students who enrolled in an elective course "Reading Varieties" for 13 weeks. There were all eight lesson plans. Each lesson lasted for 100 minutes. By the end of each lesson, students were asked to write a reflection in their student logs to show their opinions toward multiple activities and how they use intelligence which focused in each lesson to comprehend the text. Then, a researcher as a teacher collected it to analyze the content.

Stage 4: Posttest

At the end of the main study, the students had to take the posttest of the proficiency reading test (PET) and the performance-based reading test in order to

examine effects of reading instruction based on Multiple Intelligences Theory on reading comprehension.

Stage 5: Eliciting students' opinions with the questionnaire, and interviews

To triangulate the effects of reading instruction based on Multiple Intelligences Theory, students were asked to express their opinions about multiple activities designed for teaching reading via questionnaire, interviews and student logs.

Stage 6: Evaluating the effectiveness of the instruction

In order to evaluate effects of reading instruction based on Multiple Intelligences Theory, both quantitative and qualitative approaches were analyzed.

Quantitatively, the mean differences and rank of pretest and posttest of the proficiency reading test and the performance-based reading test were subjected to wilcoxon matched pairs signed rank test analysis to confirm the findings. Qualitative data from student logs, questionnaire, and interviews were also analyzed to determine whether reading instruction based on Multiple Intelligences Theory enhances students' reading comprehension.

5.1.4 Results

The results of the study can be summarized in response to the research questions as follows:

1) To what extent does reading instruction based on Multiple Intelligences Theory affect reading comprehension?

Results from the proficiency reading test and the performance-based reading test showed that students' mean score posttest of the performance - based reading test was significantly higher than the pre-test at the significance level of 0.05 while the students' mean score posttest of the proficiency reading test was not significantly higher than the pre-test at the significance level of 0.05. In other words, the mean score

of the students' performance-based reading test was significantly higher than that of the proficiency reading test.

Results from the interviews supported the quantitative findings from the proficiency reading test and performance – based reading test that reading instruction based on Multiple Intelligences Theory affect reading comprehension. Most of students (69.2 %) said that reading instruction based on Multiple Intelligences Theory that used multiple activities in reading helped them understand the main idea better. However, some other students felt indifferent about the approach. Take for example 7.7% of the students revealed that teaching reading based on Multiple Intelligences Theory helped them understand the text a lot . Another 7.7% stated that teaching reading with multiple activities helps them understand the text the same as teaching reading with translation. Another 7.7% stated that if the text has many difficult words, teaching reading by translation is better.

Results from the questionnaire also supported findings from the performance – based reading test that reading instruction based on Multiple Intelligences Theory affects reading comprehension. According to item number 14 , and15 that ask whether reading instruction based on Multiple Intelligences theory helps them understand the text better than reading instruction focusing on translation (item 14) and whether it enhances reading comprehension (item number 15), results showed that most of students agreed that reading instruction based on Multiple Intelligences theory help them understand the text better than reading instruction focused on translation ($\overline{X}$ =3.08), and it enhances reading comprehension ($\overline{X}$ = 2.85).

Likewise, results from the student logs supported the findings from the performance-based reading test that reading instruction based on Multiple Intelligences Theory affect reading comprehension. Students expressed their reflection how they

used the post-reading activity in each lesson that focused on one intelligence to comprehend the text (See Appendix M).

     2) What are students' opinions abou t multiple activities des igned for teaching reading?

     Findings from the questionnaires showed that students have a positive opinions about multiple activities designed for teaching reading since the grand mean score ($\overline{X}$ = 3.09) is up to 2.0, which indicates positive opinions. The top three areas that they showed the positive opinions are as follows:

-Multiple activities help them use all their eight intelligences. (item number 6,

$\overline{X}$ = 3.46).

-Multiple activities motivate them in reading the text. (item number2, $\overline{X}$ = 3.31).

-Multiple activities help them realize their strengths and weaknesses of

intelligence. (item number 3, $\overline{X}$ = 3.31).

-Multiple activities enhance their respect toward others.

(Item number 8, $\overline{X}$ = 3.31)

- Multiple activities help them use their strength. (item number 4, $\overline{X}$ =3.23).

Some findings are also parallel to the open-ended questions in the questionnaire in, that students show their own opinions regarding the strength of multiple activities. The top three points are as follows:

- 46.1% stated that they could develop their weak points

- 30.8% supported that they could use all their eight intelligences to comprehend the texts.

- 23% said that they realized their strengths and weaknesses.

15.4% (2 out of 13) said that there are weaknesses of using various activities based on Multiple Intelligences Theory designed for teaching in some reading activities in the lesson.

Besides, qualitative findings from the interview revealed evidence for the opinion that various activities based on Multiple Intelligences Theory designed for teaching reading compared with translation in reading class. Most of the students (53.8%) answered that they prefer using multiple activities in reading class because it is more enjoyable. They can use their eight intelligences to understand the text and develop their strength and improve their weaknesses through multiple activities. 15.4% of students like this style of teaching because they like reading with their friends in group. They can share ideas and knowledge. It is fun.

Findings from the students' logs also supported the results from the questionnaire that students have a positive opinion on the instruction based on Multiple Intelligences Theory in reading class. From the findings of the student logs, it is found that most of the students like various activities based on Multiple Intelligences Theory designed for teaching reading in "Reading Varieties" course. The evidences is that 69.2% -100% of students like activities in each lesson.

Discussion

The effectiveness of reading instruction based on Multiple Intelligences Theory were discussed in relation to two aspects: reading comprehension and students'opinions toward multiple activities designed for teaching reading.

Reading comprehension

It was found that the students' posttest mean score from the proficiency reading test was not significantly higher than the pretest at the significance level of 0.05. However, the students' posttest mean score from the performance-based reading test was significantly higher than the pretest. The reason might be explained in terms of Multiple Intelligences Theory. The majority of the subjects in this study were intrapersonal (38.5% or 5 out of 13) and interpersonal intelligence (30.7% or 4 out of 13). Being intrapersonl type, the students would do well on the tasks which needs

reflection or in-depth thinking while interpersonal MI students would be more effective if they can interact with people. The task in the performance-based reading test correspond to both intrapersonal and interpersonal types because the content of the performance–based reading test itself mostly involves the characters' introspection and feelings , for example, what he should do or what decision he makes before it leads to a resolution. Students have to use their intrapersonal intelligence to think about themselves, what they will do in this situation or use making connection strategy (text–to-self). Also, they use interpersonal intelligence to understand the characters' feelings. Besides, to complete the performance-based reading test, students work in group. Working in group allows them to use their interpersonal intelligence to learn their classmates' strengths which enhances reading comprehension. In other words, they share their knowledge and ideas to one another. However, in the Preliminary English Test (PET) , students might not have chance to use these strengths because they work on the individual basis. Moreover, the Preliminary English Test (PET) questions mostly focus on the linguistic part such as vocabulary and grammar (See Table 3.11). Therefore, subjects who are not quite strong in linguistic intelligence, cannot get higher scores in the Preliminary English Test (PET). Gardner (1993), Michael (2001), and Christison (2003) encourage teachers to do MI profile so that they can design modes of assessments that are appropriate for students' strengths. Students can use their strengths to show their understanding in the way that they feel comfortable with.

Opinions toward multiple activities designed for teaching reading

Results from the questionnaire, in which the grand mean score ($\bar{x}$ = 3.09) was greater than 2.0, showed that students have positive opinions toward various activities based on Multiple Intelligences Theory designed for teaching reading.

