

ผลของโปรแกรมการสอนอ่านภาษาอังกฤษโดยใช้แนวคิดการเรียนรู้แบบทีมที่มีผลต่อความสามารถ
ในการอ่านภาษาอังกฤษเพื่อความเข้าใจของนักเรียนมัธยมศึกษาตอนปลาย



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ลิขสิทธิ์ของจุฬาลงกรณ์มหาวิทยาลัย

EFFECTS OF A READING INSTRUCTION PROGRAM USING TEAM- BASED
LEARNING APPROACH ON ENGLISH READING COMPREHENSION
ABILITY OF UPPER SECONDARY SCHOOL STUDENTS

The logo of Chulalongkorn University, featuring a central emblem with a sunburst and a tiered base, rendered in a light, faded color.

Miss Apantree Sripanngen

ศูนย์วิทยทรัพยากร
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for the Degree of Master of Education Program in Teaching English as a Foreign
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อภิสิทธิ์ ศรีปานเงิน : ผลของ โปรแกรมการสอนอ่านภาษาอังกฤษ โดยใช้แนวทางการเรียนแบบทีมที่มีผลต่อความสามารถในการอ่านภาษาอังกฤษเพื่อความเข้าใจของนักเรียนมัธยมศึกษาตอนปลาย.

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รศ.ดร.สุมาลี ชีโนกุล, 154 หน้า.

การวิจัยนี้มีจุดประสงค์เพื่อศึกษาผลของโปรแกรมการสอนอ่านภาษาอังกฤษโดยใช้แนวทางการเรียนแบบทีมที่มีผลต่อความสามารถในการอ่านภาษาอังกฤษของผู้เรียน และศึกษาผลของโปรแกรมฯที่มีผลต่อความสามารถในการอ่านภาษาอังกฤษของผู้เรียนที่มีความสามารถด้านภาษาอังกฤษแตกต่างกัน กลุ่มตัวอย่างเป็นนักเรียนชั้นมัธยมศึกษาปีที่ 4 โรงเรียนสาธิตจุฬาลงกรณ์มหาวิทยาลัย ฝ่ายมัธยม ภาคเรียนที่ 1 ปีการศึกษา 2551 จำนวน 40 คน การทดลองใช้เวลาทั้งสิ้น 10 สัปดาห์ ทั้งนี้ ผู้วิจัยได้สร้างรูปแบบการสอนอ่านภาษาอังกฤษโดยใช้การเรียนการสอนแบบทีมทำการวิเคราะห์ข้อมูลโดยหาค่ามัชฌิมเลขคณิต, การทดสอบค่าที (t-test) ความถี่, เปอร์เซ็นต์, และการวิเคราะห์เชิงเนื้อหา

ผลการวิจัยพบว่า(1) นักเรียนที่เรียนการอ่านด้วยแนวทางการเรียนแบบทีมได้คะแนนการอ่านภาษาอังกฤษหลังการทดลองสูงกว่าคะแนนก่อนการทดลองอย่างมีนัยสำคัญทางสถิติที่ระดับ 0.05 และมีค่าอิทธิพลเฉลี่ย 0.77 ซึ่งหมายถึงมีค่าอิทธิพลมาก (2) นักเรียนที่มีความสามารถด้านภาษาอังกฤษในระดับสูง กลาง และต่ำ ที่เรียนด้วยวิธีการสอนในโปรแกรมนี้ได้คะแนนการอ่านภาษาอังกฤษหลังการทดลองสูงกว่าคะแนนก่อนการทดลองอย่างมีนัยสำคัญทางสถิติที่ระดับ 0.05 และมีค่าอิทธิพลเฉลี่ย 0.58, 0.65, และ 0.41 ตามลำดับ ซึ่งหมายถึงมีค่าอิทธิพลปานกลาง การวิจัยนี้ยืนยันถึงประสิทธิภาพการสอนอ่านด้วยรูปแบบทีม ในกระบวนการเรียนการสอนพบว่านักเรียนสามารถพัฒนาการอ่านภาษาอังกฤษได้อย่างดีควบคู่ไปกับการพัฒนาทักษะการเรียนรู้ร่วมกันในทีม

ภาควิชา.....หลักสูตร การสอน และเทคโนโลยีการศึกษา.....
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APANTREE SRIPANNEN: EFFECTS OF A READING INSTRUCTION
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The objectives of this study were to: 1) investigate the effects of using a reading instruction based on team-based learning approach on English reading comprehension ability of upper secondary school students, and 2) examine the English reading ability scores of the participants with high, moderate, and low English ability. The subjects were 40 upper secondary students (Grade 10) who studied at Chulalongkorn University Demonstration School. The duration of experiment lasted for 10 weeks. In this study, the researcher constructed the reading instruction program based on team-based learning approach to teach reading. The data were analyzed using arithmetic mean, t-test, frequency, percentage, and content analysis.

The results of the analyses revealed that (1) students who learned a reading instruction program based on team-based learning approach gained significantly higher average scores on the post English reading comprehension test than the pre English reading comprehension test at the significant level of 0.05 and the mean of the effect size was at 0.77 which referred to large effect, and (2) The participants with high, moderate, and low English ability who learned through this reading instruction program gained significantly higher average scores on the post English reading comprehension test than the pre English reading comprehension test at the significant level of 0.05 and the mean of the effect size was at 0.58, 0.65, and 0.41 respectively which referred to medium effect. This research confirms the effectiveness of this reading instruction program. Through the teaching and learning process, students could improve their reading ability and simultaneously they gained their team learning skill.

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CHAPTER I

INTRODUCTION

Background and Statement of the Problems

English has become more and more accepted as an international language. Nowadays, over half of a billion English speakers learned English as a second language (or foreign language). So English is increasingly being used as a tool for interaction among nonnative speakers. English is used not only as a tool for searching information or getting knowledge, but also as a tool in communication. English has become a tool for international communication in transportation, commerce, banking, tourism, technology and so on.

In Thailand, English is also increasingly used in both daily life and education. Nowadays, English is compulsory for all grade levels because it has influence in many academic fields, especially in higher education, most of the textbooks are published in English version. As we know, the more people have English efficiency, the more opportunities they will get. As a result, many students want to be able to read texts in English either for their future careers, for study purposes or for pleasure.

Reading is necessary when students further their studies, especially at the university level. Students need good reading skills for acquiring knowledge and learning new information. However, Youngjermjantra (1994) indicated that reading comprehension skills of students at the upper secondary level are below the 80 percent criterion.

Traditional methods in teaching reading restricts both teachers' and students' communicative range. Traditional teachers dominate classroom speech, often by a factor of three or four utterances to one short student response (Chaudron, 1988; Long & Porter, 1985). Teachers determine what the students do, when they should speak, and what language forms they should use (Brown, 2000). The students take notes-copies the teachers' words and memorize them for later recitation or testing. They learn everything when the teacher asks them to do so or read the text that teacher has assigned. Students' roles are passive; and they are told what to learn and how to learn it. Students do not develop their skills or interest to learn on their own. Furthermore, in classes always consist of high, moderate, and low reading abilities. The low reading ability often sit in isolation as they lose confidence in their abilities to learn English. They lack of confidence to ask any questions or express any ideas in the whole class. Thus, students might feel bored and unmotivated or may not feel interested at all in reading English.

From the reasons above, teachers try to explore a new way in teaching to avoid the pressure from the students who are not very tolerant of teacher telling them, so they try to make their classes more active. Johnson and Johnson (1999) and Slavin (1983) indicated that social interaction leads to advanced cognitive development and promotes higher academic achievement than individualistic learning. Many educators try to use teaching in small groups to encourage students to be more active and more effective in their learning. As a result, they have rejected the idea in favor of traditional individualized instruction.

In the past, there has been a significant increase in the use of various pedagogical techniques involving group learning. Several factors have prompted teachers to use this form of learning, including pressure from a generation of students

who are increasingly value teamwork skills, and increased emphasis on problem solving skills in addition to content knowledge (Fink, 2002). Group work has become increasingly popular in language teaching since it is seen to have many advantages. For example, in groups, students tend to participate and use language equally more than in a whole class, students can work independently without pressure of the whole class, give the teacher the opportunity to work with individual student, as well as to build other skills such as problem solving, critical thinking and teamwork.

Although teaching with small groups obviously has great potential, some survey research (Feichtner & Davis, 1985) indicated that this potential is not always realized. A significant percentage of students report negative experiences with one technique in small group learning, cooperative learning. They argued that it was unfair because some of them had to do most of the work and yet all of them got the same grade. Furthermore, they were supposed to meet outside class, but it's quite hard to find time to work together outside class.

For many years, researchers in education have been exploring on alternative approach for more effective teaching and learning reading. Research has shown that people do not learn materials well just by reading. On the contrary, people only really understand the materials when they try to apply them. Furthermore, people learn concepts and skills better when sharing in teams than working in isolation. Thus, most of the newer educational approaches emphasize active learning by students, in which teachers move from being a "sage on a stage" to a "guide on the side." Team-based learning is one of the student-centered, to replace the traditional teacher-centered approaches.

Team-based learning is a special, in-depth approach to the use of small groups in teaching. It calls for restructuring a course in a way that facilitates the development of newly formed groups into teams and then engages those teams with challenging, complex learning tasks.

According to previous research, using team-based learning produces benefits that cannot be achieved by students in a passive role (Fiechtner & Davis, 1985; Slavin & Karweit, 1981) some of these benefits include: developing students' higher-level cognitive skills in large classes, providing social support for at risk students, and building and maintaining members' enthusiasm for their teaching role. Team-based learning is proved to be an effective way to help learners in undergraduate microbial metabolism-physiology course improving reading comprehension McInerney and others (2003). Furthermore, Dickerson (2006) indicated that team-based learning implement a significant improvement in active participation, preparation, reading collaboration, problem solving skills, and application of key concepts in class.

Team-based learning approach is considered an effective instructional approach to develop reading skills and build other skills such as problem solving, critical thinking and teamwork for EFL learners. In the Thai educational context, there is no study has been conducted on a reading instruction based on team-based learning approach. So, this research is then conducted to find effects of the team-based learning as a new alternative approach to improve Thai EFL students' English reading comprehension ability

Research Questions

1. To what extent does a reading instruction program using team-based learning approach improve students' English reading comprehension ability?
2. How do high, moderate, and low English ability students improve their reading comprehension ability?

Research Objectives

1. To study the effects of using a reading instruction program using team-based learning approach on English reading comprehension ability of upper secondary school students.
2. To examine the English reading ability scores of students with different English ability.

Statement of hypothesis

Previous researchers such as McInerney and others (2003) and Meeuwssen and others (2004) found that team-based learning instruction facilitated students' reading comprehension. In addition, Freeman's (2006) research showed that 92 percent of students agreed that the course had helped them develop their ability to work as a team member. Fink (2002) found that team-based learning made the class more energetic, and the students enjoyed the opportunity to engage in meaningful discussions with each other about their subject. From the positive results based on the use of team-based learning approach in these studies, the researcher stated the hypothesis as follows:

1. After learning through team-based learning approach, students' post-test scores in English reading comprehension ability are significantly higher than those of the pretest at the level of .05.

2. After learning through team-based learning approach, students' post-test scores in English reading comprehension ability of high, moderate and low English ability students are significantly higher than those of the pretest at the level of .05.

Scope of the study

1. The population for this study was upper secondary school students of Chulalongkorn University Demonstration School.

2. The variables in this study are as follows:

2.1 Independent variable was a reading instruction program based on team-based learning approach.

2.2 Dependent variables were students' English reading comprehension ability.

Definition of terms

A reading instruction program based on team-based learning approach refers to an English reading instruction using team-based learning approach as a teaching procedure. The 10-week lessons designed with activities in three phases: preparation, application, and assessment phase. The activities help motivate students to prepare for and engage in discussions, promote student-student interaction via working in small groups.

English reading comprehension ability refers to the ability in English reading include higher-order thinking level: analysis, synthesis, and evaluation. The students' reading comprehension ability was assessed by using both summative and formative tests. Secondary Level English Proficiency (SLEP) Test was used before and after receiving a reading instruction program based on team-based learning approach as a summative test. While the eight readiness assessment tests were used as

formative tests to observe the improvements of students' reading ability during the instruction.

Upper Secondary School Students refer to upper secondary school students of Chulalongkorn University Demonstration School.

Outline of the study

This thesis consists of five chapters.

Chapter I is the introduction section that provides background to the present study. It includes the statement of the problem, research questions, objectives, and hypotheses. Also, scope of the study and definitions of terms are included.

Chapter II reviews the theoretical frameworks and previous research studies that are considered relevant to the study. The concepts discussed are categorized into main 2 areas including team-based learning instruction and reading comprehension.

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

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

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

CHAPTER II

REVIEW OF THE LITERATURE

In this chapter of the research “Effects of a Reading Instruction Program Using Team-Based Learning Approach on English Reading Comprehension Ability of Upper Secondary School Students”, the researcher explores the concept of a reading instruction program based on team-based learning approach on students’ English reading ability.

Reading Comprehension

In this present study reading comprehension was a key skill. In this section, a definition of reading comprehension, reading comprehension process and types of reading comprehension are reviewed as follows:

Definition of reading comprehension

Reading comprehension is a complex cognitive task which has an interactive and constructive nature. It emphasizes an active learner who directs cognitive resources to comprehend a text. Reading for general comprehension is the most basic purpose for reading (Grabe & Stoller, 2002). It is often accomplished by a fluent reader whose skills occur automatically.

Reading comprehension is an interactive process involving the reader, the text, and the context. Comprehension requires an ability to relate the text materials to the reader’s own knowledge. The reader plays a very active role in constructing meaning based on his purpose in reading, background knowledge, and the overall setting (Rumelhart, 1977 & Carrell, 1985).

According to the definitions of “reading comprehension” above, the researcher defines reading as an interactive process between the readers’ interpretation and the text. In reading process, the reader will have interaction between the texts. Furthermore, how much the reader can interpret from the text depends on the reader’s background knowledge and the ability in guessing from the context. The meaning the reader gets from the text may not be exactly the same as the meaning the writer of the text wished to convey. Likewise, the meaning that one gets from a text may be different from that of other readers reading the same text. Readers use their varying resources to differing when they read. Thus, reading comprehension differs from one reader to another.

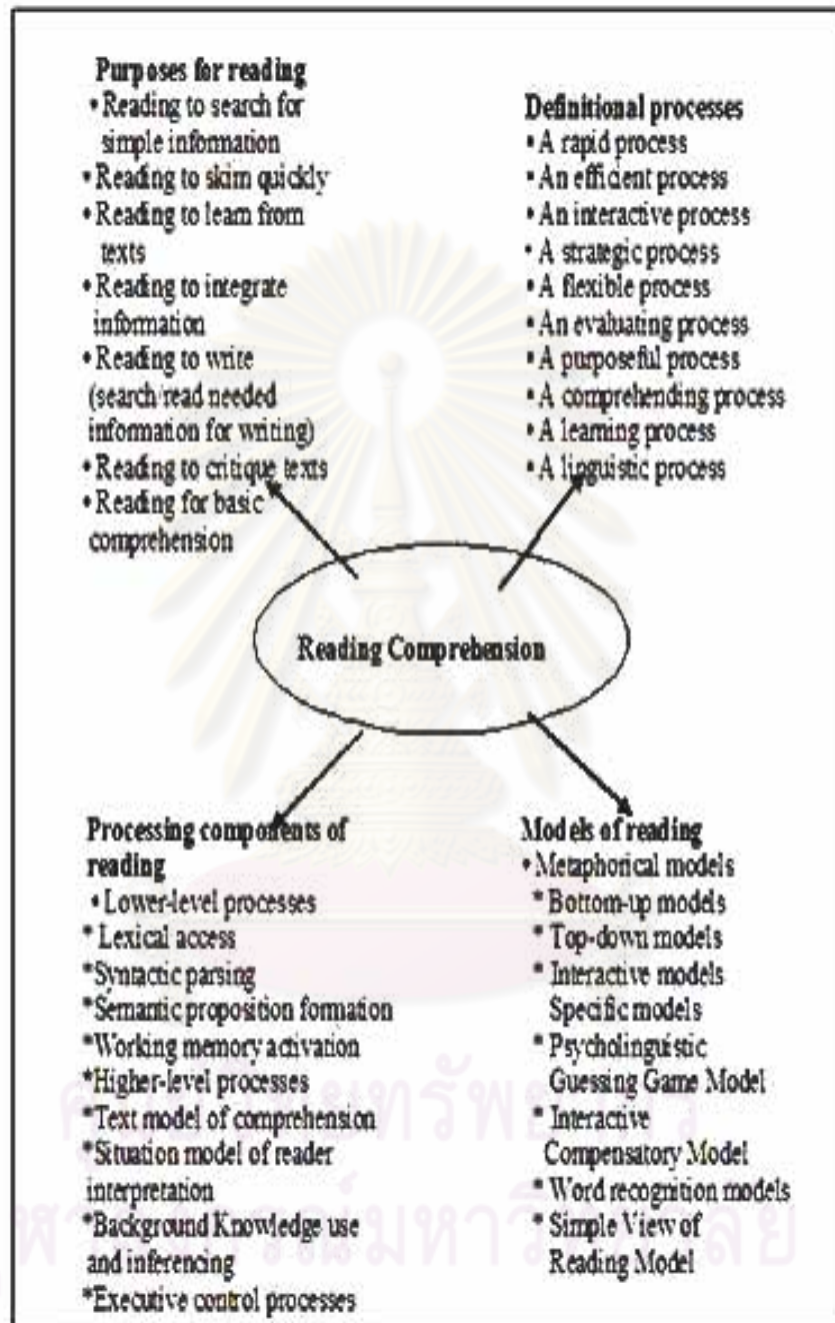
An overview of the reading comprehension reveals the complex nature of reading and the many factors that must be taken into account when assessing students’ needs and planning meaningful reading instruction in Figure 2.1.



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Figure 2.1: *The overview of reading comprehension (Grabe and Stoller, 2002: 38)*

Figure 2.1: *The overview of reading comprehension (Grabe and Stoller, 2002: 38)*



Reading Comprehension Process

There are three main concepts in reading process: bottom-up process, top-down process, and interactive process. Reading scholars describe the reading process as follows:

Barnett (1989) provides three main theories of *reading process*.

1. **Bottom-up theory**, 'the reader constructs the text from the smallest units (letters to words to phrases to sentences) and that the process of constructing the text from those small units becomes so automatic that readers are not aware of how it operates. Decoding is an earlier term for this process.'
2. **Top-down theory**, readers bring a great deal of knowledge, expectations, assumptions, and questions to the text and, given a basic understanding of the vocabulary, they continue to read as long as the text confirms their expectations.
3. **The interactive theory**, both top down and bottom up processes are occurring, either alternately or at the same time. This process moves both bottom-up and top down, depending on the type of the text as well as on the reader's background knowledge, language proficiency level, motivation, strategy use, and culturally shaped beliefs about reading.

Nunan (2003) proposes that there are three categories in reading process.

1. **Bottom-up models** consists of lower-level reading process. Students start with the fundamental basics of letter and sound recognition, which in turn allows for morpheme recognition followed by word recognition, grammatical structures, sentences, and longer texts. Letters, letter clusters, words, phrases, sentences, longer text, and finally meaning is the order in achieving comprehension. This model focuses

on intensive reading which involves a short reading passage followed by textbook activities to develop comprehension.

2. *Top-down models* begins with the idea that comprehension resides in the reader. The reader uses background, makes predictions, and searches the text to confirm or reject the predictions that are made. This model focuses on meaning generating activities rather than on mastery of word recognition. Extensive reading acts a key role in top- down approaches to reading. Extensive reading means reading books without a focus on classroom exercises that test comprehension skills.

3. The bottom-down model does not give a full account of the process of reading, as it gives no account of a reader's prior knowledge. The top-down model, on the other hand, places the emphasis on the reader's active participation in the reconstruction of the meaning in the text. The top-down model looks at the reader's knowledge base and his or her ability to make predictions using this base. The combination between bottom-up and top down approach is called *interactive model*. This type combines elements of both bottom-up and top-down models based on information provided simultaneously from several knowledge sources (Stanovich, 1980). Murtagh (1989) stresses that the best second language readers are those who can "efficiently integrate" both bottom-up and top-down processes. An interactive approach to reading would include aspects of both intensive and extensive reading.

In sum, reading process is an interaction between reader and text. It requires sufficient knowledge of language (bottom up), and sufficient knowledge of the world and a given topic (top down). When readers have sufficient knowledge of a given text and language, they may discover their own strategies to understand the meaning of the text.

Types of reading comprehension

Nuttall (1996) suggested the six levels of comprehension to be useful in helping our students become interactive readers. Six levels of comprehension are proposed: literal comprehension, reorganization, inference, prediction, evaluation, and personal response.

Literal comprehension refers to an understanding of the straightforward meaning of the text, such as facts, vocabulary, dates, times, and locations. Questions of literal comprehension can be answered directly and explicitly from the text. Literal comprehension makes sure that their students have understood the basic or surface meaning of the text.

Reorganization is based on a literal understanding of the text; students must use information from various parts of the text and combine them for additional understanding. Questions that address this type of comprehension are important because they teach students to examine the text in its entirety, helping them move from a sentence-by-sentence consideration of the text to a more global view.

Inference involves more than a literal understanding because the answers are based on material that is in the text but not explicitly stated. An inference involves students combining their literal understanding of the text with their own knowledge and intuitions.

Prediction involves students using both their understanding of the passage and their own knowledge of the topic and related matters in a systematic to determine what might happen next or after a story ends. Two varieties of prediction were used, while-reading and post- (after) reading. While-reading prediction questions differ from post-reading prediction questions in that students can immediately learn the accuracy of their predictions by continuing to read the passage. In contrast, post-

reading prediction questions generally have no right answers in that students cannot continue to read to confirm their predictions.

Evaluation in order to answer this type of question, students must use both a literal understanding of the text and their knowledge of the text's topic and related issues.

Personal response requires readers to respond with their feelings for the text and the subject. The answers are not found in the text; they come strictly from the readers. While no personal responses are incorrect, they cannot be unfounded; they must relate to the content of the text and reflect a literal understanding of the material.

In sum, reading is an interactive process in which the reader constructs meaning with the text, and then the teacher needs to help their students learn to do this. This means moving beyond a literal understanding of a text, and allowing their students to use their own knowledge while reading. When questions move beyond a literal understanding, students' answers have to be motivated by information in the text. Inference requires students to identify that not explicitly stated. Prediction encouraged students to determine what happen next. Evaluative and personal response enable readers make a judgment and express the opinion respectively. Finally, research has shown that effective teachers and teachers in more effective schools are more frequently observed asking higher level questions, questions that go beyond a literal comprehension.

Reading Assessment

Since the teacher's role in the English reading class changed from a lecturer to a facilitator of learning and mixed with the role of assessor. Reading assessment is undergoing substantial changes in order to reflect changes that have taken place in teaching reading. Teachers observe and encourage the process of students learning as it occurs during class time, and teachers simultaneously evaluate the products of students' learning. Aebersold & Field (1997) proposed the assessments in the ESL / EFL reading class encompass a variety of measures, from the most formal to the most informal as follows:

Multiple-choice questions

The choices in a multiple-choice question consist of a correct answer and a variety of response called distractors. These distractors need to be carefully formatted. In addition, constructing multiple-choice questions demands considerable time, thought, and skill.

Vocabulary tests

Vocabulary tests may help the teacher identify general problems with understanding key words, but they do not test comprehension, and they lead students to think that learning words is the only key to good reading.

Cloze tests

Students are asked to supply words that have been deleted from a reading text. The fifth, sixth, or seventh words are usually deleted. A closed test determines the key words that students are to recall. In addition, cloze tests have proved useful and valid in making whole language assessments, and they are especially useful for determining the difficulty of a reading passage.

Completion tasks

Completion of sentences is another form of comprehension testing that demands recall and writing as well as comprehension. The simplest versions of this type of test the student may use the words from the original passage to complete the sentence; in more complex versions the students must interpret or analyze the text before completing the sentence.

Short answer and open-ended questions

Short answer and open-ended questions are much a test of writing as they are reading. Student is given a passage to read, and then asked to write a few sentences or a paragraph in answer to a question about the reading.

Contextualized or authentic tasks

The use of contextualized or authentic tasks is based on the belief that the more students sense that the language they are learning is language that they can use in real situations, the more motivation there is for learning.

In sum, these traditional assessment methods appear in most L2/FL reading textbooks. Reading teachers need to be able to analyze the usefulness of each type and be able to use them when constructing the tests.

Apart from the types of formal assessments activities above provide structured feedback to students and become part of the grade of the course. Informal activities serve to give teachers feedback on students' comprehension and mastery of skills, but do not become part of the students' grades. The following are the general qualities of alternative reading assessment methods: continual, ongoing, in the students' hands more than the teacher's, non-threatening, low-risk, progress oriented, focused on student's own development, often group generated rather than individual, providing an opportunity for students to learn.

Journals (audio and written)

Student journals are a superb way to keep learners involved in the processes of monitoring comprehension, making comprehension visible, fitting in new knowledge, applying knowledge, and gaining language proficiency.

Although reading journals may become time consuming for the teacher, there are techniques for easing that burden.

Portfolios

The portfolio may include the student's journal, but it also needs to include other items, such as drafts of writing assignments for the class, homework exercises, marked exams, summaries of articles or other reading assignments. Specific application of the application of the portfolio to the L2/FL reading classroom consists of a number of elements that could serve as a part of the evaluation of the student's work in the course.

Homework

Homework should not be something dreaded, complex, and overwhelming for students. Its function is to let students learn what they do not know – what they need to ask questions about. It does not always need to be read by the teacher, since students can read each other's work for informal evaluations and fill in their self-assessment reports with the results.

Teacher assessment through observation

There are various times during a class period when the teacher has the opportunity to evaluate student comprehension and participation – for example, during group work, when students are reading, or during other planned activities.

Self-assessment

Nunan (1988: 118), an advocate of self-assessment as part of the learner-centered classroom, says that “making the intentions of the educational endeavor explicit to learners, and, where feasible, training them to set their own learning outcomes, will make them better learners in the long run.”

Peer assessment

Peer assessment is yet another way to provide alternative methods of evaluating student work in reading classes. Students are quite capable of evaluating each other's levels of participation, attentiveness, and work produced in a given activity. Moreover, when they know that they will be evaluated by their peers, many students make an effort to be cooperative group workers and to stay fully engaged in the activity. Students must understand the criteria that they are being asked to use in the evaluation of their peers.

These six alternative reading assessments provide information that students need about their own levels of reading comprehension and that teachers need about the reading comprehension levels of students. The key to a successful integration of these methods with more traditional testing is to strive for balance in the mix.

This study considers reading assessment as an important factor in teaching procedures. The various types in both traditional and alternative ways: multiple-choice questions, contextualized or authentic tasks, teacher assessment through observation, and peer assessment were used to assess students' reading comprehension ability.

Team-Based Learning Instruction

In traditional second language classrooms, teachers were force to shoulder the entire responsibility for the learning process. Teachers determine what the students do, when they should speak, and what language forms they should use (Brown, 2000). Furthermore, students' roles are passive; and they are told what to learn and how to learn it. Students do not develop their skills or interest to learn on their own.

From the reasons mentioned above, teachers were encouraged to search for new ways to solve these problems and make their reading classes more active. Of those teachers who reach this level of awareness, many discover that using small groups is a relatively easy way to achieve active learning, make a significant difference in the quality of student learning and also change both the teacher's role and the students' role in positive ways.

Over the last few years group activities have become increasingly popular in EFL/ ESL classes. However, instructors frequently report the common problems that greatly reduce the effectiveness of small-group based learning activities. Fink (2002) proposed the problems typically occur while students are actually engaged in the group work. Probably the most common problem is that one or two vocal individuals often dominate the discussions to the point that quieter members' ideas are either unexpressed or largely ignored. Alternatively, groups frequently have difficulty staying focused on the assigned task because they get side-tracked on inconsequential or irrelevant details. The third problem occurs when groups are reporting the results of their work to the total class. Even when there has been a high level of engagement in the small groups subsequent whole-class discussions are sometimes unsuccessful.

In order to engage students in active learning, make a significant difference in the quality of student learning and develop their reading comprehension ability. Team-based learning instruction is used as an instructional material in this study. There are six important parts of team-based learning instruction which are dealt with in this study: The definition of team-based instruction, the comparison between Team-based learning approach and other small Group Approach, the principles of team-based learning, the components of team-based instruction, the advantages and challenges of team-based learning and research related to team-based learning.

Definition of Team-Based Learning Instruction

Team-based learning (TBL) is the new instructional medium used to develop reading comprehension ability in this study. It is important to understand the definition of team-based learning instruction that many researchers have mentioned about. Some of them are listed as follows:

Michaelsen and others (2002) defines team-based learning as an instructional strategy that leverages small-group learning to achieve increased effectiveness.

Team-based learning can be defined as a particular instructional strategy that is designed to support the development of high performance learning teams and provide opportunities for these teams to engage in significant learning tasks (Michealsen et al, 2004).

Fink (2002) defines team-based learning (TBL) as an instructional approach that is design to support the development of high performance learning teams and provide opportunities for that team to engage in significant learning tasks. Team-based learning sets up a sequence of learning activities that consists of three phases in each period: preparation, application, and assessment.

Team-based learning defines by (McInerney & Fink, 2003) as the way uses small groups to restructure a course in a way that facilitates the development of newly formed groups into teams and then engages those teams with challenging, complex learning tasks.

In addition, Parmelee and others (2009) defines team-based learning as a learner-centered but instructor-led, uses a very structured individual and group accountability process, and requires small groups to work together to solve problems.

Letassy and others (2008) defines team-based learning as an effective active-learning, instructional strategy for courses with large student-to-faculty ratios and distance education environments.

Michaelsen and others (2004) shares similar ideas that team-based learning is teaching strategy that emphasizes learning from activities with peers rather than from lecture. Moreover, team-based learning is distinguish from other forms of group teaching in that the groups form cohesive units and therefore act more like a team.

In brief, team-based learning views small groups as the basis of a semester-long instructional strategy in which a sequence of small group activities is designed to deepen student learning and enhance team development.

Comparison between Team-Based Learning approach and other Small Group Approach

Many researchers have used different terms about small groups: problem-based learning (Albanese & Mitchell, 1993) cooperative learning (Slavin, 1983; Johnson & Smith, 1991; Millis & Cottell, 1998), and team-based learning (Michaelsen, 1983, Michaelsen, 1999; Michaelsen and others, 2004). Despite the varying terminology, all approaches have the same general idea: putting individual students in a class into small groups for the purpose of promoting more active and more effective learning.

In general, **cooperative learning** advocates the use of small groups, as a specific activity that is inserted into an existing course structure that otherwise remains more or less undisturbed. In contrast, **problem-based learning** calls for a significant restructuring of the design of a course such that groups of students are presented with a problem before they have studied all the relevant concepts. The students' tasks are to solve the problems based on the information and context they were. **Team-based learning** falls in between these two approaches. In team-based learning, the course needs to be structured in a special way to support the development of groups into teams. Students in team-based learning courses acquire the needed information and concepts first, and then engage as teams in various application exercises (Fink, 2002).

Fink (2002) also comments that team-based learning and cooperative learning are both capable of maintaining a high level of content learning while also promoting other kinds of learning. However the two approaches rely on different activities to accomplish this.

Cooperative learning activities are generally aimed at learning how to apply the course content rather than helping students acquire their initial understanding of the content itself. Sometimes teachers need to create "motivating" homework assignments for the students to do for responsibility. While team-based learning uses group activities to directly support students' initial understanding of the content as well as their subsequent efforts to learn the content by applying it.

Furthermore, Gijsselaers (1996) represents that team-based learning and problem-based learning are quite similar in two important aspects. They both involve a great deal of in-class small group work and both give the groups challenging, decision-based assignments. There are, however, two important differences. First, the

problem in team-based learning generally aimed at having students learn how to *apply* information and ideas that have been previously studied while problems in problem-based learning are designed to have students *learn how to learn* new material.

In brief, despite the varying terminology and teaching procedures, cooperative learning, problem-based learning, and team-based learning have the same general idea: putting individual students in a class into small groups for the purpose of urging students more active and more effective learning.

Principles of Team-Based Learning

The significant changes from traditional form of teaching to a team-based learning require three important changes. First, the changes in primary learning objectives of the course shift from familiarizing students with key concepts to ensuring students have a chance to practice using course concepts. As a result, most activities in class are used for teamwork and team assignments. Then the role of both teachers and students requires changes. Teacher's role is shifted from dispensing information and concepts to designing and managing the overall instructional process. Furthermore, instead of being passive recipients of information, students need to be responsible for the initial exposure of the content and for working collaboratively with other students to learn how to use the content. In team-based learning, the essential principles are as follows:

1. *Group must be properly formed and managed*

In terms of actual numbers, most researchers concluded that for significant intellectual work, the minimum size for an effective group is five members and groups larger than seven numbers tend to encounter significant problems with group processes (Kowitz & Knutson, 1980; Scheidel & Crowell, 1979). In team-based

learning, given the importance of having groups or teams work on complex tasks, groups of five to seven are suggested.

Since team-based learning assignments and tasks involve highly challenging intellectual based on difficult problems, the member diversity in team typically have more initial difficulties, after forty hours of working together they are typically more effective than homogeneous groups (Watson et al, 1993). In addition, membership diversity at the level of knowledge, skills, and abilities initially inhibits both group processes and performance, but becomes a clear asset when members have worked together over an extended period of time (Watson et al, 1993). It takes time for a group of students to get to know each other well enough to start functioning effectively as a team. Therefore, teachers should leave the teams intact as long as possible. Michaelsen (2004) indicated that the team should be permanent for the whole semester. The team engaged for the entire semester motivated to exert accountability to each other.

2. Students must be made accountable

In traditional classes, there is no real need for students to be accountable to anyone other than the teacher. In contrast, team-based learning offers opportunities for meaningfully involving students in establishing accountability for these important behaviors.

The way to develop cohesive learning teams is making members accountable for pre-class individual preparation. If individual students fail to complete pre-class assignments, they will be unable to contribute to the efforts of their team (Michaelsen, 2004). In team-based learning, Readiness Assurance Process is the basic mechanism that ensures individual accountability for pre-class preparation. In this study, students were assigned to read the reading passage before class. Next, at the beginning of the class,

students take the Readiness Assessment Test (RAT) individually and retake the same test as a team. This process promotes students' accountability to both the teacher and to each other. First, students are accountable to the teacher because the individual scores count as a part of the course grade. Second, students are also accountable to their peers during the team test. Furthermore, peer assessment is the tool for evaluating other members in team. Members are given a chance to evaluate one another's contributions to the activities of the team such as individual preparation for team work, class attendance, and team discussions.

3. Team assignments must promote both learning and team development

The most fundamental aspect of designing effective team assignments is ensuring that students require group interaction. Assignments that require group to make decisions usually generate high levels of group interaction.

4. Students must receive frequent and immediate feedback

Providing immediate feedback is also the main factor in team-based learning. This happens in two important ways. First, the Readiness Assessment Tests (RATs) are an important source of feedback that supports both learning and team development. Feedback from the RATs supports content learning from facilitating the shift from concepts coverage to concept applications. In addition, Feedback from the RAT supports team development in two ways. One, as the team scores are shown in public, team members are highly motivated to do the best in their team. Also, because the feedback is immediate, students are both aware of situations when the team failed to capitalize on the knowledge of one or more of their members and are highly motivated to do the test (Michaelsen, 2004). Second, whereas RATs are designed to ensure that students understand the basic concepts, the application-focused team

assignments are aimed at developing students' higher level learning skills, and as a result, providing immediate feedback is required.

In sum, with the use of the four essential principles of team-based learning, teachers ensure that the majority of groups can develop a level of cohesiveness and trust required to transform groups into effective learning teams.

Components of Team-Based Learning Instruction

In order to develop team-based learning instruction, it is very important to study the component of team-based learning instruction. Michaelsen and others (2004) explained the features and components of Team-based learning as follows.

There are three-phase sequences in team-based learning approach: preparation, application, and assessment. The goals of the team-based strategy were focused on: increasing student preparation for class sessions, and promoting student responsibility and accountability for their own learning; creating a more intense, higher level learning experience in the classroom; developing and improving thinking skills; increasing immediate feedback concerning student performance; and teaching students about teamwork, cooperation, and social responsibility (Michaelsen et al, 2002).

The first phase is *preparation phase*; first, students are assigned to read the reading passage outside class. The main goal is this phase is for students to get a good introduction to the information and ideas on the topic, not to gain in depth comprehension. In addition, this creates significant pressure from their team for individuals to be well-prepared before class. Good preparedness asserts that every member is ready to contribute to the overall work of the team and hence foster greater cohesiveness. As a result, effectively using learning groups require making students accountable for individual preparation for class.

Secondly, when they come to class, they engage in the Readiness Assurance Process, or RAP. In the RAP, students take a RAT (Readiness Assessment Test) individually without additional lecture or elaboration by the instructor. The RAT served as an evaluation of a student's readiness to engage in additional application, analysis, synthesis, and evaluation assignments (Bloom, 1956). The RAT typically consists of multiple choice questions that focus on foundation concepts.

Thirdly, after finishing the individual test, students retake the same test, as a team. Each team has a diversity of backgrounds, experiences and abilities amongst its members. The team consists of 5-7 members which is kept interactive for the whole semester. Forming small groups for the duration of the course turns the learning experience into a process that improves the quantity and quality of the learning by leverages long-term caring and peer relationships (Johnson & Johnson, 1999). To complete the team test, members must reach agreement on each test question. Based on RAP, the discussion requires choosing answer both serves as an excellent review of the readings and provides the opportunity for peer teaching. The innovative 'scratchable' form called IF-AT forms (Immediate Feedback Assessment Technique) was used to provide immediate feedback and stimulate students' interests. If the team selects the correct answer on the first scratch they receive four points, two points for the second scratch and one point for the third scratch. This ensures that students continue to discuss till they find the correct answer. Thus, the IF-AT answer sheets have a particularly powerful and positive effect on the team.

The fourth step, which is optional, is an appeal process. If any group thinks one or more of their answers should have been counted as correct, they can submit a written appeal, making reference that supports their answer.

The final step is for the teacher to offer ‘corrective instruction’, that is, teacher can give any additional comments for a correct understanding of the key concepts.

Table 2.1: Readiness Assurance Process (Michaelsen, 2004)

Process	Features
1. Assign reading	- Students read the assigned passage as homework.
2. Individual Test	- Additional exposure during the individual test helps reinforce students’ memory of what they learned during their individual study.
3. Team Test	- Students orally elaborate the reasons for their team answer.
4. Appeals	- Students are given the opportunity to restore credit for questions missed on the team test.
5. Oral Instructor Feedback	- The instructor provides feedback and corrective instruction aimed at resolving any misunderstandings.

Second, by the end of the preparation phase, students have a moderate level of understanding of the material, and ready to start the *application phase*. In this phase, students use the content they have learned already to answer questions, solve problems, create explanations, and make predictions etc. These class sessions involve team activities that are increasingly more difficult, building on the material learnt in the preparation phase. Each team formulates a response to the problems; the teacher leads a comparison of the different responses and offers feedback (Michaelsen et al, 2002). The effective team learning activities should increase understanding of course content. Activities cannot be simple that students are merely repeating information from reading. The goal is to develop exercises that create opportunities for different student groups to select a different “correct” answer and support their answer with reasonable arguments based on the course concepts. Additionally, when actions necessitate working together, conflict as well as cooperation are included as a means to meet the overall objective, yet enhance the knowledge base of the team. These can be either graded or un- graded exercises. Either way, however, it is essential that the groups learn how good their answers were or (were not). These exercises should be constructed so that:

1. The tasks are meaningful and related to the ultimate learning goals.
2. Successful performance by the groups will require them to engage in a high level of INTRA-group dialogue.
3. Group answers / responses can be displayed easily and quickly.
4. The application exercises should have the principle of the “3 S’s”

To gain the maximum impact on learning, the assignments at each stage should be characterized by “3 S’s” which are described as follows:

Same Question or Problem - All groups should work on the same question or problem.

Specific Choice -The task should call for each team to make a specific choice that requires using ideas concepts and/ or tools from the course. This prompts in-depth discussion, both within groups and between groups.

Simultaneous Report-Out -All groups report or share their answers at the same time.

5. Having groups write a term paper is not a good group assignment.

The activities in application should be in-class only to prevent unequal delegation of work among team members; learning comes primarily through the discourse in tackling a problem together (Michaelsen et al ,2002).