In this study the researcher used various activities based on Multiple Intelligences Theory and divided students with different intelligences to work in

groups. Students could use all eight intelligences to comprehend the text. They had fun. These findings imply that multiple activities motivate students in reading the text and enhance reading comprehension. At this point, the findings may be relevant to what Mejang (2004) suggests, that the activities in reading class may not be only individual type but also include group work that helps students create interaction so that students can share knowledge and information . Group work also motivates students in reading and develops their reading ability. Slavain (1996) indicated that social interaction leads to advanced cognitive development and promotes higher academic achievement rather than individualistic learning. These findings reflect the influence of the traditional way of teaching reading which relies on translation. Students were asked to simply do the exercises focusing on reading and writing. There were no activities or group work which helped students engage with others in a meaningful way. There were no various activities / group work except reading and writing through doing exercises. It did not enhance them to use their eight intelligences to gain knowledge in other areas. They could not realize their strengths and weaknesss, or learn to respect others. They lacked motivation in reading. Kegan (1998) and Currie (2003) mentioned that in the traditional classroom, teachers treat the students the same way. The activities are mostly pen and paper task type. They present the same exercises to all students at the same time. That is why the students have no motivation in reading and it seems that they only use their linguistic intelligence to comprehend the text. They have little opportunities to use their other intelligences which might cause them to never come across their true area of strength in comprehending the text.

According to the interview results, it is in accordance with the questionnaire that most students liked multiple activities, and these activities gave them an opportunity to use all eight intelligences to comprehend the text . It shows that reading instruction based on Multiple Intelligences Theory is a compensating strategy that enhances

students 'reading comprehension. It also promotes students to be active learners. 7 out of 13 stated that 'We can use our intelligences to understand the text such as drawing, listening to music, role play and so on. They can improve their weaknesses through multiple activities. The atmosphere in the classroom is also more enjoyable compared to the traditional way of teaching reading: translation. Besides, 7.7% or 1 out of 13 said that when he / she does not know some words, they try to find the meaning of the words by herself by not asking teacher. It was the same as the study by Chen (2000) and Christison (2001) who found that teaching reading based on Multiple Intelligences Theory is fun and it can increase students' motivation in the classroom. Students become more engaged and enthusiastic about reading. Reading instruction based on Multiple Intelligences Theory is in contrast with the atmosphere of the traditional reading class. In the traditional reading class, the activities are mostly reading, translating, and doing exercises. Cobb (2001) stated that teachers do not have other various activities besides reading and writing. They are not planning activities that extend beyond the measure of pencil and paper type tasks.

According to the interview, there is one point that is interesting. One student expressed her opinion about multiple activities designed for teaching reading. She stated that it enhances learner autonomy and imagination in reading. This statement is relevant to the Schmidt (2004) who notes that Multiple Intelligences Theory may encourage children as lifelong learners by allowing them to discover their likes and dislikes as well as becoming more aware of their particular areas of strengths and weaknesses and use or improve it to gain knowledge in other areas.

In addition, according to the student logs results, it showed the students' preference toward multiple activities and that they are enjoyable and it enhances their comprehension. This evidence is consistent with Acosta (2000) who stated that

Multiple Intelligences based instruction has an effect on students' attitudes toward learning and academic achievement.

However, it is noticeable that the students' mean score for reading comprehension in the questionnaire is not much higher ($\bar{x}$ = 2.85). It might be that some students still like studying reading with translation because they think translation is important if they encounter difficult words. A finding from the interviews showed that 1 out of 13 said that "*It depends on the text. I think that this style is suitable for text that has no difficult words or text that is not too complicated. However ,if the text that has many difficult words, teaching reading by translation is better*". It implies that teaching reading nowadays is not focus on strategy instruction. Wichadee (2006) stated that reading strategies are not taught much in the secondary level; therefore, it is rather difficult for students to apply those strategies to improve their reading abilities.

Pedagogical Implications

1.Teachers may employ various assessments to assess and evaluate students' comprehension which is not only the standardized test as the proficiency reading test because students have multiple intelligences as the combination. They can show their understanding in different ways.

2.Teachers do MI profile and assign the students work in group according to different intelligences so that students share knowledge and ideas. Gardner, Moran, and Kornhaber (2006) noted that students' profile also provides teachers to plan activities for helping students who are weak in some point to improve their ability.

3. Teachers should provide multiple activities that are fun. Mutiple Intelligences Theory is an educational concepts from brain-based learning. Every brain is uniquely organized and the brain is a paralleled processor. It can perform several activities at once (Spears and Wilson, 2006). Christison (1988) mentioned that no intelligence exists by itself. They work together in a complex way. Teachers may think how to put

multiple intelligences actvities to the lesson as possible but it is no need to include activities for developing all the eight multiple intelligences within each lesson (Ying, 2001). Teachers may highlight on some intelligences in each lesson but teachers are sure that student use all eight intelligences to comprehend the text. Gardner, Moran, and Kornhaber (2006) mentioned that the multiple intelligences approach does not require a teacher to design a lesson in eight or nine different ways so that all students can assess the material. Rather, it involves creating rich experiences to enhance students being active learners and use those experiences to be a compensating strategy to acquire knowledge.

Limitation of the study

1. The limitation of the study is the sample size of the population and the issue of generalization. The sample of 13 students in the study who enrolled in the elective course 'reading Varieties' is subject to limitations. Therefore, with limited samples size, the generalization of the findings should be interpreted with caution**.**

2**.** Time intervention is also the limitation. Only 13 weeks for instruction is not enough for students to practise using their multiple intelligences to acquire knowledge and enhance reading ability.

Recommendations for Future Research

Recommendations for future research stem from the findings and limitation at the present study. Seven recommended areas of future research are:

1) A comparison between two methods of teaching: Conventional Method and Multiple Intelligences Theory could be done to compare the effects on reading comprehension and satisfaction because most Thai teachers use it the most and believe that it is the best approach to enhance students' reading comprehension . The findings of the present study merely revealed one aspect regarding the use of reading instruction based on Multiple Intelligences Theory.

2) A longitudinal study (more than one semester) should be done to follow up the effects of reading instruction based on Multiple Intelligences Theory on reading comprehension. A long term study could confirm the effects of reading instruction based on Multiple Intelligences Theory on reading comprehension and satisfaction.

3) A replication of the present study with a larger number of subjects might be done. The larger sample size would allow the use of certain statistics to examine the within-group before and after the treatment.

4) A replication of the present study with an achievement test might be done. Since the achievement test is the school policy's education , it is interesting to use the achievement test to examine and confirm how reading instruction based on Multiple Intelligences Theory affects reading comprehension.

5) A study on the effects of multiple activities based on Multiple Intelligences Theory in reading class in relation to learners' types of intelligences could be done. The findings from this study revealed the effectiveness of multiple activities on reading comprehension and satisfaction. However, the intelligences' alternation is not being studied. Thus, the effects of multiple activities in relation to learners' intelligences need further exploration.

6) A replication of the present study involving other skills such as speaking, listening, and writing might be done to examine the effects of Multiple Intelligences Theory.

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ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

'''''''''''''''''''''''''''''''''' **APPENDICES**

Appendix A
Need Survey Questionnaire

แบบสอบถามเกี่ยวกับหัวข้อการอ่านที่สนใจ

1. ข้อมูลส่วนบุคคล

    1. เพศ

    ☐ ชาย   ☐ หญิง

2. Reading Interest

    โปรดขีดเครื่องหมาย (✓) ตามระดับความสนใจของนักเรียน (ทำทุกข้อ)

5 = สนใจมากที่สุด   4 = สนใจมาก   3 = สนใจปานกลาง   2 = สนใจน้อย   1 = สนใจน้อยที่สุด