While doing team activities, team-based learning can prevent weaker students simply free riding from stronger students in their learning team by peer evaluation. Each student fills out a form for evaluating the helpfulness of other members in the team. However, weaker students can learn from their stronger peers through the team activities.

Finally, after the teams have practiced applying the material for some time, they are ready for the **assessment phase**; the teams are given challenging projects on which to work that will be part of their grade. The project should be something that integrates as much of the course content as possible.

Making teamwork a central part of the course requires changes in the way assessments take place. There must be both individual and group accountability. Grade teamwork should constitute a significant portion of the course grade about

40%. In addition, individual students must be accountable for their individual preparation and for their contribution to the work on team. This latter factor calls for peer assessment at the end of the course in which each member of a team rates the contribution of other team members. A summary score of this rating process is then included in the calculation of the final course grade of each student.



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Figure 2

The Sequence of Learning Activities in Team Learning

- Covering a 2-3 Week Block of Time
- Covering One Major Topic Within the Course

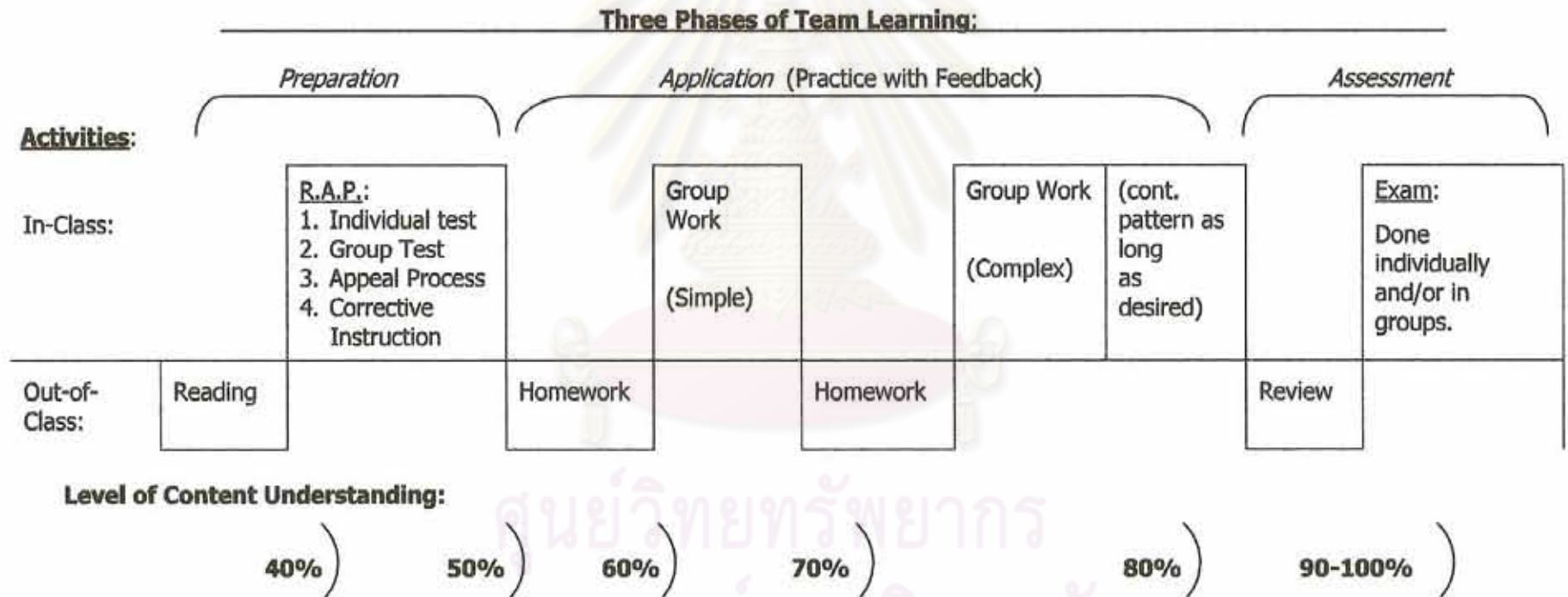


Figure 2.2: *Team – Based Learning: The Sequence of Learning Activities for Each Major Topic Unit (Michaelsen , 2004)*

Units of instruction in team-based learning follow the activity sequence shown in Figure 2.2. Each of the in-class activities should be designed to accomplish two ends. One is to build students' understanding of course content. The other is to increase group cohesiveness to the point that the majority of the group successfully develop into self-managed learning teams (Michaelsen, 2004).

Implementation of Readiness Assessment Tests (RAT)

The primary purpose of the RATs is to assess student readiness to engage in related application-focus activities. The RATs should focus on ensuring that students have an understanding of the basic concepts that is thorough enough to allow them to tackle the application-focused assignments, and use their assigned reading as reference material (Michaelsen, 2004). *Readiness Assessment Test* (RAT) consisted of short true-false or multiple choice questions that provide the opportunity for peer teaching and enable the instructor to assess whether or not students have a sound understanding of the key concepts from the readings. The questions of RAT required students to analyze what they learned from the text and emphasized the key concepts, enhanced reading, developed a deeper understanding of the concepts themselves, stimulated the kind of discussions that promoted peer teaching. In addition, the questions focused on important concepts, not specific details that required increasingly complex levels of understanding, analysis, synthesis, and evaluation. The lower level of questions required less thinking skills while the higher levels of questions required more. Bloom (1956) created taxonomy of questions to enhance critical thinking ability. The taxonomy was divided into three

domains consisting of cognitive, affective, and psychomotor domains. Bloom identified six levels within the cognitive domain as follows:

Knowledge level focused on remembering and recalling the specific information. With the use of words and phrases such as: who, when, where, list, define, describe, identify to draw out factual or testing students' recognition.

Comprehension level focused on grasping or understanding the meaning of informational material. With the use of words and phrases such as: describe, interpret, predict, and identify to encourage students to translate or interpret the information.

Application level focused on applying previously learned information to new and unfamiliar situations. With the use of words and phrases such as: demonstrate, apply, show, solve, and examine to encourage students to apply knowledge to situations that are new and unfamiliar.

Analysis level focused on breaking down information into parts, or examining information. With the use of words and phrases such as: what are the differences, analyze, explain, compare, separate, classify, and arrange to encourage students to break information down into parts.

Synthesis level focused on applying prior knowledge and skills to combine elements into a pattern not clearly there before. With the use of words and phrases such as: combine, rearrange, substitute, create, design, and invent to encourage students to combine elements into a new pattern.

Evaluation level focused on valuing and judging based on information. With the use of words and phrases such as: assess, decide, measure, select, explain, conclude, compare, and summarize to encourage students to make judgments according to a set of criteria.

In brief, in team-based learning, the questions of Readiness Assessment Tests (RAT) consisted of short true-false or multiple choice questions that provide the opportunity for peer teaching and encourage discussion in team with the use of higher levels of questions, analysis, synthesis, and evaluation based on Bloom's Taxonomy.

Advantages and Challenges of the Team-Based Learning Approach

In accordance with six studies reviewed, there are six advantages of the team-based learning approach which is relevant to, reading ability, diversity in team, critical thinking, problem solving skills, students' motivation, and teamwork skills.

The first advantage is that students' mean scores in team-based learning approach gained higher than students' mean scores in lecture-based learning (Hunt et al, 2002; Dickerson, 2006; Letassy et al, 2008; Wiener et al, 2009). These studies provide evidence to ensure that team-based learning increase students' reading ability scores.

The second advantage is that the research on group effectiveness clearly supported that students who have diversity in team, such as academic backgrounds or learning skills can work together to enhance their learning outcomes (Watson et al, 1993; Balasubramanian, 2007)

The third advantage is that the team-based learning approach enhanced students critical thinking and problem solving skills (Meeuwse et al, 2004; Dickerson 2006;

Letassy et al, 2008, Goldberg & Dintzis, 2009). This advantage is relevant to (Dickerson, 2006) that students can solve the problems expounded in the RATs.

The fourth advantage is in accordance with Wiener and others (2009) that students felt highly motivated and engaged with team-based learning. Meeuwsen and others (2006) also indicated that in-class assignments engaged and motivated many more students than in traditional classes. This advantage is relevant to Freeman and others (2006) that the use of IF-AT forms provided students with a positive approach to construct their knowledge and motivated students' interests. In addition, Freeman and others (2006) presented that using readiness assessment process has the potential to motivate students' preparation before class and that averages team-based scores were higher than average individual scores, showing a potential to improve student learning. Furthermore, team-based learning is also effective in motivating class attendance (Hunt et al, 2002).

The fifth advantage is that the team-based learning approach helped promote collaborative learning (Freeman et al, 2006, Goldberg & Dintzis, 2009). Wiener and others (2009) also provided evidence that team-based learning has the potential to provide opportunities for practicing leadership and teamwork skills at the same time.

The sixth advantage is that the team-based learning approach developed student-centered learning (Freeman et al, 2006). This advantage is relevant to Hunt and others (2002) that during team RATs and application activities encouraged students participating in team discussion-when groups shared, compared, and defended their answers. pp

However, there is another situation in which an advantage of team-based learning turns to be a challenge for some instructors. Instructors are responsible in designing effective instructional materials, such as Readiness Assessment Tests and application-focused activities (Michaelsen, 2004). This is a big challenge for most instructors.

Research Related to Team-Based Learning Approach

There are several studies relevant to the team-based learning approach. The studies have been conducted in different context. The results of research studies were reviewed as follows.

Michaelsen (2004) indicated that team-based learning helped the weaker students learn from their peers and facilitated discussion in general as questions were raised about the more difficult material.

Dickerson (2006) reports team-based learning aids students learning in English classes. There is significant improvement in students' reading comprehension, active participation, collaboration, problem-solving skills, and increasing preparedness.

In addition, many researchers indicated that students' course grade were higher using the team-based learning compared to the traditional lecture-based learning. Additional benefits are fostering teamwork, increasing student interactions, improving member feedback on content, increasing opportunities to practice higher-level thinking (Letassy et. al, 2008).

In brief, these results can demonstrate the effectiveness of team-based learning approach for promoting active learning, student's motivation, developing critical thinking, and implementing problem solving skills.

Summary

Based on the review of the literature, the following paragraphs are the main ideas the researcher used to develop the theoretical framework in this study.

This chapter presented related literature and research on team-based learning approach and reading comprehension. The literature review focused on reading comprehension. Definition of reading comprehension, reading comprehension process, types of reading comprehension, and reading assessment was reviewed. Reading comprehension refers to an interactive process between readers' interpretation and the text. Furthermore, how much the reader can interpret from the text depends on the reader's background knowledge and the ability in guessing from the context. In addition, six levels of comprehension helping students become interactive readers are proposed: literal comprehension, reorganization, inference, prediction, evaluation, and personal response. Additionally, in this study the teacher's role changed from a lecturer to a facilitator and assessor, so the researcher also used the appropriate reading assessments to evaluate students' reading comprehension ability.

The review also comprised of definition of team-based learning instruction, comparison between team-based learning approach and other small group approach, the principles of team-based learning, the components of team-based learning, the implementation of Readiness Assessment Tests, Advantages and challenges of team-

based learning approach, research related to team-based learning approach were discussed. In this study team-based learning is the new instructional medium used to develop students' reading comprehension ability and promote collaborative learning. Thus, the three-phase sequences in team-based learning approach: preparation, application, and assessment were developed.



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CHAPTER III

RESEARCH METHODOLOGY

This chapter deals with the research methodology to explore the effects of a reading instruction program using team based learning approach on English reading comprehension ability of upper secondary school students. It includes the following topics: research design, context, population and samples, research procedure, research instruments, data collection, and data analysis.

Research Design

This research was divided into two major phases. The first phase was the development of a reading instruction program using team-based learning approach. The second phase was the implementation phase. The objective of this research was to study the effects of a reading instruction program using team-based learning approach on upper secondary school students' reading comprehension ability. The independent variable referred to the reading instruction program using team-based learning approach used in this study and the participants' scores on these measures were dependent variables. In short, Figure 3.1 presented the diagram of the design of the study.

Figure 3.1: The Diagram of a reading instruction program using team-based learning approach

Phase I: Preparation Phase

Stage 1: To develop a reading instruction program using team-based learning approach

1. Explore and study the basic concepts and related document concerning reading comprehension and team-based learning approach.
2. Develop the conceptual framework for the instruction.
3. Design the lesson plans based on the framework.
4. Verify examples of the lesson plans by three experts.
5. Revise the sample lesson plans according to the experts.
6. Pilot the sample lesson plans.

Stage 2: To construct research instruments



Phase II: Implementation Stage

Stage 1: Identify population and samples

Stage 2: Pretest

Administer English Reading comprehension Test (SLEP Test Form 4)

Stage 3: During the experiment

- Implement a reading instruction program using team-based learning approach
- Readiness Assessment Tests (RAT) 1-8
- Student Log

Stage 4: Posttest

Stage 5: Data Analysis

Research Procedures

Phase I: Preparation Phase

Stage 1: Develop a reading instruction program using team-based learning approach

1.1 Explore and study the basic concepts and related documents

The basic concepts and related documents dealing with a reading instruction based on team based learning approach were explored.

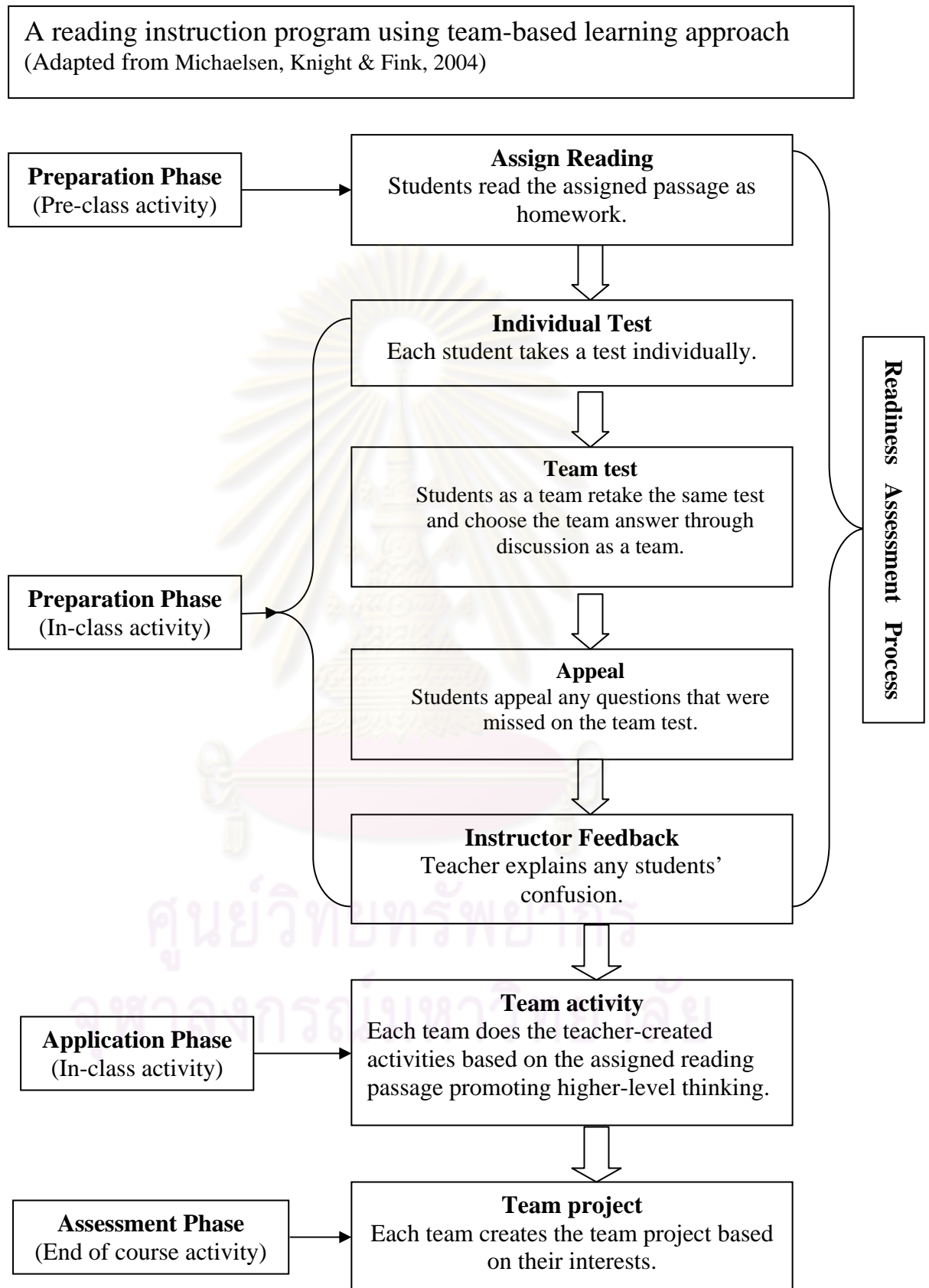
1.2 Develop the conceptual framework for the instruction

The framework of the reading instruction program using team-based learning approach is illustrated in Figure 3.2.



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Figure 3.2: The framework of a reading instruction program using team-based learning approach



In this present study, the researcher has adapted a three-phase sequence: preparation, application, and assessment phase proposed by Michaelsen and others (2004) discussed earlier in the literature review.

The first phase is called “**preparation phase**”. First, students were assigned to read the passages before class. The purpose of this step was not for the students to gain an in-depth comprehension of the whole reading passages but to get a good introduction to the information and ideas of the passages. This is the phase of instruction where the interesting texts and the new knowledge were integrated with students’ prior knowledge or using reference materials were implemented.

Second, students took ten minutes at the beginning of the class to take a test individually on the answer sheets. The test is called “*Readiness Assessment Test*” (*RAT*) consisting of five-multiple choice questions. The researcher used the questions focused on important concepts, not specific details that required increasingly complex levels of understanding, analysis, synthesis, and evaluation. The questions of *RAT* required students to analyze what they learned from the text and emphasized the key concepts, enhanced reading, developed a deeper understanding of the concepts themselves, stimulated the kind of discussions that promoted peer teaching. After students finished the individual test, they turned in their answer sheets to the researcher. The individual tests were scored during the team test. The scores were reported individually, (not in public) after they had already taken the team test.

Third, when the students had finished the individual test, they retook the same test as a team. Each team had their own name. This is the phase that members in each team can help each other acquire reading strategies and team answer through team discussion. Teacher’s role is a facilitator who encouraged students to work with their peers to develop reading skills. In this phase, the reading strategies, such as helping

each other analyze unfamiliar words, guessed the meaning of the text, used world knowledge, identify inferred main ideas, use context to build meaning and aide comprehension, working together with peers to solve the problems were implemented. During this step, each team retook the same test; members must reach agreement to find the team answer. Each member has their own responsibility for pre-class preparation because they have to make a discussion to find the team answer which both serves as an excellent review of the readings and provides the opportunity for peer teaching. The team members worked face-to-face, the impact of interaction was immediate and personal, and members in each team expressed their ideas freely.

In this study, after each team made a discussion to find their team answer, the immediate feedback was scored in two ways. First, the researcher used Immediate Feedback Assessment Technique (IF-AT) answer sheets to provide students immediate feedback. After discussing to find the team answer, they scratched off a covering of one box on the IF-AT answer sheets in search of a mark. They got four points if they found the mark on the first try but if they couldn't find the answer, they further scratched off until finding the mark, the score reduced from three, two, and one point. The other way to score is, showing the self-created A, B, C or D card for their team answers. During the team test, the teacher acted as a facilitator, roamed from team to team, monitoring how the teams approached the problem. The sample of IF-AT answer sheet and self-created A, B, C or D card were presented in Figure 3.3 and 3.4 respectively.

After finishing the team test, the individual answer sheets are distributed to students to compare the scores between individual and team test.

Figure 3.3: A sample of Immediate Feedback- Assessment Technique

IMMEDIATE FEEDBACK ASSESSMENT TECHNIQUE (IF AT®)

Name _____ Test # _____

Subject _____ Total _____

SCRATCH OFF COVERING TO EXPOSE ANSWER

	A	B	C	D	Score
1.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
2.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
3.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
4.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
5.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
6.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
7.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
8.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Figure 3.4: The sample of A, B, C, and D cards created by students



Fourth, this is the phase of instruction where reading comprehension strategy such as working together with peers and questioning for clarification was implemented. Students had the opportunity to appeal any questions that were missed on the team test. Students are allowed to re-study the reading passages about confusion created by either the quality of the questions or insufficient in the pre-class readings.