หัวข้อ	ระดับความสนใจ				
	5	4	3	2	1
Common Questions about Dreams. (คำถามทั่วไปเกี่ยวกับความฝัน)					
Eight Easy Ways to Make Friends (8 วิธีอย่างง่ายในการสร้างมิตร)					
Africa Safari. (ซาฟารีในแอฟริกา)					
Body Language in the United States (ภาษาท่าทางในสหรัฐอเมริกา)					
Bugs for Life. (แมลงเพื่อชีวิต)					
From Rags to Riches (จากผ้าขี้ริ้วสู่เศรษฐี)					
Gift Giving (การให้ของขวัญ)					
Home Sweet Home (บ้านที่แสนอบอุ่น)					
Into the Desert (สู่ทะเลทราย)					
Music and moods (ดนตรีและอารมณ์)					
Nature's Weather Forecaster (การพยากรณ์อากาศของธรรมชาติ)					
Space Tours not so Far off (การท่องเที่ยวอวกาศอยู่แค่เอื้อม)					
Term Paper Trouble (ปัญหาข้อสอบในภาคเรียน)					
The Bottle (ขวด)					
The Love Letters (จดหมายรัก)					

Appendix B
Multiple Intelligences Inventory

Read the following items quickly and write the number 0, 1, 2 into the space provided. The number 0 means the statement is **not** true for you. Write the number 1 if the statement is true or may be true for you. Write the number 2 if the staement is **strongly** true for you. For each intelligence, add up the numbers:

Linguistic Intelligence

_____1. I am good at writing letters.

_____2. I can remember jokes and stories easily.

_____3. I have a good memory for names, places, and dates.

_____4. I enjoy reading books

_____5. I can spell words accurately.

_____6. In school, my favorite subjects were language classes, history, and speech

    and not chemistry or math.

_____**TOTAL POINTS**

Logical-Mathematical Intelligence

_____1. I ask a lot of questions about how things work.

_____2. I compute arithmetic problems in my head quickly.

_____3. I enjoy math class.

_____4. I enjoy playing chess, or other strategy games.

_____5. I enjoy putting things in categories or hierarchies.

_____6. I think on a more abstract or conceptual level than most people I know.

_____**TOTAL POINTS**

Visual / Spatial Intelligence

_____1.I report clear visual images.

_____2.I read maps, charts, and diagrams easily.

_____3.I daydream a lot.

_____4.I enjoy art activities.

_____5.I get more out of pictures than words while reading.

_____6.I doodle on workbooks, worksheets, or other materials.

_____**TOTAL POINTS**

Bodily-kinesthetic Intelligence

_____1.I excel in sports.

_____2.I feel uncomfortable when seated for a long time in one spot.

_____3.I can mimic other people's gesture or mannerisms.

_____4.I love to take things apart and put them back together again.

_____5.I enjoy running, jumping, wrestling, or similar activities.

_____6.I show skill in a craft.

_____**TOTAL POINTS**

Musical Intelligence

_____ 1.I can tell when music sounds off-key or disturbing in some other way.

_____ 2.I can remember melodies of songs.

_____ 3.I can play a music instrument or sing.

_____ 4.I often unconsciously hum to myself.

_____ 5.I tap rhythmically on the table or desk as I work.

_____ 6.I am sensitive to environment noises.

_____**TOTAL POINTS**

Interpersonal Intelligence

_____1.I enjoy socializing.

_____2.I am a natural leader.

_____3.I give advice to friends who have problems.

_____4.I belong to clubs, committees, or other organizations.

_____5.I have several close friends.

_____6.Others enjoy my company.

_____ **TOTAL POINTS**

Intrapersonal Intelligence

_____1.I am independent and have a strong will.

_____2.I know my strengths and weaknesses.

_____3.I enjoy being alone.

_____4.I prefer working alone to working with others.

_____5.I am able to learn from my failures and successes in life.

_____6.I have high self-esteem.

_____ **TOTAL POINTS**

Naturalist Intelligence

_____1.I enjoy outdoor activities such as hiking and camping.

_____2.I enjoy collecting things such as rocks, leaves, shells and feathers.

_____3.In school, my favorite subjects were science classes.

_____4.I enjoy photographing or scetching nature scenes.

_____5.I enjoy doing nature projects such as bird watching, butterfly or insect

collections, tree study, or raising animals.

_____6.I get excited when studying about ecology, nature, plants or animals

_____ **TOTAL POINTS**

YOUR PREFERRED INTELLIGENCE:_____

Appendix C
Multiple Intelligences Inventory (Thai)

ชื่อ...นามสกุล..

แบบทดสอบความถนัด

คำชี้แจง

1. แบบทดสอบชุดนี้สำหรับนักเรียนระดับชั้นมัธยมศึกษาปีที่ 4 ที่ลงทะเบียนวิชาเลือกเสรี

   "Reading Variety" ภาคเรียนที่ 2 ปีการศึกษา 2551

2. โปรดตอบแบบทดสอบตามความเป็นจริง คำตอบของนักเรียนจะไม่มีผลใดๆต่อคะแนนของนักเรียน

   และจะถูกเก็บรักษาเป็นความลับ

คำสั่ง   จงเติม 0 หรือ 1 หรือ 2 ลงในช่องว่าง

0 = ไม่เห็นด้วย   1 = ค่อนข้างเห็นด้วย   2 = เห็นด้วยอย่างยิ่ง

1.ด้านภาษา

_____ 1. ฉันถนัดเรื่องการเขียน

_____ 2. ฉันจำเรื่องตลก หรือเรื่องราวต่างๆได้ไม่ยาก

_____ 3. ฉันจำชื่อคน ชื่อสถานที่ วันที่ได้ดี

_____ 4. ฉันชอบอ่านหนังสือ

_____ 5. ฉันสะกดคำต่างๆได้ถูกต้อง

_____ 6. วิชาที่ฉันชอบคือวิชาเกี่ยวกับภาษา ประวัติศาสตร์ วิชาเกี่ยวกับการพูด ฉันไม่ชอบคณิตศาสตร์

      หรือวิทยาศาสตร์

_____**คะแนนรวม**

2.ด้านคณิตศาสตร์/ ตรรกศาสตร์

_____1 ฉันชอบถามคำถามเกี่ยวกับระบบการทำงานของสิ่งต่างๆ

_____2. ฉันคิดเลขในใจได้รวดเร็ว

_____3. ฉันชอบวิชาคณิตศาสตร์

_____4. ฉันชอบเกมหมากรุก หรือเกมที่ต้องใช้ความคิดในการแก้ปัญหา

_____5. ฉันชอบจัดสิ่งต่างๆเป็นหมวดหมู่ หรือตามลำดับ

_____6. ฉันเป็นคนที่คิดอะไรลึกซึ้งมากกว่าคนทั่วไป

_____**คะแนนรวม**

3.ด้านการมองเห็น

_____1 ฉันบอกสิ่งที่ฉันเห็นได้ชัดเจน

_____2. ฉันอ่านแผนที่ แผนภาพต่างๆ ได้ดี

_____3. ฉันมักฝันกลางวัน

_____4. ฉันชอบทำงานศิลปะ

_____5. ขณะอ่านหนังสือ ฉันเข้าใจเนื้อเรื่องจากรูปภาพมากกว่าตัวหนังสือ

_____6. ฉันมักขีดเขียน หรือ วาดรูปลงในสมุด หรือ แบบฝึกหัด

_____คะแนนรวม

4.ด้านการเคลื่อนไหว

_____1 ฉันเล่นกีฬาเก่ง

_____2. ฉันไม่ชอบนั่งอยู่กับที่นานๆ

_____3. ฉันชอบเลียนแบบท่าทางของผู้อื่น

_____4. ฉันชอบแยกชิ้นส่วนสิ่งของแล้วนำมาต่อกลับไปใหม่

_____5. ฉันชอบการกระโดด การวิ่ง หรือกิจกรรมที่เคลื่อนไหวมากๆ

_____6. ฉันมีทักษะในการประดิษฐ์

_____คะแนนรวม

5.ด้านดนตรี

_____1. ฉันสามารถบอกเสียงที่ผิดคีย์ได้

_____2. ฉันจำทำนองเพลงต่างๆได้

_____3. ฉันเล่นดนตรีหรือร้องเพลงได้

_____4. ฉันชอบฮัมเพลงคนเดียวโดยไม่รู้ตัว

_____5. ฉันชอบเคาะจังหวะระหว่างทำงาน หรือเรียน

_____6. เสียงรอบข้างทำให้ฉันขาดสมาธิได้ง่าย

_____คะแนนรวม

6.ด้านมนุษย์สัมพันธ์

_____1 ฉันชอบพบปะผู้คน

_____2. ฉันมีความเป็นผู้นำ

_____3. ฉันให้คำแนะนำกับเพื่อนที่มีปัญหา

_____4. ฉันชอบร่วมกิจกรรม และเป็นสมาชิกชมรมต่างๆ

_____5. ฉันมีเพื่อนสนิทหลายคน

_____6. เพื่อนๆชอบฉัน

_____คะแนนรวม

7.ด้านตนเอง

_____1 ฉันเป็นตัวของตัวเอง และมีความมุ่งมั่น

_____2. ฉันรู้ข้อดี ข้อเสียของตัวเอง

_____3. ฉันชอบอยู่คนเดียว

_____4. ฉันชอบทำงานเดี่ยวมากกว่าทำงานเป็นกลุ่ม

_____5. ฉันเรียนรู้ได้จากความผิดพลาด และความสำเร็จ

_____6. ฉันภูมิใจในความสามารถของตนเอง

_____ คะแนนรวม

8.ด้านธรรมชาติ

_____1 ฉันชอบกิจกรรมกลางแจ้ง เช่น ปีนเขา ไปเข้าค่าย

_____2. ฉันชอบสะสม เช่น ก้อนหิน ใบไม้ เปลือกหอย ขนนก หรือสิ่งต่างๆจากธรรมชาติ

_____3. ฉันชอบวิชาวิทยาศาสตร์

_____4. ฉันชอบภาพถ่าย หรือภาพวาดเกี่ยวกับธรรมชาติ

_____5. ฉันชอบโครงงานเกี่ยวกับธรรมชาติ เช่น การดูนก การสะสมผีเสื้อและแมลง การศึกษาต้นไม้ และ
           การเลี้ยงสัตว์

_____6. ฉันรู้สึกตื่นเต้นเมื่อได้เรียนเรื่องเกี่ยวกับระบบนิเวศวิทยา ธรรมชาติ ต้นไม้ และสัตว์

_____ **คะแนนรวม**
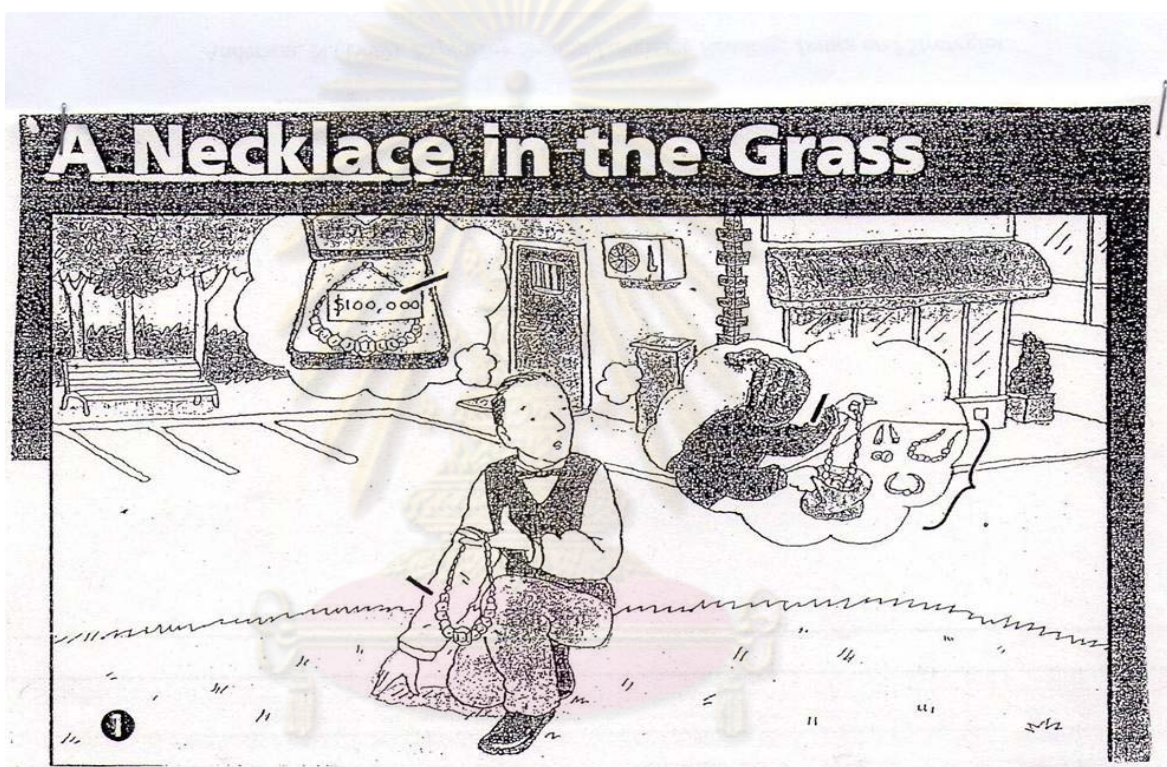

…………………………………………………………………………………………………..

Appendix D

The Performance-Based Reading Test

Directions: Work in a small group. Read the reading text 'A Necklace in the Grass'.

Then, complete the given story map.

A Necklace in the Grass

Joe Bennett was worried about his son. Robert was only six years old, but he had a serious problem. Robert needed an eye operation. Joe worked hard, but he didn't have enough money to pay for it.

Joe was thinking about this as he left the office where he worked. He went to his second job at the Sands Restaurant. Joe was a waiter at the Sands Restaurant on Thursday and Friday nights. On this Friday, Joe got to the restaurant early. He decided to sit in the sunshine behind the restaurant.

As Joe sat down, he saw something shiny in the grass. He walked over and picked it up. It was a beautiful diamond necklace. Joe looked at the necklace. He knew it was a valuable piece of jewelry. "This necklace could change my life," Joe thought. He could sell it for a lot of money. Then, he could pay for Robert's operation.

Joe looked around. Nobody was watching him. He could put the necklace into his pocket, and no one would know.

"Taking this necklace isn't stealing," he said to himself. "After all, I can't return the necklace to its owner. I don't know who lost it."

Joe could give the necklace to Michael Harris, the owner of the Sands Restaurant. Mr. Harris could check with his customers to see who was missing a necklace. But if Mr. Harris didn't find the owner, who would keep the necklace?

"I need this necklace more than Mr. Harris does," thought Joe. "My son needs this necklace."

For several minutes, Joe held the necklace in his hand. "Robert would be so happy after his operation," Joe thought.

But then Joe thought, "It's true Robert would be happy, but I would feel like I stole the necklace."

"I may be poor, but I am honest," Joe said.

He walked into the restaurant and gave the necklace to Mr. Harris.

The next Thursday, Mr. Harris called Joe into his office.

"I have some good news," Mr. Harris told him. " I found the owner of the necklace."

"Oh," said Joe. "That's good."

"There's more, said Mr. Harris. "The owner, Elizabeth Hardwick, was very happy to have the necklace back. Her grand mother gave it to her." Mr. Harris gave Joe an envelope. "Ms. Hardwick asked me to give you this."

Joe opened the envelope and saw a check for $5,000. He couldn't believe it. This money could help pay for his son Robert's operation!

…………………………………………………………………………………………

Name 1._____

　　　　2._____

　　　　3._____

Story Map

Setting: (1 point)	**Time:** (1 point)	**Place:** (1 point)

Characters:
(1 point)

Problem:
(2 points)

Plot / Events:
(2 points)

Resolution:
(2 points)

Appendix E

Sample of the student' answers of the performance-based reading test

Name _____ Date _20/11/08_____

Story Map 1

Write notes in each section.