Lastly, the researcher gave more explanation about the reading passage by clarifying unfamiliar words and the ambiguous content of the text. This is the phase where eliciting from a teacher additional explanation about reading comprehension strategies such as guessing the meaning of unfamiliar words or phrases from the context, identifying facts in the texts, identifying main ideas and supporting details, drawing inferences, and summarizing the content of the text were implemented. This feedback is for clarifying any confusion of any of the concepts presented in the readings.

After taking the five-step procedures in preparation phase: pre-class reading, individual test, team test, appeal and instructor feedback, the researcher spent about 50 minutes to do the **application phase**. Each team was given a set of “team exercises” designed by teacher based on the learning unit topic which they worked on together as a team during class time. As the team progress is through the questions for any particular learning unit, the questions became more abstract and application oriented, thus requiring more higher-order thinking skills, synthesis and discussion.

This is the phase of instruction where reading comprehension strategy such as, working with peers to solve the problems, using real pictures to learn new information, using information in the text to guess the meaning, and relating new information to prior knowledge were implemented. In this phase, students used the

content they had learned already to answer questions, solve problems, create explanations, and make predictions, etc. This phase involved team activities that were increasingly more difficult, building on the material learned in the preparation phase. Each team formulated a response to the problems; teacher led a comparison of the different responses and offered feedback.

After doing the activity in application phase, students were allowed to do the peer evaluation form to learn about themselves, how they interacted with other members and to receive honest and appropriate feedback about their strengths and weaknesses.

Lastly, in **assessment phase**, at the end of the course the teams designed their projects by selecting from the interesting topic they have learned from the whole semester. In this phase, students transferred learned reading strategies such as predicting the content of the text, summarizing, and finding the main idea and supporting details. They had opportunities to go beyond the text either by implementing the learned reading strategies that they could apply in their projects or by developing their creativity and higher order thinking skills.

1.3 Design the lesson plans based on the framework

1.3.1 The information from the first stage was compiled and became a theoretical framework for the development of a reading instruction.

1.3.2 The instruction and components were specified. A proposed framework of a reading instruction program using team-based learning approach used in this study has been modified.

1.3.3 Design the lesson plans

To achieve the reading instruction program using team-based learning approach, eight lesson plans consisted of information of activities and procedures were designed by the researcher. Each lesson plan included terminal objectives, enabling objectives, and teaching procedures: preparation phase, application phase, and assessment phase (See Appendix E). The researcher developed eight lesson plans using the following procedures:

The researcher distributed students the questionnaire to do the needs analysis before selecting the reading topics to suit their interests. The questionnaire asked about the theme of reading passage that the students liked most (See Appendix B). Concerning the needs survey, the questionnaire was distributed to the students in order to investigate their needs. One hundred and eighty Grade 10 students in Semester 2 Academic Year 2007 were asked to rank their needs. The data was analyzed in the form of frequency, percentage, and arithmetic means, and standard deviation.

The results of the questionnaire showed that the most preferable themes were food ($\bar{X} = 4.33$ S.D. = 0.79, myth ($\bar{X} = 4.28$ S.D. = 0.80, history ($\bar{X} = 3.93$ S.D. = 0.95, environment ($\bar{X} = 3.91$ S.D. = 1.07 and technology ($\bar{X} = 3.86$ S.D. = 1.02) respectively. While, the topic “poetry” was a topic that students were interested in the least ($\bar{X} = 3.19$ S.D. = 1.02)

Then, based on the results of students’ needs analysis, eight reading passages were selected from various resources. The reading passages related to the theme were selected. The theme “food” had 3 reading passages, “myth” had 2 reading passages, “history” had 2 reading passages, and “environment”. The reading texts are shown in Table 3.1.

Table 3.1: *The themes and reading passages of the lesson plans*

Themes	Reading Passages
1. Food	1. Pizza and Spaghetti Sauce Helps Fight Cancer 2. Dim Sum
2. Myth	3. Sphinx 4. Persephone
3. History	5. The History of Mickey Mouse 6. How bread and cake rise
4. Environment	7. Recycle Cans
5. Technology	8. Food for Space

3. Based on the results of students' needs analysis, the researcher developed each lesson based on a reading instruction according to team-based learning approach which included terminal objectives, enabling objectives, and teaching procedures: preparation phase, application phase, and assessment phase.

1.4 Verify the effectiveness of lesson plans based on the framework

The researcher conducted the following procedure to verify the effectiveness of lesson plans.

1.4.1 Construct evaluation forms to evaluate the instructional instruments

The researcher constructed evaluation forms for the lesson plan to assess the effectiveness of each lesson plan. The consent of the evaluation forms by the advisor was sought before they were given to the experts.

1.4.2 Ask the experts to validate the lesson plans based on the criteria on the form.

The lesson plans based on a reading instruction according to team-based learning approach were validated by three English language assessment experts who has experienced more than ten years (See lists of experts on Appendix C). These three lesson plans were selected from eight lesson plans because they are the representatives from the topic based on students' needs analysis. The results were calculated for mean scores and compared using the following criteria:

4.00 – 3.50	=	Excellent
3.49 – 2.50	=	Good
2.49 – 1.50	=	Average
1.49 – 1.00	=	Revise

Items scoring higher than 3 were reserved and those scoring lower than 3 were modified (see Table 3.2)

Three experts rated from 1 to 4 according to the extent to which they agreed with each issue. The evaluation criteria of the validation form were as follows:

4.00 – 3.50	means that the lesson plan was of 'very good' quality
3.49 – 2.50	means that the lesson plan was of 'good' quality
2.49 – 1.50	means that the lesson plan was of 'acceptable' quality
1.49 – 1.00	means that the lesson plan was of 'low' quality

Table 3.2: The results of lesson plan based on the model assessment

Assessment issues	Recycle Cans	Mickey Mouse	Food for Space	Total	Meaning
1. Terminal objective	3.60	3.00	4.00	3.50	very good
2. Enabling objectives	4.00	3.00	3.00	3.33	good
3. Teaching procedures					
- Preparation phase	4.00	4.00	4.00	4.00	very good
- Application phase	4.00	4.00	4.00	4.00	very good
- Assessment phase	4.00	3.00	3.00	3.33	good
Overall	3.92	3.40	3.60	3.63	very good

From Table 3.2, the results from the lesson plan evaluation form showed that the average grade of Terminal Objectives were 3.50, Enabling Objectives were 3.33. For the teaching procedures, preparation phase was 4.00; application phase was 4.00, and 3.33 for assessment phase. It implied that the lesson plans contained the majority of relevant characteristics. With an average grade of the overall lesson plan was 3.63, it could be implied that the overall lesson plans were very good.

1.5 Revise the lesson plans

The lesson plans were revised based on the information gained from the experts' comments. The experts provided some suggestions on the following topics were presented in Table 3.3:

Table 3.3: Experts' comments and suggestions on lesson plans

The lesson plan “Recycle Cans”	<u>Comments</u>
	<ol style="list-style-type: none"> <li data-bbox="855 344 1407 607">1. The lesson objective was changed to “Students will be able to match the pictures and speech bubbles correctly and rearrange them chronologically.” <li data-bbox="855 636 1407 831">2. The enabling objectives should be more specific and also give the examples of the new vocabulary. <li data-bbox="855 860 1407 1010">3. Timing of each phase should be more specified.
The lesson plan “Mickey Mouse”	<ol style="list-style-type: none"> <li data-bbox="855 1016 1407 1279">1. The lesson objective was changed to “Students will be able to match the pictures and the information of the History of Kitty correctly.” <li data-bbox="855 1308 1407 1503">2. The enabling objectives should be more specific and also give the examples of the new vocabulary. <li data-bbox="855 1532 1407 1686">3. Timing of each phase should be more specified.

Table 3.3: Experts' comments and suggestions on lesson plans (cont.)

The lesson plan “Food for Space”	<u>Comments</u>
	<ol style="list-style-type: none"> <li data-bbox="858 353 1398 539">1. The lesson objective was changed to “Students will be able to answer the questions about space correctly”. <li data-bbox="858 577 1398 763">2. The enabling objectives should be more specific and also give the examples of the new vocabulary. <li data-bbox="858 801 1398 904">3. Timing of each phase should be more specified.

Whilst the results from lesson plan based on expert validation indicated they contain good characteristics, they were revised according to the experts' suggestions and prepared for the pilot study.

1.6 Pilot the three lesson plans

After the revision of the reading instruction program using team-based learning approach and the lesson plans, a pilot study was carried out before the main study was undertaken. The sample group comprised of 40 students from Grade 10 Room 2 who were studying at Chulalongkorn University Demonstration School in 2008, semester 1.

Stage 2: Construct research instruments

There were 3 research instruments used in this study: SLEP test, eight sets of English reading achievement test for readiness assessment tests and student log.

1. The reading proficiency test (Pre-Post Test)

The researcher used the Secondary Level English Proficiency (SLEP) Form 4 as a pretest and posttest in order to assess students' reading comprehension ability. SLEP test is a test which measures non-native speaker's listening and reading comprehension ability. The SLEP test is designed to assess the proficiency in English of students entering grades 7 through 12 whose native language is not English. It is used primarily in secondary schools as well as by institutions and other organizations worldwide. There were two sections: listening comprehension (section 1) and reading comprehension (section 2), so the researcher selected only the reading comprehension section because of the purpose of the study. Reading Comprehension part consisted of 71 multiple-choice items. The test included written questions based on a cartoon, line drawings, multiple choices, and a literacy passage. Time allocation was about 45 minutes.

Originally offered on a limited basis at test centers established by Educational Testing Service (ETS), the SLEP test is now available to secondary schools in the United States and overseas through the SLEP School Service Program. In this study, the researcher received permission to use SLEP as a pre and post test from York Institute, a University English Language Institute which is an authorized agent for this test in Thailand.

2. Readiness Assessment Tests (RATs)

The researcher developed eight sets of readiness assessment tests in order to assess students' achievements in English reading comprehension. Each readiness assessment test consisted of a reading passage based on students' interests with five question items of multiple choices. To develop the question items of each test, the researcher reviewed the levels of questions proposed by Bloom (1956). Based on Bloom's taxonomy, the higher-order thinking: analysis, synthesis, and evaluation were considered as the characteristics of the tests. All forty question items were developed in accordance with these three levels of questions. The participants had to take each test twice: individually and as a team.

Table 3.4 shows some examples of higher-order level thinking of questions in the readiness assessment test.

Table 3.4

Examples of Higher-Order Thinking Levels of Readiness Assessment Tests

Levels of questions	Questions used in Readiness Assessment Tests
Level 4 Analysis	<ul style="list-style-type: none"> - We can infer from the passage that _____ (Bloom, Level 4, Analysis) ("Food for Space") - We can conclude from the passage that _____ (Bloom, Level 4, Analysis) ("How bread and cakes rise")
Level 5 Synthesis	<ul style="list-style-type: none"> -Logically rearrange the following items _____ (Bloom, Level 5, Synthesis) ("Dim Sum") - Which of the following pictures shows the life of a canned drink? (Bloom, Level 5, Synthesis) ("Recycle Cans")

Table 3.4***Examples of Higher-Order Thinking Levels of Readiness Assessment Tests (cont.)***

Levels of questions	Questions used in Readiness Assessment Tests
Level 6 Evaluation	<p>- What is the writer trying to do in the text? (Bloom, Level 6, Evaluation) (“ Recycle Cans”)</p> <p>- The best title for this passage would be _____ (Bloom, Level 6, Evaluation) (“ Mickey Mouse”)</p>

After developing the readiness assessment tests, the researcher gave the evaluation form to the 3 experts to examine the content validity and the language used in the reading passages and the question items, and to evaluate the test to ensure its constructing validity. The results from Readiness Assessment Tests evaluation form were calculated based on Index of Item Objective Congruence (IOC) criteria. There are two parts on the evaluation for: written comments and a three rating score for each item according to the following criteria:

+1 means the item is appropriate

0 means not sure

-1 means the item is not appropriate

IOC (Item- Objective Congruence Index) used to evaluate the consistency of each item.

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

IOC means the index of congruence

R means total score from the opinion of the experts

N means number of experts

Items scoring higher than 0.5 were reserved and those scoring lower than 0.5 were modified.

The IOC index ranges from -1 to 1. Items that have an index lower than 0.5 should be revised. The value of IOC for each test item was illustrated in (See Appendix H). From the results above, it showed that every item was higher than 0.50 of the IOC index, meaning that they were accepted by the experts.

The researcher measured the reliability of the reading comprehension test by the formula of Kuder – Richardson KR 20 was 0.92.

According to the criteria for the difficulty index and the discrimination index (Sukamolson, 1995, p 31), the item of which difficulty indices range between 0.20 and 0.80, and discrimination indices were equal or higher than 0.20 were chosen for the main study. All 40 items on the test were acceptable (See Appendix I). However, the experts commented on the mechanical errors of the tests including, spellings, punctuations, word choices, and sentence ambiguity. The researcher, then, revised the tests in accordance with the suggestions from the experts.

Finally, the researcher piloted the tests with students in the class which were not to be used in the main study.

Student log

The student log was designed to investigate students' attitude towards the reading instruction based on team-based learning approach.

In order to guide the students to write student log, the researcher gave prompt-questions for them,

- What did you learn from doing Readiness Assessment Process?

To answer how the reading instruction based on team-based learning approach affects students' English reading ability, the researcher designed student logs to gain students response. In weeks 4, 7, and 10 teacher asked students to freely express their opinions and comments about the reading instruction program based on team-based learning approach on student logs. Data from the student logs was analyzed by using content analysis.

Phase II: Implementation Phase

The duration of the experiment was 10 weeks. The procedures in conducting the experiment were as follows.

Stage 1: Identify population and samples

The population for this study was upper secondary students in the academic year 2008 of Chulalongkorn University Demonstration School, Bangkok. The participants for this study were forty students from grade 10 who enrolled in an elective course: Enrich Your English Reading Comprehension. This course was designed as an elective course which students could enroll to improve their reading ability. Each period lasted one hundred minutes. There were 40 students in this study consisting of 23 males and 17 females. They were selected by purposive sampling. All participants were from the Math-Science program. They had taken two required English courses from grades 7-9: Foundation English and English Skills.

The forty participants were divided into eight teams. Each team was formed in mix ability by the teacher by using the previous scores in "Foundation English" and "English Skill" subject from grade 9 as a criterion to diverse students into teams. The total scores were 400, 240 in Foundation English and 160 in English Skills. The

scores were randomly assigned into 8 teams. Each team consisted of five members with different of English ability based on scores from Foundation and English Skill. In addition, the five members in each were in the same groups for the entire semester (See Appendix K).

In order to answer the research question 2, the high, moderate, and low English ability students were also divided based on scores from Foundation and English Skill. The data obtained from the students' total scores of these subjects were statistically analyzed by using frequency distribution. As a result, eight students in high ability, twenty-four students in moderate ability, and eight students in low ability were assigned (See Appendix L). The relative frequency distribution of students' total scores was presented in Table 3.5.

Table 3.5: The relative frequency distribution of students' total scores

Total Scores	Frequency	English Ability
154-219	8	Low
218-283	24	Moderate
284-351	8	High

Stage 2: Pretest

Prior to the reading instruction program using team-based learning approach, all students take a pretest to assess their reading comprehension ability. The researcher administered the Secondary Level English Proficiency (SLEP) Tests Form 4 to the participants.

Stage 3: During the experiment

During the experimentation period, the students participated in the reading instruction based on team-based learning approach in which each plan lasted about 100 minutes. Each lesson consisted of three phases: preparation phase, application phase, and assessment phase. In each week students were given RAT as a formative test to evaluate their reading comprehension ability. Altogether the students took 8 RATs. In week 4, 7, and 10, the researcher assigned students to write their opinions towards the instruction in the student log.

Stage 4: Posttest

At the end of the reading instruction based on team-based learning approach students had to do the posttest. The researcher distributed all students the Secondary Level English Proficiency (SLEP) Test Form 4 in order to examine the effectiveness of a reading instruction based on team-based learning approach. This test was used as a summative test for this course.

Data Collection

The data collection was carried out before, during and after the main study. A reading instruction program based on team-based learning approach was administered to forty students at Chulalongkorn University Demonstration School for 10 weeks in the first semester in academic year 2008.

Prior to the reading instruction based on team-based learning approach (Week 1), the researcher distributed students SLEP test Form 4 in order to assess their reading comprehension ability.

The researcher implemented the reading instruction based on team-based learning approach for 10 weeks (See detail of the framework on p. 43). Student log was used to keep students' opinion toward the reading instruction based on team-based learning approach in week 4, 7 and 10.

At the end of the reading instruction based on team-based learning approach all of the students created their own team project. The researcher distributed students SLEP test Form 4 again as posttest in order to determine the effects of a reading instruction based on team-based learning approach on students' reading comprehension.

Data Analysis

Data analysis for research question 1

Research question 1 was concerned with the effects of a reading instruction program based on team-based learning approach on the students' reading comprehension ability. The independent variable was a reading instruction program based on team-based learning approach and the dependent was the mean scores on the SLEP test (reading section). The data obtained from the pre and post reading comprehension test was statistically analyzed by means of arithmetic means, standard deviation, and t-test (Paired samples test) in order to compare the differences in the students' reading comprehension ability.

In addition, the data obtained from students' average individual scores and students' average team scores of eight sets of readiness assessment tests were calculated in percentage in order to examine the improvements in students' reading when they perform a test individually and when they do as a team.

Furthermore, the opinion from the student log was transcribed and analyzed using content analysis in order to evaluate the effectiveness of the reading instruction based on team-based learning approach.

Data analysis for research question 2

Research question 2 was concerned with the English reading comprehension ability of students with different reading ability. The data obtained from the pre and post reading comprehension test were statistically analyzed by means of arithmetic mean, standard deviation, and t-test (Paired samples test) in order to examine the reading comprehension ability of students at different reading ability.

In addition, the data obtained from students' average individual scores and students' average team scores of eight sets of readiness assessment tests were statistically analyzed by means of arithmetic mean, standard deviation, and t-test (Paired samples test) in order to examine the reading comprehension ability of students at different reading ability.

In conclusion, three main instruments of research were used in this study, namely, the reading proficiency test, eight sets of reading English achievement test for RAT, and student log. Table 3.6 presents a summary of research instruments.

Table 3.6: Research Instruments

Instruments	Objectives	Time of distribution
1. The reading proficiency test (parallel forms)	To assess students' reading comprehension ability before and after the program.	Before and after the period of instruction
2. Eight sets of English reading achievement test for RAT	To assess student's reading comprehension ability in each period.	Before and after the period of instruction
3. Student log	To gain students' opinion toward a reading instruction based on team-based learning approach.	Week 4, 7 and 10

Summary

The study aims to study the effects of a reading instruction based on team - based learning approach on the students' reading comprehension ability, and the reading comprehension ability of students at different English ability. The research was conducted with 40 Grade 10 students at Chulalongkorn University Demonstration School for 10 weeks. The study compared student's reading comprehension mean scores before and after receiving a reading instruction based on team-based learning approach. Furthermore, the students' use of a reading instruction program based on team-based learning approach was evaluated through student log. The researcher's results and findings for each research question will be presented in Chapter 4.

CHAPTER IV

FINDINGS

This chapter presents the results from the study according to the research questions which were to what extent does a reading instruction based on team-based learning approach improve students' English reading comprehension ability and the following questions guided the research study and the hypotheses were set as follows:

Research question 1: To what extent does a reading instruction based on team-based learning approach improve student's English reading comprehension ability?

The first research question determined whether a reading instruction program based on team-based learning improved students' scores on reading comprehension ability. The researcher used Secondary Level English Proficiency (SLEP) test Form 4 (reading section) to assess students' English reading comprehension ability. The test consisted of the mean scores from the pre English reading comprehension test and the post English reading comprehension test and the means were compared using t-test. Within group paired sample t-test was used to find out whether there was a significant difference between the pretest and posttest mean scores of students. The students' pretest and posttest mean scores, standard deviations, t-values, and statistical significance are presented in Table 4.1.