Setting: (1 point)	Time: (1 point)	Place: (1 point) the grass behind Sand's
Sands Restaurant	Friday's evening	restaurant
1	1	1

↓

Characters: (1 point) Joe Bennett   Elizabeth's grandmom
Robert
Michael Harris
Elizabeth Hardwick   1

↓

Problem: (2 points) → Robert, Joe's son needed an eye operation but Joe had not enough money to afford it.

2

↓ ↔ **Plot/Events:** (2 points) 1. Joe went to work at Sands Restaurant early. He found a necklace in the grass behind the restaurant. At first he decided to take _ _ sell it for the money. But at last he returned it to it's owner.

1

Resolution: (2 points) → Joe recieved $5000 check from Ms. Elizabeth Hardwick for his returning of the necklace. And he could pay for his son's operation.

0

Appendix F

Questionnaire for students' opinions about various activitiesbased on

Multiple Intelligences Theory

แบบสอบถามความคิดเห็นเกี่ยวกับแนวคิดการใช้กิจกรรมการสอนการอ่านวิชาภาษาอังกฤษตามทฤษฎีพหุปัญญา

แบบสอบถามความคิดเห็นเกี่ยวกับแนวคิดการใช้กิจกรรมการสอนการอ่านวิชาภาษาอังกฤษตามทฤษฎีพหุปัญญา
ของนักเรียนชั้นมัธยมศึกษาปีที่ 4 ที่ลงทะเบียนวิชาเลือกเสรี "Reading Varieties" โรงเรียนสาธิตจุฬาลงกรณ์
มหาวิทยาลัยฝ่ายมัธยม

คำชี้แจง

1. โปรดตอบแบบสอบถาม**ทุกข้อ** เพื่อความสมบูรณ์ของข้อมูล ขอให้นักเรียนตอบตาม
   ความคิดเห็นหรือตามความเป็นจริง คำตอบของนักเรียนจะไม่มีผลใดๆ ต่อตัวนักเรียน
   และโรงเรียน

2. แบบสอบถามนี้มี 2 ตอน ซึ่งประกอบด้วย
   ตอนที่ 1: แบบสอบถามเกี่ยวกับตัวนักเรียน
   ตอนที่ 2: แบบสอบถามความคิดเห็นเกี่ยวกับแนวคิดการใช้กิจกรรมการสอนการอ่าน
   วิชาภาษาอังกฤษตามทฤษฎีพหุปัญญาที่มีต่อความเข้าใจในการอ่าน (แบบเลือกตอบ
   และบรรยาย)

ตอนที่ 1: แบบสอบถามรายละเอียดเกี่ยวกับตัวนักเรียน

1. เพศ

   ☐ ชาย   ☐ หญิง

2. เกรดวิชาภาษาอังกฤษในภาคการศึกษาที่เพิ่งผ่านมา

   ☐ เกรด 4   ☐ เกรด 3   ☐ เกรด 2   ☐ เกรด 1

ตอนที่ 2: แบบสอบถามความคิดเห็นเกี่ยวกับแนวคิดการใช้กิจกรรมการสอนการอ่านวิชาภาษาอังกฤษ
ตามทฤษฎีพหุปัญญาที่มีต่อความเข้าใจในการอ่าน   (เลือกตอบ)

คำชี้แจง   - แบบสอบถามนี้มี 24 ข้อ
           - ให้นักเรียนอ่านข้อความ แล้วทำเครื่องหมาย ✗ ในช่องที่ตรงกับความคิดเห็น หรือ
             ความรู้สึกของนักเรียนมากที่สุดเพียงช่องเดียว

	1 ไม่เห็นด้วย อย่างยิ่ง	2 ไม่เห็นด้วย	3 เห็นด้วย	4 เห็นด้วย อย่างยิ่ง
ข้าพเจ้าเห็นว่าการสอนการอ่านตามทฤษฎี พหุปัญญา				
1. ส่งเสริมให้เกิดแรงจูงใจในการเรียนวิชาการ อ่านภาษาอังกฤษ				
2. ส่งเสริมให้เกิดแรงจูงใจในการอ่านเพื่อเข้าใจ เนื้อเรื่อง				
3.ทำให้ตระหนักถึงความสามารถทางพหุปัญญา ที่ข้าพเจ้าถนัด ได้แก่ ความสามารถเกี่ยวกับ ภาษา, ความสามารถในการใช้เหตุผล, ความสามารถในการเคลื่อนไหว, ความสามารถ ที่รับรู้ได้ด้วยสายตา, ความสามารถในการเข้าใจ ผู้อื่น, ความสามารถในการเข้าใจตนเอง และ ความสามารถในการเข้าใจธรรมชาติ				
4. ช่วยให้ข้าพเจ้าใช้ความสามารถ ที่ข้าพเจ้าถนัด ได้แก่ ความสามารถเกี่ยวกับ ภาษา, ความสามารถในการใช้เหตุผล, ความสามารถในการเคลื่อนไหว, ความสามารถ ที่รับรู้ได้ด้วยสายตา, ความสามารถในการเข้าใจ ผู้อื่น, ความสามารถในการเข้าใจตนเอง และ ความสามารถในการเข้าใจธรรมชาติ				
5.ช่วยให้ข้าพเจ้าได้พัฒนาความสามารถที่ไม่ถนัด ได้แก่ ความสามารถในการใช้ภาษา, ความสามารถในการใช้เหตุผล, ความสามารถ ในการเคลื่อนไหว,ความสามารถในการเข้าใจ ผู้อื่น, ความสามารถในการเข้าใจตนเอง และ ความสามารถในการเข้าใจธรรมชาติ				
6. ทำให้ข้าพเจ้าได้ใช้ความสามารถหลายด้าน ได้แก่ ความสามารถในการใช้ภาษา, ความสามารถในการใช้เหตุผล, ความสามารถ ในการเคลื่อนไหว,ความสามารถในการเข้าใจ ผู้อื่น, ความสามารถในการเข้าใจตนเอง และ ความสามารถในการเข้าใจธรรมชาติ				

	1 ไม่เห็นด้วย อย่างยิ่ง	2 ไม่เห็นด้วย	3 เห็นด้วย	4 เห็นด้วย อย่างยิ่ง
ข้าพเจ้าเห็นว่าการสอนการอ่านตามทฤษฏี พหุปัญญา (ต่อ)				
7.ทำให้ข้าพเจ้าเคารพตนเอง				
8. ทำให้ข้าพเจ้าเคารพผู้อื่น				
9. ทำให้ข้าพเจ้ามีทัศนคติเกี่ยวกับการมอง ผู้อื่นเปลี่ยนไป				
10. ช่วยให้ฉันเข้าใจตนเองและผู้อื่น				
11. มีความหลากหลาย				
12. มีความน่าสนใจ				
13. มีบรรยากาศในการเรียนการสอนดีกว่าปกติ				
14. ช่วยให้เข้าใจการอ่านมากกว่าการสอนอ่าน ที่เน้นการอ่าน-แปล				
15. ส่งเสริมให้พัฒนาความเข้าใจในบทอ่าน				
16 ข้าพเจ้าชอบกิจกรรมที่หลากหลายในวิชา การอ่านภาษาอังกฤษตามทฤษฏีพหุปัญญา				

ตอนที่ 2: - **แบบสอบถามความคิดเห็นเกี่ยวกับแนวคิดการใช้กิจกรรมการสอนการอ่านวิชา**
ภาษาอังกฤษตามทฤษฎีพหุปัญญาที่มีต่อความเข้าใจในการอ่าน   (บรรยาย)

คำชี้แจง - แบบสอบถามนี้มี 2 ข้อ
- ให้นักเรียนเขียนแสดงความคิดเห็นความชอบ / ไม่ชอบในการสอนการอ่านวิชา
ภาษาอังกฤษตามทฤษฏีพหุปัญญา

1. ระบุสิ่งที่ชอบในการสอนการอ่านวิชาภาษาอังกฤษตามทฤษฏีพหุปัญญา
....
....
....
....
....
....

2. ระบุสิ่งที่ไม่ชอบในการสอนการอ่านวิชาภาษาอังกฤษตามทฤษฏีพหุปัญญา
....
....
....

Appendix G

Lists of Experts Validating the Instruments

A. Experts validating lesson plans

1. Jutarat Vibulphol, Ph.D.

   Faculty of Education, Chulalongkorn University

2. Satita Wattanaphokul, Ph.D.

   Chulalongkorn University Language Institute

   Language Institution, Chulalongkorn University

3. Mrs. Pisantanee Sridurongrit

   Chulalongkorn University Demonstration School

B. Experts validating the performance-based reading test

1. Assist. Prof. Chansongklod Gajaseni, Ph.D.

   Faculty of Education, Chulalongkorn University

2. Chatraporn Piamsai, Ph.D.

   Chulalongkorn University Language Institute

3. Mrs. Sanyaluck Sriyakorn

   Chulalongkorn University Demonstration School

C. Experts validating the questionnaire eliciting students' opinions

1. Assist. Prof. Prannapha Modehiran, Ph.D.

   Faculty of Education, Chulalongkorn University

2. Pornpimol Sukawatee, Ph.D.

   Faculty of Education, Chulalongkorn University

3. Miss Rewadee Hirun

Chulalongkorn Demonstration School

Appendix H

Research Instrument Evaluation (For the performance-based reading test)

Guidelines for evaluation

Please put a tick (✓) in the rating box (+1, 0, -1) the score to which the items appropriate according to your opinion. Please also specify comments for each item.

+1   means the item is appropriate

0   means not sure

1   means the item is not appropriate.

	+1	0 -1		Comments
1. Task				
2. Instruction				
3. Text that used for reading task.				
4. Scoring				

Comments:

_____

_____

_____

_____

_____

_____

_____

Appendix I

Research Instrument Evaluation (For the Questionnaire)

Directions: There are two parts in this evaluation form. Please give your

comments in the blanks provided.

Part 1: The overall of the MI activities Questionnaire.

Directions: Please indicate how you evaluate (excellent, good, moderate or poor)

each of these statements by ticking (✓) the appropriate degree.

Items	Excellent	Good	Moderate	Poor	Comments
1. Instrument's explnation is clear.					
2. Instruction is clear.					
3. Questions are purposeful and support the study.					
4. The language used is appropriate to participants.					
5. The format of questionnaire is appropriate to participants.					

Additional comments / recommendation

_____

_____

_____

_____

Part 2: The individual Questions in the MI activities questionnaires.

Direction: please give your comments for each statement in the blanks provided.

Item	Rational of the questions In accordance with MI activities rationale	Comments
1. การสอนการอ่านตามทฤษฏีพหุ ปัญญาส่งเสริมให้เกิดแรงจูงใน การเรียนวิชาการอ่าน ภาษาอังกฤษ	To evaluate MI Theory	
2.การสอนการอ่านตามทฤษฏี พหุปัญญาส่งเสริมให้เกิดแรงจูงใน การอ่านเนื้อเรื่อง	To evaluate MI Theory	
3. การสอนการอ่านตามทฤษฏี พหุปัญญาทำให้ข้าพเจ้าตระหนัก ถึงความสามารถที่ฉันถนัด	To evaluate MI Theory	
4. การสอนการอ่านตามทฤษฏี พหุปัญญา ช่วยให้ข้าพเจ้าใช้ ความสามารถที่ข้าพเจ้าถนัด	To evaluate MI Theory	
5.การสอนการอ่านตามทฤษฏี พหุปัญญาช่วยให้ฉันได้พัฒนา ความสามารถที่ข้าพเจ้าไม่ถนัด	To evaluate MI Theory	

Item	Rational of the questions In accordance with MI activities rationale	Comments
6.การสอนการอ่านตามทฤษฎีพหุปัญญาทำให้ข้าพเจ้าได้ใช้ความสามารถหลายด้าน เพื่อให้เกิดความเข้าใจในการอ่าน	To elicit students'opinions about MI Theory value.	
7.การสอนการอ่านตามทฤษฎีพหุปัญญาทำให้ฉันได้เคารพตนเอง	To elicit students' opinion about MI Theory value.	
8.การสอนการอ่านตามทฤษฎีพหุปัญญาทำให้ฉันได้เคารพผู้อื่น	To elicit students' opinions about MI Theory value.	
9. การสอนอ่านตามทฤษฎีพหุปัญญา ทำให้ข้าพเจ้าเปลี่ยนทัศนคติต่อตนเองและผู้อื่น	To elicit students' opinions about MI Theory value.	
10. ทำให้ข้าพเจ้าเข้าใจตนเองและผู้อื่น	To elicit students' opinions about MI Theory value.	
11. กิจกรรมมีความหลากหลาย	To evaluate MI Theory affects good learning teaching atmosphere.	
12. กิจกรรมมีความน่าสนใจ	To evaluate MI Theory affects good learning teaching atmosphere	

Item	Rational of the questions In accordance with MI activities rationale	Comments
13. การสอนการอ่านตามทฤษฎี พหุปัญญาดีกว่าการสอนการอ่าน-แปล	To evaluate MI activities affect good learning teaching atmosphere.	
14. การสอนการอ่านตามทฤษฎี พหุปัญญาทำให้ข้าพเจ้าเข้าใจการ อ่านมากกว่าการสอนการอ่าน-แปล	To elicit students' opinions about MI Theory on reading comprehension.	
15. การสอนการอ่านตามทฤษฎี พหุปัญญาส่งเสริมให้เข้าใจบทอ่าน	To elicit students'opinions about MI Theory on reading comprehension.	
16. ข้าพเจ้าชอบการสอนการอ่าน ตามทฤษฎีพหุปัญญา	To elicit student's opinions about MI preference.	

Additional comments / recommendation

_____

_____

_____

_____

_____

_____

_____

Appendix J

Research Instrument Evaluation (For Lesson Plans)

Guidelines for evaluation

Please put a tick (✓) in the rating box (+1, 0, -1) the score to which the items appropriate according to your opinion. Please also specify comments for each item.

+1   means the item is appropriate

2   means not sure

3   means the item is not appropriate.

Lesson plan 1 (period 5-6) " Music and Moods"

Part 1:Content objectives

Objectives	+1	0	-1	Comments
1.Terminal objective -Students will be able to draw a picture from listening to music. 2.Enabling objective -Students will be able to use "making connections strategy" to comprehend the text.				

Are these objectives in this lesson plan appropriate?

_____Yes   _____No

Comments:

_____

_____

_____

_____

_____

Part 2: Applying Musical Intelligence in the teaching procedure.

Procedures	+1	0	-1	Comments
1. Awaken the intelligence				
2. Amplify the intelligence				
3. Teach for / with the intelligence				
4. Transfer of the intelligence				

Is applying musical intelligence in the teaching procedure appropriate?

_____Yes _____No

Comments:

_____

_____

_____

_____

Part 3: Evaluation

Evaluation	+1	0 -1		Comments
Students draw a picture from listening to music and pictures show mood matched with the music.				

Is evaluation used in this lesson plan appropriate?

_____Yes _____No

Comments:

_____

_____

_____

_____

_____

Is the overall of lesson plan 1 appropriate?

_____Yes _____No

Comments:

_____

_____

_____

_____

_____

_____

_____

_____

_____

Appendix K

Lesson 1   Music and Moods

Level: Grade 10

Time: 100 minutes (2 periods), Week 3 period 5-6

Focused MI: Musical intelligence

Focused reading strategy: Making connections strategy

Terminal Objective:

    Students will be able to draw a picture from listening to music.

Enabling objective:

    Students will be able to use "making connections strategy" to comprehend the

text.