Table 4.1

Means, t-values, and significance of the pre English reading comprehension test and the post English reading comprehension test

Mode of Assessment	\bar{X}	Mean Differences	t.	df.	Sig.
Pretest	19.85	- 3.15	- 7.67	39	.000*
Posttest	23.00				

* p<.05

The result of the t-test on Table 4.1 showed that the students earned a higher posttest mean score ($\bar{X} = 23.00$) than a pretest mean score ($\bar{X} = 19.85$). The mean differences was -3.15 and the t value was -7.67 with a degree of freedom of 39 (n = 40). A significant difference between the mean scores from the pre and post reading comprehension test was found at a significant level (p < .05). The hypothesis which stated that there would be significantly higher average scores on the post English reading comprehension test than the pre English reading comprehension test was accepted. In other words, students' reading comprehension ability significantly improved after receiving a reading instruction based on team-based learning approach.

The value of effect size was used to measure the magnitude of the effects of using a reading instruction based on team-based learning approach on students' reading comprehension ability, so the effect size was calculated. The result of the mean effect size correlation (r_Y) was 0.77 and Cohen's d was 2.45, which represented large effect size according to Cohen's (1998). The effect size of a reading instruction based on team-based learning approach on students' reading comprehension ability was illustrated in Table 4.2.

Table 4.2: The effect size of a reading instruction based on team-based learning approach on students' reading comprehension ability

Cohen's d	Effect Size ($r_{y\lambda}$)	Percentile Standing Percent	Meaning
2.45	0.77	79.00	Large

From Table 4.2, the effect size of 0.77 represents the large effect size. It showed that the posttest mean scores on English reading comprehension were higher than the pretest mean scores.

In conclusion, it shows that students improved their reading comprehension after receiving a reading instruction based on team-based learning approach.

Apart from examining the scores of students' English reading ability after receiving a reading instruction based on team-based learning approach, the researcher also examine the improvement in students' reading ability when they perform a test individually and when they do as a team. Eight readiness assessment tests were used to investigate the improvements in students' reading ability when they perform a test individually and when they do as a team. The researcher calculated the percentage of students' improvement over individual scores by using the formula was presented in Figure 4.1:

Figure 4.1: How to calculate percentage of students' improvement over individual scores

$$\frac{(\text{Average team score} - \text{average individual score}) \times 100}{\text{Total score of each RAT (5) x average individual score}} = \text{Improvement over individual score}$$

Total score of each RAT (5) x average individual score

For example:

$$\frac{(4.88 - 1.13) \times 100}{(5 \times 1.13)} = 67\%$$

Table 4.3 presented the average individual score, average team scores, and the percentage of improvement over individual score of the participants in this study.

Table 4.3: Percentage of students' improvement after taking a test as a team.

Student	Team	Average Individual Score	Average Team Score	Improvement over individual score (%)
1	1	1.13	4.88	67
2	6	1.13	4.88	67
3	7	1.13	4.75	64
4	3	1.25	4.88	58
5	4	1.25	4.88	58
6	5	1.25	4.75	56
7	1	1.50	5.00	47
8	8	1.50	4.88	45
9	6	2.00	4.88	29
10	4	2.13	4.88	26
11	5	2.13	4.88	26
12	7	2.13	4.75	25
13	1	2.25	4.88	23
14	2	2.25	4.88	23
15	3	2.25	4.88	23
16	7	2.38	5.00	22
17	8	2.25	4.50	20
18	2	2.50	5.00	20
19	3	2.50	4.88	19
20	6	2.50	4.88	19
21	8	2.63	4.88	17
22	1	2.63	4.88	17

Student	Team	Average Individual Score	Average Team Score	Improvement over individual score (%)
23	2	2.63	4.88	17
24	3	2.63	4.88	17
25	4	2.63	4.88	17
26	5	2.63	4.88	17
27	5	2.75	5.00	16
28	6	2.63	4.75	16
29	7	2.50	4.50	16
30	8	2.63	4.50	14
31	4	2.88	4.75	13
32	1	3.00	4.88	13
33	3	3.13	4.88	11
34	4	3.13	4.75	10
35	5	3.38	4.88	9
36	1	3.63	4.88	7
37	2	3.88	4.88	5
38	6	3.88	4.88	5
39	7	4.13	5.00	4
40	8	3.88	4.50	3

The results from Table 4.3 revealed that there was some improvement in students' reading ability when they perform a test individually and when they do as a team. Some improvement in scores for teams was consistently higher than the scores for individuals (see details in column "Improvement score over individual score (%)" on page 68-69). Improvements in team scores over the individual scores seemed to suggest that discussion during the team tests may help each student to understand the reading passage better.

Apart from there was evidence indicated that students improved their reading comprehension ability after receiving a reading instruction based on team-based learning approach. Students' opinions on student log also indicated the factors that helped them improve their reading comprehension ability.

In this study, the researcher conducted further analysis by designing student log to gain students' responses. In week 4, 7, and 10 teacher asked students to freely express their opinions and comments about a reading instruction based on team-based learning approach on student log. The question from the student log was:

- What did you learn from doing Readiness Assessment Process?

Data from the student log was analyzed by using content analysis and was presented in percentage.

Table 4.4 showed the students' opinions about what they have learned from a reading instruction based on team-based learning approach.

Table 4.4

Students' opinions towards a reading instruction based on team-based learning approach.

Topics	Week 4		Week 7		Week 10	
	Frequency	%	Frequency	%	Frequency	%
	(n= 39)		(n=37)		(n=39)	
Working in team	24	64.80	28	75.60	30	76.90
Develop reading skill	18	46.10	22	59.40	23	58.90
Responsibility	12	30.70	16	43.20	13	33.30
Leadership	9	23.00	7	18.90	12	30.70

From table 4.4, the students' opinions which stated that a reading instruction based on team-based learning approach can help them work together in team represented the highest percentage (week 5 = 64.80%, week 8 = 75.60%, and week 11 = 76.90%). Furthermore, they thought that they could develop reading skill: week 5 (46.10%), week 8 (59.40) and week11 (58.90%). In addition, some of the students thought that using a reading instruction based on team-based learning approach can help increase their responsibility and leadership respectively.

In all three phases of teaching procedures: preparation, application, and assessment phase, students could develop their reading skills from several factors.

During preparation phase, students were assigned to read the passage before class so, it was necessary for them to be responsible in pre-class preparation. Student had an opportunity to get a good introduction to the information and ideas of the passages by integrating with their prior knowledge or using reference materials. If individual student failed to complete the pre-class assignments, they will be unable to give-and-take interaction in their team. Lack of being responsibility in pre-class preparation made them feel worried about being offensive from peers. In contrast, being responsibility in pre-class preparation helped increase leadership during discussion with their peers. In addition, individual scores and team scores are component of the course grade so, students were motivated to prepare themselves before class.

Furthermore, all teaching procedures promoted students work collaboratively. In preparation phase, students had to work with peers in their team to find the team answer. And in application phase, each team could do the teacher-created activity through working collaboratively in team. During discussion in team, they had the opportunity to learn reading strategies and exchanged the information from their peers.

In order to understand the result clearly, some examples of student log were shown as follows:

Working in team

1. “ได้เรียนรู้การทำงานเป็นทีม ได้ปรึกษากับเพื่อนๆในทีม การทำงานเป็นทีมทำให้ฉันได้พัฒนาทักษะการทำงานร่วมกับผู้อื่น และได้รับความรู้เพิ่มเติมจากการทำงานเป็นทีม” (excerpt from Tao’s student log, Week 4)

“During doing RAP, I can learn how to work in team and discuss among friends in team. I have found that working in team helped me develop skills in working with others and help me acquire further knowledge through working in a team”

2. “ได้ทำงานเป็นทีมกับเพื่อน ๆ ได้ช่วยเหลือกันกิจกรรมต่างๆ ได้แลกเปลี่ยนความรู้กัน ช่วยกันคิดและจัดสัใจ และร่วมมือกันแก้ปัญหาต่าง ๆ” (excerpt from May’s student log, Week 7)

“During the Readiness Assessment Process, I can learn how to work in team with my friends, help each other in doing activities. Team-based learning instruction enables me to participate in sharing information, making decisions, and solving problems.

3. “ในการทำกิจกรรม หนูได้มีโอกาสแลกเปลี่ยนความรู้ซึ่งกันและกัน ได้ฝึกการทำงานเป็นทีมและสร้างความสามัคคีในทีม การได้มีโอกาสพูดคุยกันเ็นทีม ทำให้หนูเพิ่มความสามารถในการคิดแก้ปัญหาได้ สร้างความสัมพันธ์อันดีให้กับสมาชิกในทีมด้วย” (excerpt from Pim’s student log, Week 10)

“While doing the activities, I have learnt how to share some knowledge and work together in team. Being part of my team discussion can improve my ability to think through a problem. It also creates a good relationship among members in the team”.

Develop reading skills

1. “หนูได้เรียนรู้วิธีการเดาคำศัพท์ วลี หรือประโยคที่ยากๆในบทอ่าน และอาจารย์มีการอธิบายเพิ่มเติมโดยดูจากเนื้อหาของบทอ่าน” (excerpt from Dear’s student log, Week 4)

“I have learnt how to guess unfamiliar words, phrases, and sentences from the text. And the teacher also gave me some further explanation by considering from the content of the text.....”.

2. “หนูคิดว่า หนูได้เรียนรู้เทคนิคการอ่านเพิ่มขึ้น และในตอนท้ายอาจารย์สอนเทคนิคการจับใจความสำคัญของเรื่อง และตอบคำถามจากเรื่องที่อ่านได้อย่างถูกต้อง” (excerpt from Arm’s student log, Week 7)

“I think I have learnt much more reading techniques and at the end of class the teacher taught me how to find the main idea and answer the questions from the text appropriately.....”.

3. “หนูได้ประโยชน์จากการเรียนแบบนี้มาก เพราะได้ฝึกการอ่านเรื่อง แล้วตอบคำถามได้อย่างถูกต้อง ได้ฝึกการอ่านจับใจความสำคัญของเรื่องมากขึ้น รู้จักวิเคราะห์ข้อมูลที่ได้อ่าน” (excerpt from Gob’s student log, Week 10)

“I have got benefits a lot because I can practice how to read and answer the question from the text correctly. In addition, I have a chance to practice how to find the main ideas and analyze the information in the text.....”.

Responsibility

1. “ผมรู้สึกว่าคุณต้องมีความรับผิดชอบมากขึ้น เพราะผมต้องเตรียมอ่านบทอ่านมาก่อนเข้าเรียน เพื่อจะทำให้เวลาทำ test ของผมเอง และ team test ผมและทีมผมจะได้คะแนนดี ๆ” (excerpt from Pu’s student log, Week 4)

“In my opinion, I have much more responsibility because the passage will be prepared before class. I want to do the good score for my individual test and team test.....”

2. “ตอนที่ทำกิจกรรมใน Application พวกเราแต่ละคนต้องรับผิดชอบงานส่วนของตัวเอง เพื่อมารวมกันเป็นงานของทีม เช่น กิจกรรม ของ Recycle cans และ Persephone เป็นต้น” (excerpt from Lek’s student log, Week 7)

“While doing the activities in application phase, we have self-responsibility to make our team perfectly, for example, activities in Recycle Cans and Persephone, etc.....”

3. “หนูโชคดีที่ได้อยู่ในทีมที่ทุกคนมีความรับผิดชอบมาก กลุ่มหนูจะพยายามแบ่งหน้าที่กันทุกครั้งที่ต้องทำ Application เวลาทำงานก็ต้องอาศัยความสามัคคีของทีมและแลกเปลี่ยนความคิดเห็นซึ่งกันและกัน” (excerpt from Tik’s student log, Week 10)

“Luckily, everyone in our team has responsibility in doing the activities in application phase. We cooperate with one another and share different ideas together.....”.

Leadership

1. “การทำงานเป็นทีม ทำให้หนูได้ฝึกการเป็นผู้นำและผู้ตามที่ดี ยอมรับฟังความคิดเห็นผู้อื่น” (excerpt from Pop’s student log, Week 4)

“Working in team helps me to learn a lot in being a good leader and follower and helped me develop more respect for the opinions of others.....”.

2. “ทำให้มีภาวะผู้นำ กล้าแสดงออก กล้าแสดงความคิดเห็น และพัฒนาทักษะการเป็นผู้นำด้วย” (excerpt from Niam’s student log, Week 7)

“I have more leadership, dare to express my opinions in public and also develop cooperative leadership skills.”

3. “ได้ฝึกการเป็นผู้นำและผู้ตามที่ดี จนสามารถปรับตัวและทำงานร่วมกับผู้อื่นได้อย่างมีความสุข” (excerpt from Wee’s student log, Week 10)

“I can practice how to be a good leader and follower and also adjust myself to work with others happily”.

From student log, it was concluded that a reading instruction based on team - based learning approach was used in order to help students improve their reading comprehension ability after taking a test as a team. Furthermore, the benefits of using a reading instruction based on team-based learning approach could help them work together in team, develop reading skill, increase their responsibility and leadership respectively.

Research question 2: How do high, moderate, and low English ability improve their reading comprehension ability?

The second research question determined whether a reading instruction program based on team-based learning improved reading comprehension ability of students with different English ability. The researcher used Secondary Level English Proficiency (SLEP) test Form 4 (reading section) to assess students' English reading comprehension ability. The test consisted of the mean scores from the pre English reading comprehension test and the post English reading comprehension test and the means were compared using t-test. Within group paired sample t-test was used to find out whether there was a significant difference between the pretest and posttest mean scores of students with different reading abilities. The students' pretest and posttest mean scores, standard deviations, t-values, and statistical significance are presented in Table 4.5.

Table 4.5: Means, standard deviations, mean differences, t-values, degrees of freedom, the significances of the English reading comprehension pretest and posttest scores of students with different English ability

Levels of English Ability	\bar{X}	S.D.	Mean differences	t.	df.	Sig.	Effect sizes
High ability							
Pretest	53.12	4.48					
Posttest	59.00	3.62	-5.87	-8.48	7	.000*	0.58
Moderate ability							
Pretest	37.08	5.58					
Posttest	45.83	4.36	-8.75	-8.26	23	.000*	0.65
Low ability							
Pretest	30.25	7.75					
Posttest	36.87	6.85	-6.62	-3.29	7	.013*	0.41

*p < .05

The results from Table 4.5 reported that the posttest mean scores of the English reading comprehension test of students with different English ability were higher than the pretest mean scores. The mean differences were -5.87 for the students with high ability, -8.75 for the students with moderate ability, and -6.62 for the students with low ability. The t-values were -8.48, -8.26 and -3.29 respectively. It is apparent that there were significant differences between the pretest and posttest mean scores of the English reading comprehension test of all levels of English ability at a significant level ($p < .05$).

The effect sizes of the instruction on the participating students' reading comprehension ability was 0.58 for high ability, 0.65 for moderate ability, and 0.41 for low ability, all meaning medium effect.

In sum, students for all three groups improved reading comprehension ability after receiving a reading instruction based on team-based learning approach.

The analysis shown on Table 4.5 was focused on the summative test and thus the pretest and posttest were compared. In addition, the researcher also examined whether the improvements could be observed in formative using RATs 1-8. Mean, standard deviations of eight Readiness Assessment Tests when the low, moderate, and high English ability take a test individually and when they take as a team also indicated that students with different reading ability improved their reading comprehension ability after receiving a reading instruction based on team-based learning approach. The mean and standard deviations are lists in Table 4.6.

Table 4.6: Mean, standard deviations of eight Readiness Assessment Tests when the low, moderate, and high English ability take a test individually and when they take as a team.

Levels of English Ability	RI	RII	RIII	RIV	RV	RVI	RVII	RVIII
Low								
\bar{X} (Individual)	1.22	1.22	1.56	1.33	1.33	1.33	1.22	1.56
S.D. (Individual)	0.67	0.44	0.53	0.71	0.50	0.50	0.44	0.53
\bar{X} (Team)	4.78	4.89	5.00	4.78	4.56	4.89	5.00	4.78
S.D. (Team)	0.44	0.33	0.00	0.67	0.53	0.33	0.00	0.44
Moderate								
\bar{X} (Individual)	2.24	2.88	2.60	2.24	2.60	2.52	2.76	2.52
S.D. (Individual)	0.72	0.83	0.58	0.52	0.65	0.77	0.60	0.71
\bar{X} (Team)	4.92	4.88	5.00	4.76	4.44	4.88	5.00	4.72
S.D. (Team)	0.28	0.33	0.00	0.66	0.51	0.33	0.00	0.46
High								
\bar{X} (Individual)	3.83	3.50	4.00	4.00	3.67	3.83	3.67	3.83
S.D. (Individual)	0.75	0.55	0.63	0.63	0.52	0.41	0.52	0.75
\bar{X} (Team)	4.83	4.83	5.00	4.67	4.67	4.83	5.00	4.83
S.D. (Team)	0.41	0.41	0.00	0.82	0.52	0.41	0.00	0.41

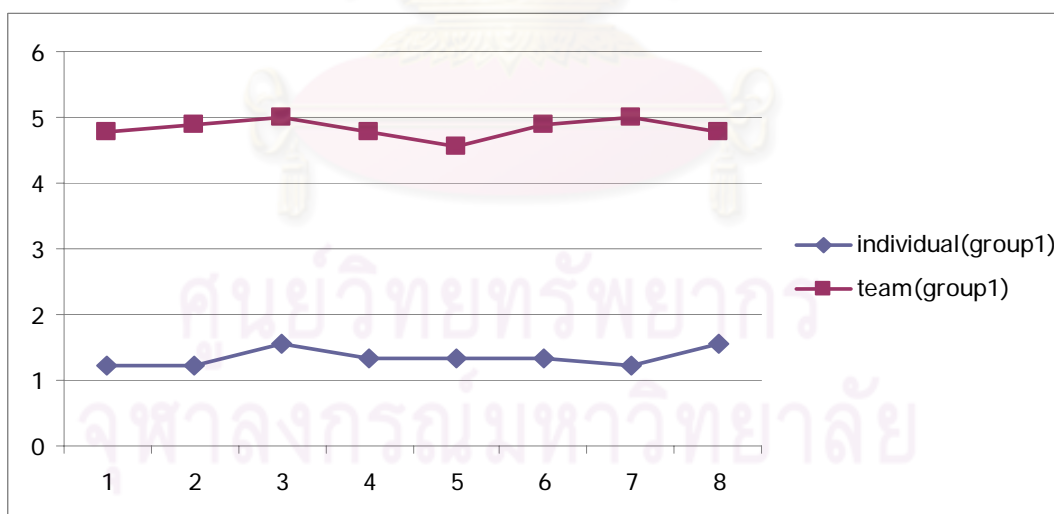
The findings from table 4.6 indicated that the range of the mean scores of eight students in low reading ability when they take individually was between $\bar{X} = 1.22$ and $\bar{X} = 1.56$. And the range of the mean scores when they take a test as a team was between $\bar{X} = 4.56$ and $\bar{X} = 5.00$. For twenty-four students in moderate reading ability, the range of the mean scores of when they take individually was between $\bar{X} = 2.24$ and $\bar{X} = 2.88$. And the range of the mean scores when they take a test as a team was between $\bar{X} = 4.44$ and $\bar{X} = 5.00$. The range of the mean scores of eight students

in high reading ability when they take individually was between $\bar{X} = 3.50$ and $\bar{X} = 4.00$. And the range of the mean scores when they take a test as a team was between $\bar{X} = 4.67$ and $\bar{X} = 5.00$.

In conclusion, the range of reading ability scores of students with different English ability when they take a test individually and when they take as a team consistently progress across RATs.

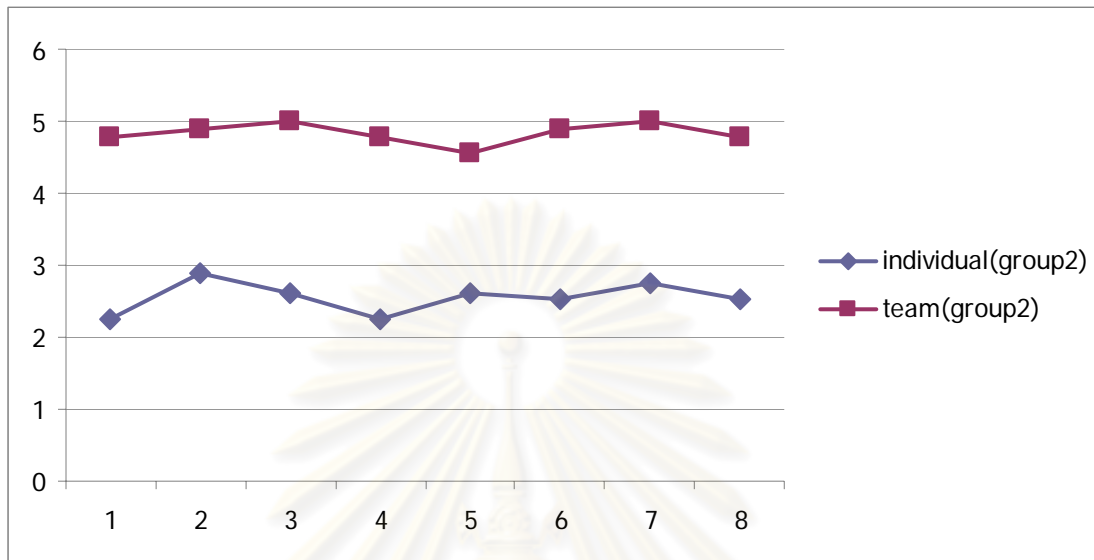
The findings in Table 4.6 revealed that there were some differences in the range of reading ability scores of low, moderate, and low English ability students. The range of reading ability scores of students with different English ability are shown in Figure 4.2, 4.3, and 4.4 respectively.

Figure 4.2: Mean, standard deviations of eight Readiness Assessment Tests when eight students at low English ability take a test individually and when they take a test as a team.



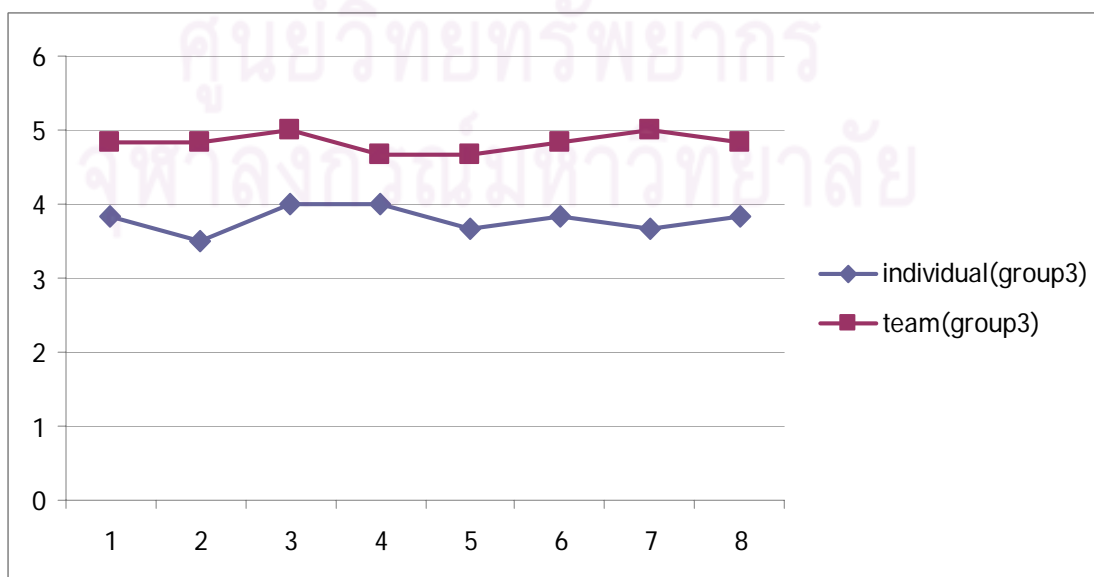
From figure 4.2, it indicated that students with low English ability could improve their performance when they did the tests as a team and this was consistent across RATs.

Figure 4.3: Mean, standard deviations of eight Readiness Assessment Tests when twenty four students at moderate English ability take a test individually and when they take a test as a team.



From figure 4.3, it indicated that students with moderate English ability could improve their performance when they did the tests as a team and this was consistent across RATs.

Figure 4.4: Mean, standard deviations of eight Readiness Assessment Tests when eight students at high English ability take a test individually and when they take a test as a team.



From figure 4.4, it indicated that students with high English ability could improve their performance when they did the tests as a team and this was consistent across RATs.

With these findings, it was confirmed that students with different English ability significantly improved their scores after taking a test as a team. When considering the data from Figure 4.2, 4.3 and 4.4, they revealed that the students with low English ability improved the most while the students with high English ability improved the least.

Summary

This chapter shows the findings under two main aspects regarding students' reading comprehension ability, and the English reading comprehension ability of students with different reading ability.

Regarding the effects on English reading comprehension ability, upper secondary students earned higher posttest mean score than a pretest mean scores on the SLEP test. The hypothesis which stated that there were significantly higher average scores on the post English reading comprehension test than the pre English reading comprehension was accepted. In addition, the data obtained from students' average individual scores and students' average team scores of eight sets of readiness assessment tests were calculated in percentage in order to examine the improvements in students' reading when they perform a test individually and when they perform as a team.

And the second hypothesis which stated that students with different reading ability improved their English reading comprehension ability after learning through a reading instruction based on team-based learning approach. In addition, the data obtained from students' average individual scores and students' average team scores of eight sets of readiness assessment tests were statistically analyzed by means of arithmetic mean, standard deviation, and t-test (Paired samples test) in order to examine the reading comprehension ability of students at different reading ability.

Thus, the findings from this study showed that a reading instruction based on team-based learning approach enhanced students' reading comprehension ability.



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CHAPTER V

SUMMARY, DISCUSSION AND RECOMMENDATIONS

This chapter has 5 parts. The first part begins with a brief summary of the study. The second part provides the results of the study. The third part includes a discussion of the findings. The fourth part presents the pedagogical implications from the findings. The last part includes recommendations for further research.

Summary of the study

The objectives of this study were to: 1) investigate the effects of using a reading instruction program based on team-based learning approach on students' English reading comprehension ability, and 2) investigate the effects of using a reading instruction program based on team-based learning approach on English reading comprehension ability of students with different reading ability. This study was a single group pretest and posttest design. The population of this study was upper secondary school at Chulalongkorn University Demonstration School in the first semester, academic year 2008. The sample of this study was 40 students. They enrolled in an elective course "Enrich Your English Reading Comprehension" using a reading instruction based on team-based learning approach as a treatment for this research.

The design of using a reading instruction based on team-based learning approach for Chulalongkorn University Demonstration School students consisted of 2 phases. Phase one was concerned with the preparation of a reading instruction program based on team-based learning approach, where the instruments were developed and pilot tested to validate them. Phase two dealt with the implementation

of the instruction. The implementation process was conducted in order to examine the effects of a reading instruction program based on team-based learning approach on students' reading comprehension ability.

The participants comprised forty Grade 10 students from Chulalongkorn University Demonstration School who participated in a reading instruction program based on team-based learning approach. Prior to the research period, the SLEP test Form 4 was distributed to the participants in order to assess their reading comprehension ability. At the end of the reading instruction program based on team-based learning approach, the SLEP test Form 4 was administered in order to examine the effects of the reading instruction program based on team-based learning approach on students' reading comprehension ability.

The procedures of a reading instruction program based on team-based learning approach in this research consisted of 6 parts. A reading instruction based on team-based learning approach was developed based on the following steps: 1) explore the theoretical framework, 2) analyze data from students' needs analysis, 3) construct a reading instruction based on team-based learning approach and verify the effectiveness of the instruction, 4) adopt the reading passages and questions from various sources as Readiness Assessment Tests (RAT) and validated the test, 5) design the lesson plans based on the instruction and verify the lesson plans, and 6) pilot the lesson plans. The researcher described the process of the reading instruction based on team-based learning approach and the lesson plans as follows.

Step one, the researcher studied the basic concepts from the documents and related research: journals, documents, articles, research and thesis that related to team-based learning approach.

Step two, the gained results from needs analysis were used to develop team-based learning English reading instructional materials (RAT). The topics will be varied according to students' interests. The results presented that the students were interested in the topics "food", "myth", "history", "environment", and "technology".

Step three, the teacher designed the lesson plans based on a reading instruction based on team-based learning. Each lesson plan consisted of the title of the unit, objectives, vocabulary, and teaching procedures.

Step four, three experts evaluated the effectiveness of the lesson plans and a reading instruction based on team-based learning approach. The research instruments were revised according to the experts' comments.

Step five, the researcher piloted the research instruments with 40 students in grade 10 in the second semester, academic year 2007. The pilot study was carried out before the main study. Three lesson plans and reading instructional materials (RAT) were revised based on the information gained from the pilot study.

To conduct the experiment to investigate the effectiveness of the included four stages were 1) to pretest; 2) to assign the instruction; 3) to posttest; and 4) to evaluate the effectiveness of the instruction.

Stage one, prior to the reading instruction based on team-based learning approach, all students take a pretest to assess their reading comprehension ability. The researcher administered students the Secondary Level English Proficiency (SLEP) Tests Form 4 (reading section) to students with the time allocation of 45 minutes.

Stage two, during the main study, the students participated in a reading instruction based on team-based learning approach in Enrich Your English Reading Comprehension course for 10 weeks. Each plan lasted about 100 minutes. Each period consisted of three major phases: preparation phase, application phase, and assessment phase.

Stage three, at the end of the main study, all of the students had to do the posttest (SLEP) Tests Form 4 in order to examine the effectiveness of a reading instruction based on team-based learning approach. Besides, student logs were assigned to write their opinions.

Stage four, arithmetic mean, standard deviation, and t-test were used in order to compare the differences in the students' reading comprehension ability before and after receiving a reading instruction based on team-based learning approach. In addition, the students' opinions written in the learning logs was transcribed and analyzed qualitatively.

In order to answer the first question, "To what extent does a reading instruction program based on team-based learning approach improve student's English reading comprehension ability?", the data obtained from pre and post test were analyzed by means of an arithmetic mean and t-test in order to compare the different scores before and after taking the reading instruction based on team-based learning approach.

To answer the second research question, "How do high, moderate, and low English ability students improve their reading comprehension ability?", the data obtained from the individual and team scores were statistically analyzed by means of arithmetic means, standard deviation, and t-test (Paired samples test) in order to examine the reading comprehension ability of students with different English ability.

Summary of the results

The findings of the study were summarized in two main aspects: (1) the students' English reading comprehension ability, and (2) The reading comprehension ability of students with different English ability.

1. English reading comprehension ability

In response to the research question one, the posttest mean scores of the English reading comprehension test were significantly higher than the pretest mean scores at the .05 level. In other words, students improved their reading comprehension ability after receiving a reading instruction based on team-based learning approach.

The effect size of a reading instruction based on team-based learning approach on students' reading comprehension ability was 0.77, which indicated the large effect size. It can be concluded that the reading instruction based on team-based learning approach had a large effect on promoting students' reading comprehension ability.

In addition, the data obtained from students' average individual scores and students' average team scores of eight sets of readiness assessment tests were calculated in percentage in order to examine the improvements in students' reading in the performance when they perform a test individually and when they perform as a team.

2. The reading comprehension ability of students with different English ability

In response to the research question two, the posttest mean scores of the English reading comprehension test of students with different English ability were significantly higher than the pretest mean scores at the .05 level. In other words, students with different English ability improved their reading comprehension ability after receiving a reading instruction based on team-based learning approach.

The effect sizes of the instruction on the participating students' reading comprehension ability are 0.58 for high ability, 0.65 for moderate ability, and 0.41 for low ability, all meaning medium effect.

In addition, the data obtained from students' average individual scores and students' average team scores of eight sets of readiness assessment tests were statistically analyzed by means of arithmetic mean, standard deviation, and t-test (Paired samples test) in order to examine the reading comprehension ability of students at different English ability.

In summary, the two hypotheses were accepted. There were significantly higher average scores on the post English reading comprehension test and there were significantly higher average scores of students with different English ability on the post English reading comprehension test. Therefore, it can be concluded that a reading instruction based on team-based learning improved students' reading comprehension ability. In addition, the data obtained from student logs indicated that the students had a good attitude towards a reading instruction based on team-based learning approach.

Discussions

The main objectives of this study were 1) to study the effects of a reading instruction based on team-based learning approach on students' English reading comprehension ability; and 2) to examine the English reading ability scores of students with different English ability.

The effects of the team-based learning approach on reading comprehension ability

In this part, the findings concerning the reading instruction program based on team-based learning approach enhance reading comprehension ability were discussed.

The use of higher-thinking level questions

The findings from the mean scores on the pretest and posttest of the Secondary Level English Proficiency (SLEP) test revealed that the reading instruction program based on team-based learning approach helped students improve the students' reading comprehension ability. In this study, the benefits of the reading instruction program based on team-based learning approach on reading comprehension ability resulted from the provided activities in a reading instruction. With the use of these activities, the participants engaged in Readiness Assurance Process, which involved five major components: assign reading, individual test, team test, appeal, and instructor feedback. In each period, the participants were encouraged to improve their reading comprehension ability through these activities. The selected reading passage and five question items called Readiness Assessment Tests (RATs) were used as a major instruction material in each period. Using the questions in higher-order thinking levels, the researcher encouraged the participants to improve their reading comprehension ability during the teaching procedures. In this study all forty questions were developed based on the cognitive domain levels of Bloom's taxonomy (1956) in the higher-thinking level: analysis, synthesis, and evaluation. The researcher used the questions focused on important concepts, not specific details that required increasingly complex levels of understanding, analysis, synthesis, and evaluation. The questions of RAT required students to analyze what they learned from the text and emphasized the key concepts, enhanced reading developed a deeper understanding of the concepts themselves. Furthermore, members in team helped each other acquire

reading strategies and team answer through team discussion. Teacher's role is a facilitator who encouraged students to work with their peers to develop reading skills. The reading strategies, such as helped each other analyze unfamiliar words, guessed the meaning of the text, used world knowledge, identified inferred main ideas, used context to build meaning and aided comprehension were implemented.

The results from the present study are consistent with those of Letassy and others (2008), Dickerson, (2006), Parmelee and others (2002), Hunt and others (2002), Michaelsen and others (2004), Freeman and others (2006). In these studies, the researchers found that team-based learning approach help students improve their reading in L1 in many content areas.

Furthermore, the results from student comments from the fourth, seventh, and tenth week indicated that a reading instruction based on team-based learning approach improved students' reading comprehension. Therefore, the findings from student log provided evidence that a reading instruction program based on team-based learning approach improved students' reading comprehension ability.

Taking an example of a student from student's log, he commented that his posttest scores after taking a reading instruction based on team-based learning approach were higher than the pretest.

"I think I can improve my reading comprehension ability after taking this course. All reading passages and question items encouraged me to analyze and evaluate the content of the passage, not just memorizing the details in the passage. I have a chance to develop my reading skills with peers, they help me clarify the question items in the passages. At first I have only a few scores in taking the pretest, but finally, my scores was increased when I take the posttest".

The collaborative working in team

With the use of the questions in higher-order thinking levels, students were encouraged to discuss among members in team in the reading instruction in this study. The researcher created conditions based on team-based learning approach which motivated students to prepare for and engage in give-and-take discussions.

Furthermore, the effective way to help students improve their team skills are being together for the whole semester, conducting their own interactions, and giving and receiving immediate feedback. First, in each period, students were required to read the assigned reading passage and came to the next class period to take a test twice: individually and as a team. Second, after taking a test individually, students had a chance to interact and exchange their information, background knowledge, and ideas among five members in team to find their team answer. The collaboration in team helped students from each other. A typical scenario was one member initiating the process by polling his or her peers to determine how they answered each question. Without exception, the team discussion enabled members to learn from each other. In addition, quieter members tended to be rewarded for talking and assertive members tend to be rewarded for listening from others. Fourth, students were allowed to appeal any questions that were missed on the team test. In this step, each team worked together to find the reasons to support their appeals. Finally, the immediate feedback from teachers clarified any confusion. Students had a chance to share their opinions with teachers and their peers. Furthermore, students were also required to give-and-take discussions among members in team in application activities.

Taking an example of a student from student's log, he commented that he developed collaborative working with others.

“During doing RAP, I can learn how to work in team and discuss among friends in team. I have found that working in team helped me develop skills in working with others and help me acquire further knowledge through working in a team”

In sum, in this study students had opportunities to work collaboratively in team, interacted and exchanged their knowledge, background knowledge and ideas with the teacher and their peers in team.

This finding was consistent with the study of (Freeman et al, 2006; Wiener et al, 2009) that the team-based learning approach helped promote collaborative learning.

Immediate Feedback

Moreover, during taking the team test in preparation phase, an innovative ‘scratchable’ form called IF-AT forms (Immediate Feedback Assessment Technique) was used to stimulate students' interests. The IF-AT answer sheets had a particularly powerful and positive effect on the team. In this study, the use of IF-AT answer sheet enabled each team to be provided with immediate feedback about the accuracy of their answers to each question in readiness assessment tests. Scratching off a thin opaque film covering to find the star or symbol appears indicated each team found the correct answer. Using IF-AT testing enables each team to continue answering a question until they discover the correct answer.

For example, a student commented on student log that *“I'm quite interested in a reading instruction based on team-based learning approach. Teacher gave me the reading passages that motivated my interests. It's challenging to scratch on IF-AT answer sheet to get full credit at the first time. It's like a game”*.

The results from the present study are consistent with those of Michaelsen and others (2003).

In sum, the IF-AT facilitated learning and improved students' retention of the information being tested. In addition, IF-AT stimulated students to be active in the learning process and allowed them to interact with other members in team, and reduced the students' anxiety in taking the test. The IF-AT is game-like, capturing students' attention and making assessment more interactive and fun.

In conclusion, even though there has been no research on team-based learning approach direct effects on reading comprehension in ESL classroom, the study asserted that a reading instruction based on team-based learning approach can be used as an effective way in teaching reading for ESL students. This course is an alternative for Thai teachers to deal with the problems in teaching reading in ESL class. In this study, students were motivated to prepare themselves before class to perform well both as individuals and as teams in Readiness Assessment Process. It promoted self-directed learning, student accountability, and knowledge application. In addition, students were fostered to do the work in team, increasing student-student interaction, increasing opportunities to practice higher-level thinking and the problem-solving process.

Pedagogical Implications

This present study focused on exploring the new instruction for English reading comprehension. The researcher developed a new framework to promote students' reading comprehension. The finding from this study implicated some suggestions for the English teachers and further study.

First, teachers should select interesting topics of reading texts from various types of resources. The reading texts should be relevant to students' interests or needs, genders, age, and current issues. The students' preferences had an effect on the cooperation in the activities. As shown in the present study, it is cleared that teachers conducted a need analysis before developing the course.

Secondly, dealing with the implementation of team-based learning instruction, teachers should plan to design the lesson plan especially, the application phase based on students' interests. The activities should be to promote their potentiality, creative thinking, discussion and cooperation within a team. Good application-focused group assignments should foster give-and-take discussions. As shown in this study, the researcher designed the application exercises to serve students' interests.

Thirdly, based on the student log, some students express their opinions that after taking individually and as a team, teacher should offer additional comments that are necessary for a correct understanding. In this study, teachers encouraged students to ask for information for better understanding.

Fourthly, it is suggested that a reading instruction based on team-based learning procedures must be explained to the students to ensure their understanding of why the teacher is using this approach, and how the class will be conducted. A reading instruction based on team-based learning approach is quite different from traditional courses, it's necessary to explain to them clearly, especially in information

about the grading system and the sequence of assignments, pre-class preparation and class attendance. In the present study, the details of a reading instruction based on team-based learning procedures are shown in the course syllabus and presented orally by the teacher.

Finally, based on a reading instruction based on team-based learning, teacher's role was changed to be a facilitator, not a lecturer. Teacher was encouraged to design courses to give students opportunities and incentives to accept more responsibility for ensuring that learning occurs. In this study, the researcher acted as a facilitator, roaming from team to team during the team discussion and team application activity.

Recommendations for future research

1. To date there has been very little evidence on research into team-based learning approach effects directly on language learning in ESL classroom. The results of the present study revealed that team-based learning has increased students' English reading comprehension ability. Therefore, a replication of the study could be conducted in other skills such as writing, speaking, or listening. It is recommended that future research should investigate how effective is team-based learning approach on other skills.

2. Since students are different in nature, the provided activities in application phase could not suit every student's preferences. Moreover, the in-class assignments have strong influence in learning as a team. In this study, students were required to interact in team-based learning by doing the teacher-created activities. Thus, the researcher should do the survey results on whether the assigned activities work well with the majority.