Materials and Resources:

    1. Musical instruments' pictures

    2. Many kinds of music

    3. CD and VCD player

    4. Worksheets

Evaluation:

    Students will be able to draw a picture from listening to music and the picture is

shown mood matched with the music. The criteria of this activity are set

as the following table:

Rubric

Criteria	3 Good	2 Fair	1 Poor
Students draw a picture from listening to music and the picture is shown mood matched with the music.	Students **completely** draw a picture from listening to music and the picture is shown mood matched with the music.	Students **mostly** draw a picture from listening to music but the picture is not shown mood matched with the music.	Students can not draw a picture from listening to music and picture is not shown mood matched with the music.

Procedure

Phases	Teacher's activity	Students' activity	Remarks
Phase1: Awaken the intelligence	**Awaken the intelligence** (5 minutes) Before we study, I want all of you to close your eyes and listen to music.(symphony type, 40 seconds) (After 40 seconds, teacher turns off the VCD player) Now, open your eyes.	Students listen to music and close their eyes. Students open their eyes.	Use music to trigger musical intelligence that make use of sensory bases: hearing.
Phase 2: Amplify the intelligence	**Amplify the intelligence** (15 minutes) Can you tell me what music instruments you heard? That's right. There are drum, trumpet, horn , violin, double bass, and harp, which are percussion, woodwind and string instruments. (teacher explains what percussion, woodwind and string instruments are.) Then, the teacher shows the pictures of music instruments such as drum, trumpet, horn, violin, double bass , harp, glockenspiel, saxophone and trombone, and asks the students what they are. Good.	(various answers) Students answer….	Strengthen / improve the musical intelligence through doing activities or exercises.

Phases	Teacher's activity	Students' activity	Remarks
	Now, I have some examples of music to show you, can you tell me how you feel when you listen to each piece? Close your eyes. (Teacher plays many kinds of songs, one minute per each song) 1. Latin music (fast rhythm) 2. Waltz (slow rhythm) 3. Natural sound (slow rhythm) 4. Jazz (slow rhythm) 5. Rock (fast rhythm) The teacher also introduces some words such as calm, rejuvenated, energetic, relaxed, serene and stressful by asking questions: Does anyone feel calm? Does anyone feel energetic? Does anyone feel rejuvenated? Does anyone feel..........?	Students answer how they feel such as happy, sad, etc.	
Phase 3: Teach / for with the intelligence	Today, we will read a text "Music and Moods" We will see how music affects moods.		

Phases	Teacher's activity	Students' activity	Remarks
	(Teacher gives the text "Music and Moods") ***Lesson introduction*** Before we read, I will ask you a question. While you are reading a text, have you ever reacted to the text by thinking about your own experience or life? For example, I agree with this statement because I have the experience as the writer said. It is true as the writer said. Does thinking about your experience while you are reading help you understand the text better? Thinking about your experience while you are reading is one of reading strategies called **'making connections'** **(text-to self).** (Teacher writes 'making connections' and text-to-self' connections on the blackboard. It means that you as the reader try to use your experience to understand the text.You try to make connections between text and yourself. It can help you understand the text. You can use it while you are reading. ***Modeling the strategy*** For example, when I read the text "Music and moods", look at paragraph 2 (line 3), the writer said 'When you want to relax after a busy day, music with string	 Yes. Yes.	Use "making connections" reading strategy in teaching process. Thinking about experience activates intrapersonal intelligences.

Phases	Teacher's activity	Students' activity	Remarks
	instruments and woodwinds, less percussion, and a slow tempo can calm you'. This is what I say to myself as I use the "making connections strategy". I agree with the writer because when I work hard all day long. At night, I want to listen music with a slow tempo'. **Guided Practice** The same paragraph, paragraph 2 (line 1) "To cheer up or boost energy, listen to latin music or anything with accented beats, lots of percussion and a fast tempo". Think about your experience. Have you ever had experience as the writer said? What do you say to yourself while you are reading this passage? I have a worksheet for you to practice. Work in pairs. (Teacher gives students worksheets and explain the directions) After students finish, Can anyone show what you have done?	Stdents works in pairs. Each group read their answers.	

Phases	Teacher's activity	Students' activity	Remarks
	So, do you understand how to use "making connections" strategy?	Yes.	
	Independent practice Right now, read silently in group and discuss what the reading text is about. I will give you 15 minutes to read and discuss. Then, write your experience that is similar to the text in the worksheet 2. The scores are 15 points.		Reading activates linguistic intelligence.
		(After students finish their work).	
	Debriefing What is the story about?	Students answer that the story is about the relationship between music and moods.	
	Very good.		
	Anything else?	Students answer…	
	The writer said that different kinds of music affect moods. For example, a fast tempo with lots of percussion makes the listener feel active. A slow tempo with string and woodwind instruments makes the listener feel calm. Switching from one kind of music to another can change mood.		

Phases	Teacher's activity	Students' activity	Remarks
	Look at paragraph 1, the writer said that 'Have you ever felt a sudden of joy because a favorite song come on the radio? Then you know that music can have a strong effect on your emotions....'		
	Can you read your experience that you write down in a worksheet?	Students in each group read.	
	Paragraph 2, the writer said that "When you want to relax after a busy day, music with string instruments and woodwinds, less percussion, and a slow tempo can calm you". Is it true?	Students say 'yes' or 'no'.	
	Close your eyes and listen to the following song. (teacher plays a jazz song one minute)	Students close their eyes and listen.	Teach with musical intelligence for musical intelligence.
	Do you agree with this statement?	Students say yes' or 'no'.	
	What do you say to yourself for the statement that music with string instruments and woodwinds, less percussion, and a slow tempo make you feel relaxed?		
	Can anyone of you read your answers in the worksheet?	Students read their answers	
	Paragraph 4, The writer said that		

Phases	Teacher's activity	Students' activity	Remarks
	"You can change your mood by switching from one kind of music to another. To feel rejuvenated, "start with something serene and relaxing, then gradually pick up the tempo and beat. When you want to calm down, do the opposite" Do you agree with this statement?	Students say 'yes' or 'no'.	
	Close your eyes and listen the following song. (teacher plays **jazz followed with latin music**)	Students listen to music.	
	Do you agree that you can change your mood by switching from one kind of music to another?	Students say 'yes".	
	Can anyone of you read your answers in the worksheet?	Students read their answers.	
	Does thinking about your experiences while you are reading help you understand the text better?		
	Do all of you see how music affects moods?	Yes.	

Phases	Teacher's activity	Students' activity	Remarks
Phase 4: Transfer of the intelligence	**Transfer of the intelligence** (40 minutes) O.K. Now, I want each group close your eyes and listen to music.	Students close their eyes and listen to music.	
	I want all of you discuss how the music you heard affects your mood.	Students discuss about the music they heard.	Discussion / working in group activates interpersonal intelligence.
	(After students finish discussion)		
	Draw and color a picture that match with the music you heard.		Use the musical intelligence learned from the previous stage to complete the tasks.
	The scores depend on the completeness of a picture and how much the picture shows mood matched with the music. The completeness of the picture refers to finishing both drawing and coloring.		Drawing activates visual intelligence.
	Teacher assigns the students to write a personal reflection if they like listening to music and how listening to music helps them understand the relationship between music and moods according to a reading text.		Writing a personal reflection activates their intrapersonal intelligence.

Music & moods

1   Have you ever felt a sudden rush of joy because a favorite song came on the radio? Then you know that music can have a strong effect on your emotions. You should try to take advantage of this power of music. It can help you beat a bad mood or maintain a good mood, says Alicia Ann Clair, professor of music therapy at the University of Kansas. Music can also help you relax and feel rejuvenated.

2   To cheer up or boost energy, listen to Latin music or anything with accented beats, lots of percussion, and a fast tempo. When you want to relax after a busy day, music with string instruments and woodwinds, less percussion, and a slower tempo can calm you.