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ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย



ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

Appendix A

แบบสอบถาม

ความคิดเห็นของนักเรียนของนักเรียนระดับชั้นมัธยมศึกษาปีที่ 4 โรงเรียนสาธิตจุฬาลงกรณ์
มหาวิทยาลัย ฝ่ายมัธยมที่มีต่อการเลือกหัวข้อในการอ่านบทอ่านภาษาอังกฤษ

ส่วนที่ 1 ข้อมูลส่วนตัว

1. เพศ _____ หญิง _____ ชาย

ส่วนที่ 2 ความคิดเห็นเกี่ยวกับการเลือกหัวเรื่องในการอ่าน

คำชี้แจง โปรดกาเครื่องหมาย ✓ ลงในช่องที่นักเรียนมีความคิดเห็นตามระดับ ดับ

5 = มากที่สุด 4=มาก 3 = ปานกลาง 2 =น้อย 1= น้อยที่สุด

หัวข้อ	ระดับความสนใจ				
	5	4	3	2	1
Environment					
Technology					
Science fiction					
Myths					
Animals					
Health					
Food					
Music					
Sports					
Poetry					
History					

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Appendix B

The result of needs survey questionnaire

Mean and Standard Deviation on level students' interests in topic

Topic	Level of Interest					X	S.D.	Rank
	5	4	3	2	1			
Environment	64	57	46	4	9	3.91	1.071	4
Technology	60	56	46	15	3	3.86	1.029	5
Science fiction	28	70	52	24	6	3.50	1.017	
Myths	85	67	22	6	0	4.28	0.807	2
Animals	55	43	61	12	9	3.68	1.126	
Health	94	55	28	3	0	3.79	1.453	
Food	54	55	37	15	15	4.33	0.798	1
Music	63	49	34	28	6	3.75	1.186	
Sports	33	64	55	21	7	3.53	1.043	
Poetry	24	39	58	33	22	3.19	1.483	
History	55	76	34	12	3	3.93	0.955	3

Appendix C

List of experts validating the instruments

.....
A. Experts validating lesson plans

1. Satita Watanapokakul, Ph.D.
Language Institute
Chulalongkorn University
2. Pranee Modehiran, Ph.D.
Faculty of Education
Chulalongkorn University
3. Rewadee Hirun
Chulalongkorn University Demonstration School

B. Experts validating English reading comprehension test

1. Associate Professor Suphat Sukamolson, Ph.D.
Language Institute
Chulalongkorn University
2. Associate Professor Punchalee Wasanasomsithi,
Language Institute
Chulalongkorn University
3. Assistant Professor Jirada Wudthayagorn,
Faculty of Liberal Arts
Maejo University

Appendix D**Course Syllabus “Enrich Your English Reading Comprehension”**

Course Syllabus

1. **Course Title:** Enrich Your English Reading Comprehension
2. **Credit Hours:** 2 periods
3. **Semester:** First Semester / 2008
4. **Instructor’s name:** Apantree Sripanngen
5. **Course Level:** Grade 10 students
6. **Course Description:** This course is constructed to enhance students’ English reading ability. Students are supposed to read and understand the description, suggestions, instruction and passages in various topic; history, travel, sports, adventure, environment, music, poetry, novel, entertainment, technology, culture, science fiction, health, and art. Team – Based Learning Approach will be adapted as a potential technique to help students improve their English reading ability.
7. **Course Objectives:**
 1. To reflect their reading comprehension ability through learning as a team.
 2. To promote creative thinking and develop the skills for working effectively on a team.

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Appendix E

Summary of each lesson plan

Handouts, IF-AT answer sheet, word cards, pictures, recipe, authentic materials, PowerPoint Presentation, and Websites

Week 1	Steps / Activities	Time / min
Recycle Cans	**Teacher assigns students to read the passage before class	
	Preparation - Do the Readiness Assessment Test (RAT) individually - Do the same Readiness Assessment Test (RAT) as a team by using IF – AT answer sheet - Teacher gives some explanations for each question by PowerPoint Presentation - Do the appeal	10 15 15 5
	Application - Match the pictures of the life cycle of a bottle and bubble speeches and rearrange them chronologically	55
	Assessment - Each team will be assigned to do this phase at the end of the course.	
Week 2	Steps / Activities	Time / min
Pizza and Spaghetti Sauce Help	**Teacher assigns students to read the passage before class	
	Preparation - Do the Readiness Assessment Test (RAT) individually	10

Fight Cancer	- Do the same Readiness Assessment Test (RAT) as a team by raising A,B,C or D cards	15
	- Teacher gives some explanations for each question by PowerPoint Presentation	15
	- Do the appeal	5
	Application - Answer the given questions about pizza, spaghetti, and other fast food via Internet ** Do the activity in the Multimedia Room	55
	Assessment Each team will be assigned to do this phase at the end of the course.	
Week 3	Steps / Activities	Time / min
Persephone	**Teacher assigns students to read the passage before class	
	Preparation	
	- Do the Readiness Assessment Test (RAT) individually	10
	- Do the same Readiness Assessment Test (RAT) as a team by using IF – AT answer sheet	10
	- Teacher gives some explanations for each question by PowerPoint Presentation	15
- Do the appeal	5	

	<p>Application</p> <ul style="list-style-type: none"> - Match the picture cards of Greek Heroes and Heroines and their names or characteristics. 	60
	<p>Assessment</p> <ul style="list-style-type: none"> - Each team will be assigned to do this phase at the end of the course. 	
Week 4	Steps / Activities	Time / min
A Sphinx	**Teacher assigns students to read the passage before class	
	Preparation	
	- Do the Readiness Assessment Test (RAT) individually	10
	- Do the same Readiness Assessment Test (RAT) as a team by raising A,B,C or D cards	10
	- Teacher gives some explanations for each question by PowerPoint Presentation	15
- Do the appeal	5	
	Application	
	- Log on the website www.google.com and links to “Riddle of the Sphinx”, an online educational game for kids	35
	- Figure out the 15 provided riddles	25

	Assessment - Each team will be assigned to do this phase at the end of the course.	
Week 5	Steps / Activities	Time / min
How Bread and cakes rise	**Teacher assigns students to read the passage before class	
	Preparation - Do the Readiness Assessment Test (RAT) individually	10
	- Do the same Readiness Assessment Test (RAT) as a team by using IF – AT answer sheet	10
	- Teacher gives some explanations for each question by PowerPoint Presentation	15
	- Do the appeal	5
	Application - Match the instructions and pictures of the Chinese doughnuts recipe and rearrange them chronologically.	60
	Assessment - Each team will be assigned to do this phase at the end of the course.	

Week 6	Steps / Activities	Time / min
Food for Space	<p>**Teacher assigns students to read the passage before class</p> <p>Preparation</p> <ul style="list-style-type: none"> - Do the Readiness Assessment Test (RAT) individually - Do the same Readiness Assessment Test (RAT) as a team by raising A,B,C or D cards - Teacher gives some explanations for each question by PowerPoint Presentation - Do the appeal 	<p>10</p> <p>10</p> <p>15</p> <p>5</p>
	<p>Application</p> <ul style="list-style-type: none"> - Answer the questions about space (food, planet, cartoon, movie, astronauts, and so on) via Internet <p>** Do the activity in the Multimedia Room</p>	<p>60</p>
	<p>Assessment</p> <ul style="list-style-type: none"> - Each team will be assigned to do this phase at the end of the course. 	
Week 7	Steps / Activities	Time / min
The History of Mickey Mouse	<p>**Teacher assigns students to read the passage before class</p> <p>Preparation</p> <ul style="list-style-type: none"> - Do the Readiness Assessment Test (RAT) individually 	<p>10</p>

	- Do the same Readiness Assessment Test (RAT) as a team by using IF – AT answer sheet	10
	- Teacher gives some explanations for each question by PowerPoint Presentation	15
	- Do the appeal	5
	Application	
	- Match the pictures card and the history information of Hello Kitty	60
	Assessment	
	- Each team will be assigned to do this phase at the end of the course.	
Week 8	Steps / Activities	Time / min
Dim Sum	**Teacher assigns students to read the passage before class	
	Preparation	
	- Do the Readiness Assessment Test (RAT) individually	10
	- Do the same Readiness Assessment Test (RAT) as a team by using IF – AT answer sheet	10
	- Teacher gives some explanations for each question by PowerPoint Presentation	15
	- Do the appeal	5

	Application - Teacher give each group the list of ingredients before class and assigns to bring them in class. - Each group follows the directions in the recipe step by step ** Remarks: all the cooking utensils will be provided	60
	Assessment - Each team will be assigned to do this phase at the end of the course.	



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Appendix F
The example of Lesson Plan (Lesson 1)

The History of Mickey Mouse

Terminal Objective:

Students will be able to match the pictures and the information of the History of Kitty correctly.

Enabling Objectives:

1. Students know and will be able to explain the meaning of these words;

Vocabulary a detective, a plumber, an amusement park, faithful

2. Students will be able to identify the details in reading passage and answer the questions correctly.

Level / number of students

Grade 10 / 40 students

Time

100 minutes (2 periods)

Materials:

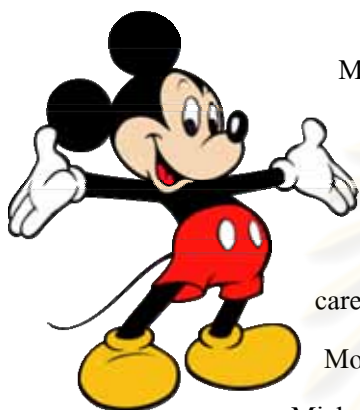
1. A reading passage “Mickey Mouse”
2. Readiness Assessment Test (RAT)
3. IF AT answer sheet
4. Word cards, pictures and authentic materials

Teaching Procedures

Preparation Phase (40 minutes)

Readiness Assurance Process

1. Teacher assigns students to read the text before class.



The history of Mickey Mouse

Mickey Mouse was born on a train somewhere between New York and Los Angeles. Walt Disney was looking for a new cartoon character. He thought of a mouse. Lillian, his wife, supplied the name. Mickey was dressed in red trousers and white gloves and his career began. In 1928, Steamboat Willie, starring a talking Mickey Mouse, **was an immediate success**. As the quality of sound improved, Mickey Mouse became more talkative. He went on to play all types of roles from fireman to inventor, detective, to plumber. He also appeared in comic strips. Toy producers made millions of Mickey Mouse and his picture was stamped on clothing, toothbrushes, watches, soap, records, anything that he could help to sell. The income from the sale of these products is as important to Walt Disney Productions as the money they make from the films.

In the fifties, **competition from television affected Mickey's career**. He stopped making films and had his own children's TV show. You can still see him at Disneyland, an amusement park in California, where, larger than life, he welcomes visitors.

Nowadays, at 53 Mickey Mouse is as popular as ever. And the Golden Jubilee celebrations for his fiftieth birthday started off a new wave of popularity.

What is the secret of his success? Walt Disney himself summed it up. "He's a pretty nice fellow who never does anybody any harm. Mickey's even been faithful to one girl, Minnie, all his life. Mickey is so simple and uncomplicated, so easy to understand that you can't help liking him."

(Adapted from English at Home with the BBC, Weekly Bangkok Post Feature)

READINESS ASSESSMENT TEST

1. The phrase “was an immediate success” (line 5) means
 - a. was produced immediately
 - b. was successful after a while
 - c. started talking immediately
 - d. became popular very quickly

2. The sentence “competition from television affected Mickey’s career” (line 12) means
 - a. television made him change his job
 - b. Mickey wanted his own television show
 - c. people wanted him to appear on television
 - d. Mickey’s job had great influence upon television programs

3. The reason why Mickey Mouse was successful in his job was that
 - a. he always entertained people
 - b. he made a lot of money for toy producers
 - c. he welcomed visitors to Disneyland, California
 - d. he was handsome in red trousers and white gloves

4. The best title for this passage would be
 - a. Mickey Mouse and Toy Producers
 - b. The Success of Mickey Mouse
 - c. The First Sound Cartoon Movie
 - d. Mickey Mouse on His Fiftieth Birthday

5. The passage suggests, but does not say directly, that
 - a. toy producers made Mickey Mouse change his job
 - b. Mickey Mouse did not like movies when he got older
 - c. Mickey Mouse made a lot of money for his audience
 - d. people like Walt Disney with good business minds can make a lot of money.

(Last period, teacher assigned students to read the reading passage before class.)

Teacher greets all students and follows the Team –Based Learning Procedures as follows:

- Teacher shows some pictures, toys, VCD, and accessories about Mickey Mouse.



- Teacher asks some questions about the ideas of Mickey Mouse.
- Who likes Mickey Mouse?
- Mickey Mouse is my favorite cartoon. I collect lots of things about Mickey Mouse. Do you like them?
- What's your favorite cartoon?

- Do you know anything about Mickey Mouse? For example, how old is he? Does he have a girlfriend? If yes, what is her name? Or where was he born? I think you got some information about him after reading the passage.

2. Teacher assigns students to do the Readiness Assessment Test. (Individual test)

- OK, class. I think you have already read it, Now I would like you to take a test individually.
- OK, class. I will give you the RAT test. You have to do it individually. I will give you 10 minutes. Let's start.

(Ten minutes passed)

- Time's up. Class, please hand it in. I will inform your score later.

Teacher collects their individual test.

3. Teacher assigns each team to do the same Readiness Assessment Test (Team test)

- Class, please sit together in your team. I will give you an IF AT answer sheet to do the test again for each question. Please discuss within your team to find the team answer. After you find it, you have to scratch off a covering of one box on the IF AT answer sheet to search of a mark. If you can find the mark on the first try, you will get the full credit (four points). But if you can not find the answer, you have to further scratch off until you find the mark. But the score will be reduced (from three, two, and one point).

4. Students do the appeal

Teacher gives students about 5 minutes to do the appeal. If they do the appeal, teacher has to give them oral feedback to clarify the students' confusion. (If their appeal is possible, they can get the points.)

5. Teacher implements unfamiliar words and reading strategies

- Class, after you all finish taking a team test and check your answers. I will give you more explanation about the passage.
- Firstly, teacher explains the meaning of some difficult vocabulary.

Vocabulary (5 mins)

- T. shows the picture of Conan, the famous detective.



detective

Detective Conan is my favorite Japanese cartoon.

- What does the word “detective” mean?

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- T shows the picture of a plumber.



- Class, if I have some problems with pipes, I will call a plumber to fix it.

plumber

Plumber is the one who installs and repair the pipes.

- What does the word “plumber” mean?

T shows the picture of amusement park.



an amusement park

We enjoy playing roller coaster at the **amusement park**.

What does “amusement park” mean?

T shows a picture of the marriage of Ken and Noi.



Ken loves Noi so much. He’s always faithful to her.

Faithful

Ken never tells Noi a lie. He’s always **faithful** to her.

What does “faithful” mean?

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Clarify the text for better understanding by implementing reading strategies.






After you all read the whole passage, can you tell me what the writer talks about?

- Next, I will explain you more for each question.
- **The first item** “The phrase “was an immediate success” (line 4) means Why ‘d’ is the correct answer?
- The word “immediately” means “quickly”, and “success” means “he became popular”.
- **The second item**, why is “a” correct?
- Look at line 14 said that TV program is the factor that makes his job change.
- **The third one** “The reason why Mickey Mouse was successful in his job that”
- Why do you choose “a” as an answer?
- According to the last paragraph “He’s a pretty nice fellow who never does anybody any harm.”
- **The fourth item**, “The best title for this passage would be”
- Why “b” is correct?
- From the whole passage, the writer talks about Mickey Mouse and his success.
- **The last one**, why do you think “d” is correct?
- According to the whole passage, Walt Disney can make lots of money in his business from making films, children’s TV show, and Mickey’s products.

Application Phase (50 minutes)

- Teacher gives each team a packet of picture cards. Each one has to match picture cards and the history of Hello Kitty correctly.
- Students will get one point if they can match pictures and information correctly and bonus (3 points) points if they finish first.

BeCoolGal's Hello Kitty World History 	
<p>1974</p> 	<p>In the very beginning, Hello Kitty did not have a name. It was first seen as a kitty with a little red bow on its left ear, sitting down. However, Hello Kitty instantly attracted respect and love of thousands of people in Japan with its cute design and character, which turned Hello Kitty into an instant celebrity.</p>
<p>1975</p> 	<p>This cute kitty was finally given a name, called Hello Kitty. The very first item which featured Hello Kitty was a wallet, which was a very tiny purse with the picture of Hello Kitty embroid on its side. Hello Kitty's family was also introduced.</p>
<p>1976</p> 	<p>The company Sanrio took the job of the main distributor and owner of Hello Kitty. Sanrio welcomed and celebrated Hello Kitty by creating a new pose for Hello Kitty. Instead of just a sitting pose, they made Hello Kitty a standing pose.</p>
<p>1977</p> 	<p>Apparently Sanrio liked the new standing pose, and they decided to try a bit more. They made Hello Kitty to sit in a plane, piloting it. It was a very simple picture of Hello Kitty in a plane with its head sticking out. The school children loved it, even high school students and some adults were attracted to this cute new design.</p>

1978		<p>This time, Hello Kitty was designed to ride a dolphin, along with other different styles such as in a car, in different places...etc. Hello Kitty also had a large variety of different uniforms and outfits.</p>
1979		<p>Grandpa and grandma formally introduced to the Hello Kitty world.</p>
1980		<p>Hello Kitty playing sport! Hello Kitty was in a tennis top and playing tennis. Holding a tennis racket and a ball, extremely cute and adorable. Hello Kitty digital watch was also released and went on sale that year, and more than a million watches were sold.</p>
1981		<p>The range of Hello Kitty items on sale expanded to telephones and cameras also some more electronic products, which it continued to increase year after year. The first Hello Kitty movie was made, called "Kitty and Mimi's new umbrella".</p>
1982		<p>Hello Kitty's outline disappeared! The reason for this is to make Hello Kitty more involved to the background picture. They also made a bit of adjustment to the position of Hello Kitty's eyes.</p>
1983		<p>Cris-cross and straight lined background, with a more US style design attracted lot of people in the US. During the same year, Hello Kitty was named the child ambassador of UNICEF in the US as well.</p>
1984		<p>Hello Kitty photo design. This was to make Hello Kitty more realistic and made it seem closer to us. This process was a huge success at the end.</p>

1985		<p>Tiny Cham introduced. Hello Kitty baking a cake in the kitchen, which also attracted lot of young parents.</p>
1986		<p>Passport shot of Hello Kitty's face. This extremely simple design became the official logo for Hello Kitty for a while. This design was also seen on handbags, different clothing, handkerchiefs and lots more.</p>
1987		<p>Black and white Hello Kitty series. This design was aimed to attract more adults instead of teenagers or younger children.</p>
1988		<p>Cris-cross and straight lined background Hello Kitty is back. This design became really popular, and received large recognition from around the world. US CBS television started to show the first Hello Kitty cartoon on TV, "Hello Kitty's Fairy Tale Theater".</p>
1989		<p>English Hello Kitty comic series went on sale in US. This attracted even more fans because the reader could actually get a closer feel to Hello Kitty, it friends, family and life.</p>
1990		<p>Water droplets and snow background design developed. During the Christmas it was even more popular with Hello Kitty in Santa-like costume with snowy background. Sanrio Puroland theme park opened in the same year as well.</p>
1991		<p>Flower series. Hello Kitty was hold a flower with flowers in the background. It attracted lot of female fans instantly.</p>

1992		<p>Fruit series. Hello Kitty was holding a fruit with fruits in the background. The design was changing depending on the season and the time of the year, to match the fruit and the color. It gave the fans a heart-warming feel.</p>
1993		<p>Hello Kitty design changed! The bow on her ear changed to a flower, a new start to this new look of Hello Kitty.</p>
1994		<p>Nurse series. Hello Kitty in a hospital and in a nurse's uniform! Hello Kitty was named the child ambassador of UNICEF in Japan.</p>
1995		<p>Flower series back again. With much more designs and more colorful.</p>
1996		<p>More flower series...</p>
1997		<p>Traditional Kitty design. Hello Kitty in traditional Japan clothing, also in school uniform, beach uniform, wedding gown. Mermaid Kitty was also a popular design.</p>
1998		<p>Kitty's House theme park opened, attracted thousands of visitors a day.</p>

***After doing the activity in an application phase, each student is assigned to do the peer evaluation form.

Peer Evaluation Form (Michaelsen)

Name _____ Team # _____

Please assign scores that reflect how you really feel about the extent to which the other members of your team contributed to your learning and/or your team's performance. This will be your only opportunity to reward the members of your team who worked hard on your behalf.

Instructions: In the space below please rate each of the **other** members of your team. Each member's peer evaluation score will be the average of the points they receive from the other members of the team. To complete the evaluation you should: 1) List the name of each member of your team in the alphabetical order of their last names and, 2) assign an average of ten points to the other members of your team (Thus, for example, you should assign a total of 50 points in a six-member team; 60 points in a seven-member team; etc.) and, 3) differentiate some in your ratings; for example, you must give at least one score of 11 or higher (maximum = 15) and one score of 9 or lower.

	Team Members	Scores
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____

Additional Feedback: In the space below would you also briefly describe your reasons for your highest and lowest ratings. These comments -- but not information about who provided them -- will be used to provide feedback to students who would like to receive it.

Reason(s) for your highest rating(s). (Use back if necessary.)

Reason(s) for your lowest rating(s). (Use back if necessary.)

Remark: Each team is assign to do this phase (assessment phase) by the end of the course.

Assessment Phase

- Each team is assigned to do the project by selecting the interesting topic you have learned from the whole course. They are assigned to do the projects based on their interest topic.

- Teacher explains how to do **project** step by step as follows:
 - 1. Project's name**
 - Students name the project after the problem; do not exaggerate the name of the project
 - 2. Background of the study**
 - Students give the background and significance of the study.
 - 3. Objectives**
 - Students know and write the objectives of the project.
 - 4. Terminology**
 - Students write down the definition of given project terminology.
 - 5. Methodology**
 - Students choose the appropriate source of the study.
 - 6. Result of the study.**
 - Students give the result of the study in forms of tables, graph, pictures, etc.
 - 7. Reference**
 - Students write down all the reference used in their given project.
 - 8. Project Presentation**

Appendix G
The example of Lesson Plan (Lesson 2)

Food for Space

Terminal Objective:

Students will be able to answer the question about space correctly.

Enabling Objectives:

1. Students know and will be able to explain the meaning of these words.

Vocabulary astronauts, squeeze, mission, compartment

2. Students will be able to identify the details in the reading passage and answer the questions correctly.

3. Students will be able to develop the skills for working effectively on a team by searching the information via the Internet.

Level / number of students

Grade 10 / 40 students

Time

100 minutes (2 periods)

Materials:

5. A reading passage “Food for Space”
6. Readiness Assessment Test (RAT)
7. Word cards and pictures
8. PowerPoint Presentation
9. Websites

Remark: Students do the activities in the multimedia room.

Teaching Procedures

Preparation Phase (40 minutes)

Readiness Assurance Process

1. Teacher assigns students to read the text before class.



Food for space flights must be specially prepared because many conditions in space are unlike those on earth. The food that the astronauts take with them must be **lightweight**, **take up little space**, and must be suitable for the length of the mission. The food has to be easy to carry too. It must be eaten directly from a sealed container, because space is weightless, and weightlessness makes it impossible to eat solid food on ordinary plates or liquids in an open cup.

If the astronauts are traveling for only a short time, food is no problem because they can eat before going into space and after they come back. But if they are traveling for a long time, the food has to be made into bite-sized cubes. Formerly, semi-liquids were put in aluminum squeeze tubes and squeezed out like toothpaste. On more recent flights the aluminum squeeze tubes were not used because of their weight. Instead, there were several kinds of bite-sized cubes: fruit, meat, bread, etc. These cubes were coated with an edible gelatin to prevent them from crumbling. In order to give the astronauts variety in taste, rehydratable foods packed in plastic bags were introduced. The astronauts added water to the dry food to make it edible.

The meals were nicely packed and labeled according to which meal should be eaten on which day by which astronauts. These packages were then put into the spacecraft storage compartment in a special order so that the astronauts knew when they were to be used.

(Adapted from NASA Facts National Aeronautics and Space Administration Lyndon B. Johnson Space Centre)

READINESS ASSESSMENT TEST

26. The phrase “take up little space” (line 3) means _____.
- a. be able to be stored in a very small place
 - b. be able to be put into the mouth very easily
 - c. be able to be put in a small quantity of food
 - d. be able to be carried onto the space individually.
27. Which of the following is not true about food for space flights?
- a. It should be dry.
 - b. It should be easy to eat.
 - c. It should weigh as little as possible.
 - d. It should be put in a tube.
28. The use of aluminum squeeze tubes was discontinued because _____.
- a. they were too heavy
 - b. they were hard to squeeze
 - c. the astronauts did not like liquid food
 - d. the astronauts had many kinds of bite-sized cubes
29. According to the passage, astronauts _____.
- a. had to eat big meals before any trips
 - b. could eat any meal whenever they liked
 - c. had to take their food the way it was arranged
 - d. could choose the food they wanted from any package
30. We can infer from the passage that _____.
- a. space food is the same every day
 - b. astronauts will suffer from food shortage
 - c. no liquid food can be taken on space flights
 - d. food for later space flights will probably be improved

Teacher greets all students and follows the Team –Based Learning Procedures as follows:

Class, after you all read the passage about “Food for space” I would like to show you how the astronauts eat their space food. It’s quite interesting.

Teacher shows students a 5 minute movie of food in space via www.youtube.com .

- I think you’ve got the information about food in space, how the astronauts eat it, and how to carry it to space.

The screenshot shows a Windows Internet Explorer browser window displaying a YouTube video. The video title is "Food In Space! (Sneak peek)" and it is uploaded by the channel "mcgnia" on February 07, 2008. The video player shows a man in a green shirt eating a small piece of food. The video progress bar indicates 1:54 / 6:22. To the right of the video, there is a description: "Ever wonder what Astronauts eat and how they go to the bathroom? Food in Space has the answers. Food is a subject that is very close to all of our hearts... and stomachs. Teachers, parents and s...". Below the description are links for "URL" and "Embed". There is also a "Subscribe" button and a "More From: mcgnia" section with "Related Videos" including "Space food" and "Mission to Mars: Sex in Space". The Windows taskbar at the bottom shows the start button and various application icons.

YouTube - Space Grub - Windows Internet Explorer

http://www.youtube.com/watch?v=RB0NWEAUCM

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Discover what types of food astronauts eat in space and how the food must be lightweight, nutritional, take up little space and be long-lasting.

URL: <http://www.youtube.com/watch?v=RB0NWEAUCM>

Embed: [http://www.youtube.com/watch?v=RB0NWEAUCM&embed=1">http://www.youtube.com/watch?v=RB0NWEAUCM&embed=1](#)

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Internet 100%

YouTube - Space Food - Windows Internet Explorer

http://www.youtube.com/watch?v=1wApG9F5g6E&feature=related

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Space Food



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Il cibo per lo spazio si è sicuramente evoluto rispetto alle prime missioni. Soprattutto deve fornire agli astronauti il giusto apporto giornaliero di calorie, vitamine e sali minerali necessari a...

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2. Teacher assigns students to do the Readiness Assessment Test.

(Individual test)

- Ok, class. Now, it's time for the test. I will give you the Readiness Assessment Test (RAT). You have to do it individually. I will give you 10 minutes. Let's start.

(Ten minutes passed)

- Time's up. Class, please hand it in. I will inform your scores later.

Teacher collects their individual tests.

3. Teacher assigns each team to do the same Readiness Assessment Test

(Team test)

- Class, please sit together in your team. I will give you an IF AT answer sheet to do the test again for each question. Please discuss within your team to find the team answer. After you find it, you have to scratch off a covering of one box on the IF AT answer sheet to search of a mark. If you can find the mark on the first try, you will get the full credit (four points). But if you can not find the answer, you have to further scratch off until you find the mark. But the score will be reduced (from three, two, and one point).

4. Students do the appeal

Teacher gives students about 5 minutes to do the appeal. If they do the appeal, teacher has to give them oral feedback to clarify the students' confusion. (If their appeal is possible, they can get the points.)

5. Teacher implements unfamiliar words and reading strategies

- Class, after you all finish taking a team test and check your answers. I will give you more explanation about the passage.
- Firstly, teacher explains the meaning of some difficult vocabulary.

Vocabulary (5 mins)

T shows a picture.



astronaut

Yuri Gagarin is the first **astronaut** in space.

What does “astronaut” mean?

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T squeezes a tube of toothpaste.

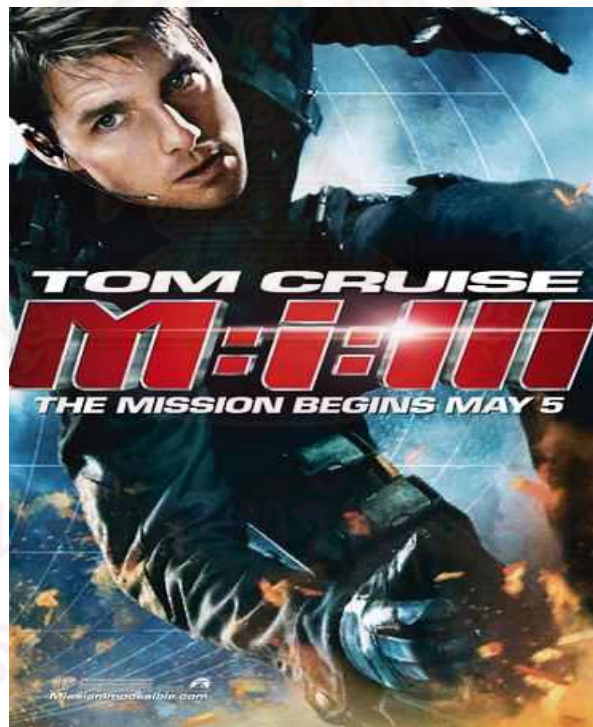


squeeze

I **squeeze** some toothpaste on the toothbrush.

What does “squeeze” mean?

T shows a movie poster.



Class, have you seen this movie? Mission Impossible III is my favorite movie.

mission

A **mission** is a special work which a person is assigned to do.

What does “mission” mean?

T shows a picture of the compartment.



gmppaa5608 images.google.co.th

compartment

The space food packages were put in the spacecraft **compartment**.

What does “compartment” mean?

Clarify the text for better understanding by implementing reading strategies.

The first item “The phrase “take up little space”

- (a) is the correct answer
- What is the reason?
- According to the passage, “little space” means small spaces.

- What’s the answer for **the second item**?
- (d) is the correct answer.
- Why do you choose this one?
- (d) is the only one that doesn’t state in the passage.

- What’s answer for **the third item**?
- (a) is the correct answer.
- What’s your reason?
- According to the passage, look at line 12 “On more recent flights the aluminum squeeze tubes were not used because of their weight.

- **The fourth one**, which one is correct?
- (c) is the correct answer.
- What’s the reason?
- Look at the last paragraph, it means that the astronauts had to take their food the way it was arranged.

- **The last one**, which one is correct?
- (d) is the correct answer

- (d) is the only one that doesn't state in the passage.

Application Phase (40minutes)

- Students answer the questions about space, one answer for one point.
(See attachment)



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***After doing the activity in an application phase, each student is assigned to do the peer evaluation form.

Peer Evaluation Form (Michaelsen)

Name _____ Team # _____

Please assign scores that reflect how you really feel about the extent to which the other members of your team contributed to your learning and/or your team's performance. This will be your only opportunity to reward the members of your team who worked hard on your behalf.

Instructions: In the space below please rate each of the **other** members of your team. Each member's peer evaluation score will be the average of the points they receive from the other members of the team. To complete the evaluation you should: 1) List the name of each member of your team in the alphabetical order of their last names and, 2) assign an average of ten points to the other members of your team (Thus, for example, you should assign a total of 50 points in a six-member team; 60 points in a seven-member team; etc.) and, 3) differentiate some in your ratings; for example, you must give at least one score of 11 or higher (maximum = 15) and one score of 9 or lower.

	Team Members	Scores
5.	_____	_____
6.	_____	_____
7.	_____	_____
8.	_____	_____

Additional Feedback: In the space below would you also briefly describe your reasons for your highest and lowest ratings. These comments -- but not information about who provided them -- will be used to provide feedback to students who would like to receive it.

Reason(s) for your highest rating(s). (Use back if necessary.)

Reason(s) for your lowest rating(s). (Use back if necessary.)

Remark: Each team is assign to do this phase (assessment phase) by the end of the course.

Assessment Phase

- Each team is assigned to do the project by selecting the interesting topic you have learned from the whole course. They are assigned to do the projects based on their interest topic.

- Teacher explains how to do **project** step by step as follows:
 - 2. Project's name**
 - Students name the project after the problem; do not exaggerate the name of the project
 - 2. Background of the study**
 - Students give the background and significance of the study.
 - 3. Objectives**
 - Students know and write the objectives of the project.
 - 4. Terminology**
 - Students write down the down the definition of given project terminology.
 - 5. Methodology**
 - Students choose the appropriate source of the study.
 - 6. Result of the study.**
 - Students give the result of the study in forms of tables, graph, pictures, etc.
 - 7. Reference**
 - Students write down all the reference used in their given project.
 - 8. Project Presentation**

Appendix H

The result of item obtained from the Readiness Assessment Tests evaluation form

Item	Expert			Total	Meaning
	D	E	F		
1.	+1	+1	+1	1	Reserved
2.	+1	+1	+1	1	Reserved
3.	+1	+1	+1	1	Reserved
4.	+1	+1	+1	1	Reserved
5.	+1	+1	+1	1	Reserved
6.	+1	+1	+1	1	Reserved
7.	+1	+1	+1	1	Reserved
8.	+1	+1	+1	1	Reserved
9.	+1	+1	+1	1	Reserved
10.	+1	+1	+1	1	Reserved
11.	+1	+1	+1	1	Reserved
12.	+1	+1	0	0.66	Reserved
13.	+1	+1	+1	1	Reserved
14.	+1	0	+1	0.66	Reserved
15.	+1	+1	+1	1	Reserved
16.	+1	0	+1	0.66	Reserved
17.	+1	+1	+1	1	Reserved
18.	+1	+1	+1	1	Reserved
19.	+1	+1	0	0.66	Reserved
20.	+1	+1	+1	1	Reserved
21.	+1	+1	+1	1	Reserved

22.	+1	0	+1	0.66	
	Reserved				
23.	+1	0	+1	0.66	Reserved
24.	+1	+1	+1	1	Reserved
25.	+1	+1	+1	1	Reserved
26.	+1	+1	+1	1	Reserved
27.	+1	+1	+1	1	Reserved
28.	+1	0	+1	0.66	Reserved
29.	+1	0	+1	0.66	Reserved
30.	+1	+1	+1	1	Reserved
31.	+1	+1	+1	1	Reserved
32.	+1	0	+1	0.66	Reserved
33.	+1	1	+1	1	Reserved
34.	+1	0	+1	0.66	Reserved
35.	+1	+1	+1	1	Reserved
36.	+1	+1	+1	1	Reserved
37.	+1	+1	+1	1	Reserved
38.	+1	0	+1	0.66	Reserved
39.	+1	1	+1	1	Reserved
40.	+1	+1	+1	1	Reserved

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Appendix I

Item Analysis of the English Reading Comprehension Test

Item No.	Difficulty Index	Discrimination Index
1	0.433	0.897
2	0.700	0.481
3	0.667	0.622
4	0.400	0.468
5	0.300	0.530
6	0.467	0.362
7	0.800	0.299
8	0.267	2.181
9	0.467	1.011
10	0.367	0.451
11	0.567	0.504
12	0.500	0.611
13	0.600	0.753
14	0.633	0.756
15	0.333	0.512
16	0.667	0.687
17	0.667	0.405
18	0.233	0.670
19	0.467	0.990
20	0.600	0.603
21	0.333	0.602
22	0.633	0.842
23	0.600	0.654

24	0.433	0.981
25	0.467	1.341
26	0.433	1.684
27	0.333	0.744
28	0.467	0.855
29	0.367	0.925
30	0.367	0.809
31	0.400	0.772
32	0.233	0.302
33	0.667	0.601
34	0.733	0.280
35	0.367	0.684
36	0.433	0.892
37	0.367	1.086
38	0.400	0.681
39	0.367	0.799
40	0.333	1.003

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Appendix J

Individual score and team score of eight Readiness Assessment Tests

Student No.	Individual Score	\bar{X}	Team Score	\bar{X}
1.	29	3.63	39	4.88
2.	24	3.00	39	4.88
3.	21	2.63	39	4.88
4.	18	2.25	39	4.88
5.	12	1.50	39	4.88
6.	31	3.88	36	4.50
7.	21	2.63	36	4.50
8.	20	2.50	36	4.50
9.	18	2.25	36	4.50
10.	9	1.13	36	4.50
11.	25	3.13	39	4.88
12.	21	2.63	39	4.88
13.	20	2.50	39	4.88
14.	18	2.25	39	4.88
15.	10	1.25	39	4.88
16.	25	3.13	38	4.75
17.	23	2.88	38	4.75
18.	21	2.63	38	4.75

19.	17	2.13	38	4.75
20.	10	1.25	38	4.75
21.	27	3.38	39	4.88
22.	21	2.63	39	4.88
23.	21	2.63	39	4.88
24.	17	2.13	39	4.88
25.	10	1.25	39	4.88
26.	31	3.88	39	4.88
27.	21	2.63	39	4.88
28.	20	2.50	39	4.88
29.	16	2.00	39	4.88
30.	9	1.13	39	4.88
31.	31	3.88	39	4.88
32.	21	2.63	39	4.88
33.	18	2.25	39	4.88
34.	17	2.13	39	4.88
35.	9	1.13	39	4.88
36.	33	4.13	40	5.00
37.	20	2.50	40	5.00
38.	22	2.75	40	5.00
39.	19	2.38	40	5.00
40.	12	1.50	40	5.00

Appendix K
How to form team in mix ability group

Student No.	Foundation English	English Skills	Total Score	Team
1	196	155	351	1
22	149	110	259	1
19	150	90	240	1
36	136	85	221	1
32	98	56	154	1
6	196	151	347	2
20	176	106	282	2
21	142	91	233	2
35	134	83	217	2
37	100	54	154	2
2	187	148	335	3
8	166	114	280	3
9	146	110	256	3
38	134	82	216	3
39	97	53	150	3
5	198	125	323	4
14	160	118	278	4
17	146	109	255	4
29	144	89	233	4
31	103	51	154	4
3	188	120	308	5
18	158	116	274	5
15	144	108	252	5
26	147	86	233	5
30	130	89	219	5
4	186	117	303	6
16	157	113	270	6
23	143	108	251	6
25	139	88	227	6
40	109	66	175	6
12	183	119	302	7
13	154	114	268	7
11	148	100	248	7
28	137	87	224	7
33	99	62	161	7
10	176	109	285	8
7	150	111	261	8
24	144	93	237	8
27	135	87	222	8
34	101	61	162	8

Appendix L
How to divide high, moderate, and low reading ability students

Student No.	Foundation English	English Skills	Total Score	Team
1	196	155	351	1
6	196	151	347	2
2	187	148	335	3
5	198	125	323	4
3	188	120	308	5
4	186	117	303	6
12	183	119	302	7
10	176	109	285	8
20	176	106	282	2
8	166	114	280	3
14	160	118	278	4
18	158	116	274	5
16	157	113	270	6
13	154	114	268	7
7	150	111	261	8
22	149	110	259	1
9	146	110	256	3
17	146	109	255	4
15	144	108	252	5
23	143	108	251	6
11	148	100	248	7
24	144	93	237	8
19	150	90	240	1
21	142	91	233	2
29	144	89	233	4
26	147	86	233	5
25	139	88	227	6
28	137	87	224	7
27	135	87	222	8
36	136	85	221	1
35	134	83	217	2
38	134	82	216	3
30	130	89	219	5
40	109	66	175	6
33	99	62	161	7
34	101	61	162	8
32	98	56	154	1
37	100	54	154	2
39	97	53	150	3
31	103	51	154	4

BIOGRAPHY

Miss Apantree Sripanngen was born on the 5th September, 1974, Bangkok, Thailand. She received a Bachelor's of Arts majoring in English from the Faculty of Archeology, Silpakorn University in 1999. In 2005, she continued her Master's Degree in Teaching English as a Foreign Language, Faculty of Education, Chulalongkorn University. She is currently an English teacher at Chulalongkorn University Demonstration School, Bangkok.