3   Listen to calming music before you tackle stressful activities, recommends Dr. Clair. "Once you're in a good state of mind, it's easier to maintain." To reduce stress at work, put on relaxing tunes only when you really need them. "If you listen to them all day long, you will screen them out," Dr. Clair explains.

4   You can change your mood by switching from one kind of music to another. To feel rejuvenated, "Start with something serene and relaxing, then gradually pick up the tempo and beat," says Dr. Clair. For example, play Frank Sinatra ballads, then move on to something energetic such as Aretha Franklin. When you want to calm down after a busy week at work, do the opposite.
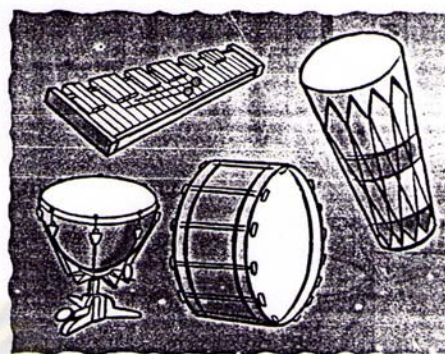
Percussion instruments

Woodwind instruments
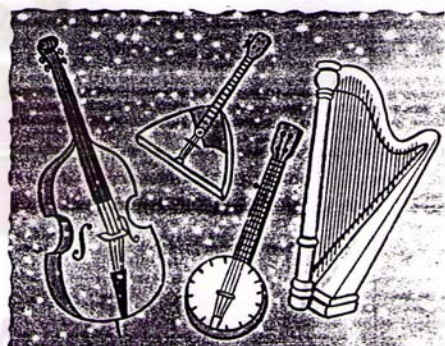
String instruments

Making Connections
Text-to-Self Connections

Name:_____

_____

_____

Directions: Work in pairs. After reading piece of text, write about how piece of text is similar or different from your own life by using the questions in the chart.

In the text	In my life
Discuss the following statement "To cheer up or boost energy, listen to Latin music or anything with accented beats, lots of percussion, and a fast tempo."	What does this remind me of my life?
	How is different from my life?

Making Connections Worksheet 2
Text-to-Self Connections

Name:_____

Directions: While you are reading the following passage in "Music and Moods", think about your experience and fill it in the right column "in my life".

In the text	In my life
Have you ever felt a sudden of joy because a favorite song come on the radio?	
When you want to relax after a busy day, music with string Instruments and woodwinds, less percussion, and a slow tempo can calm you.	
To feel rejuvenated, start with something serene and relaxing, then gradually pick up the tempo and beat. When you want to calm down , do the opposite.	

Appendix L
The MI-based Assessment

Verbal-Linguistic	Written essays
	Vocabulary quizzs
	Poetry writing
	Listening and reporting
	Learning to logs and journal
Logical-mathematical	Higher order reasoning
	Outlining
	Logic and rationality exercises
	Logical analysis and critique
	Deductive reasoning
	Inductive reasoning
Visual	Creating maps
	Flow charts
	Graphs
	Mind-mapping
	Visualization and imagination
Bodily	Dramatization
	Illustration using body language and geatures
	Physical exercises routine and games
	Original and Classical dance
Musical	Linking music with concept
	Illustrating with sound
	Creating concepts songs and raps
	Discerning rhythmic patterns
	Recognizing tonal patterns and qualities

|	
Interpersonal	Peer tutoring
	Explain to or teaching another
	Think-share pair
	Giving and receiving feedback
	interviews
Intrapersonal	Reflection journal
	Self-identification learning
	Feeling diaries and logs
	Personal applications scenarios
	Autobiography reporting
	Metacognitive and surveys
	Higher-order questions and answers
	Concentration tests questionnaires
Naturalist	Going on a field trips and nature walks
	Forecasting and tracking the weather
	Observing the sky,clouds, stars and space
	Hiking in natural surroundings
	Recording changes or development over time
	Photographing nature
	Predicting the effects of extreme natural phenomena

Appendix M

Samples of students'works

Natural Observation

<u>Birds</u>: In the morning, Birds often wake up and sing many song they usually wake up around 6 AM. They like to eat worm or smaller insects. They always fly around the garden in my house and sing a song. I think they feel very relaxed. In the evening, around 4 PM. They usually fly away with a very happy life. They often sing and scream when the temperature is changing for example when the thunder is coming, They usually fly away.

<u>Dog</u>: Dogs are very relaxing animal. They usually wake up around 8 AM and eat breakfast. They like to eat Pork bones and chicken wings, My dog is "Golden" genus. In the afternoon they always bark all the time to tell their owner that they're very hot and they need a bath, I often take a bath for my dogs. They always bark when ever they feel hungry or thirsty. In the evening they like to play football and they go to bed at 8.00 PM

When the thunder or lightning is coming, they usually bark and ran away everytime and when It's going to rain, they usually run and hide in a safety places.
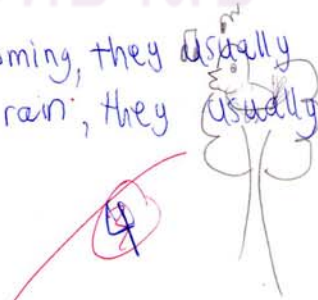
One day, when I was only 12 years old, I studied English
British Council and my teacher gave me a lot of homeworks Two
weeks later, it was the date I had to send my homework and
realised it before the lesson. I had no choice, so I searched
and copied them down in my paper.

When it was time to study, the teacher told me to send
my work. I decided to send it in order not to be scolded.
But my subconscious told me to do the right thing. So I
admitted that I hadn't done it. Nothing happened. He
was allowed me to send the week after. I did the right thi

Very good

Appendix N

Samples of student logs

Lesson 1
Music and Moods

Do you like listening to music? How does the activity about listening to music
help you understand the text "Music and Moods" better?

Of course! We got a chance to experience real song and felt the song right away so that I can understand more about the text. For instance, slow song made me calm down & sleepy

I like working in group because we don't have to
nk alone. We can exchange thoughts and that makes
" work better. Also, there will be lots of aspects to
scuss so that we understand more about the text
Love letter".

I actually like to take part in a role play. It helps me understand more about the text because if we can't figure out what do the actors mean, we can watch their gestures and guess the meanings. It also demonstrates the real actions so that I can understand more about the text.

Lesson 4
Space Tour not so Far off

Do you like logical thinking? How does the post-reading activity (writing a report about the advantage of having a space tour) help you understand the text better?

Yes, I love it, because I can understand the text clearly. I can find what and where the answers are.

Lesson 5
From Rags to Riches

Do you like drawing? How does the post-reading activity about drawing a timeline
help you understand the text "From Rags to Riches"?

No, I don't like it, but sometimes it helps me
remember better because I have drawed
only few pictures, so I can remember what
I have drawed. Abaut a timeline, I usually
used it when I read the historic text, and
it helps me understand the text better.
The poor becomes rich if they are diligent.

Lesson 6
Term Paper Trouble

Do you like self-reflection ? How post-reading activity (writing your experience about "plagiarism") help you understand the text "Term paper Trouble"?

Yes, It helps me understand the text better because it links to my real experience. When I read "plagiarism" and link it to my experience, I understand what it is about and even when she felt about the situation

Lesson 8
Common Questions about Dreams

Do you like reading or / and writing ? How does post-reading activity (writing an essay about dream) help you understand the text "Common questions about dream"?

I like doing them both! The post-reading help me understand the text more. Because we can compare our causes of our dreams to the poet's causes. Then we can understand the feelings of the poet and know what causes him to dream like that.

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

BIOGRAPHY

Monthira Emanoch was born in America. She obtained her BA in English Literature from the faculty of Liberal Arts, Thammasat University in 1997. In 1999, she obtained her Master degree in Social and Labour welfare, Thammasat University. In 2006, she continues her Master degree in Teaching English as a Foreign Language, Faculty of Education, Chulalongkorn University.