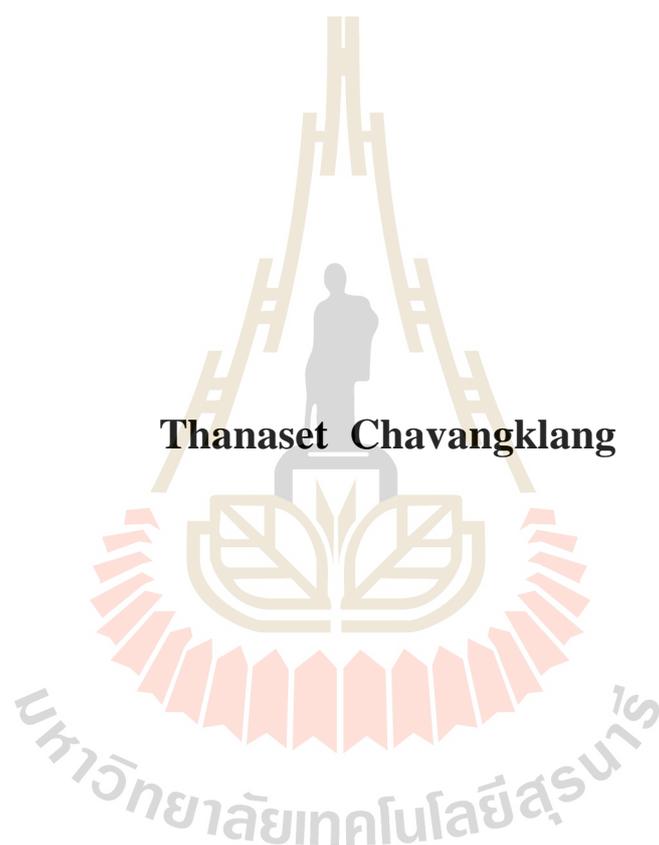


**ENHANCING THAI EFL UNIVERSITY STUDENTS’
READING COMPREHENSION THROUGH FLIPPED
COOPERATIVE CLASSROOM**



Thanaset Chavangklang

**A Thesis Submitted in Partial Fulfillment of the Requirements for
the Degree of Doctor of Philosophy in English Language Studies**

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การพัฒนาการอ่านเพื่อความเข้าใจของนักศึกษาไทยระดับมหาวิทยาลัย
ที่เรียนภาษาอังกฤษในฐานะภาษาต่างประเทศผ่านการเรียน
แบบห้องเรียนกลับด้านแบบร่วมมือกัน

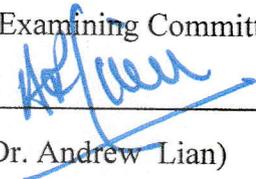


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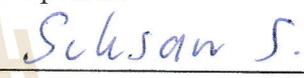
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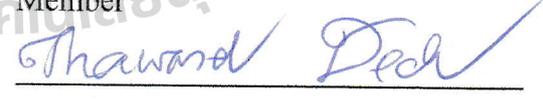
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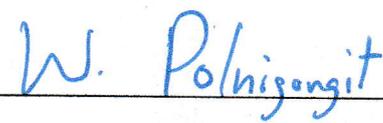
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ชนเศรษฐ ชะวางกลาง : การพัฒนาการอ่านเพื่อความเข้าใจของนักศึกษาไทยระดับ
มหาวิทยาลัยที่เรียน ภาษาอังกฤษในฐานะภาษาต่างประเทศผ่านการเรียนแบบห้องเรียน
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ทักษะการอ่านมีความสำคัญไม่เฉพาะสำหรับความสำเร็จทางวิชาการเท่านั้นแต่สำหรับการพัฒนาอาชีพด้วยเช่นกัน อย่างไรก็ตาม พบว่านักศึกษาไทยระดับมหาวิทยาลัยที่เรียนภาษาอังกฤษในฐานะภาษาต่างประเทศมีความสามารถด้านการอ่านเพื่อความเข้าใจค่อนข้างต่ำ แม้แต่นักศึกษาสาขาภาษาอังกฤษ เหตุผลหลักประกอบด้วย การขาดกลยุทธ์การอ่าน วิธีการเรียนการสอนที่ไม่เหมาะสม และ ขนาดชั้นเรียนที่ใหญ่ ในการศึกษาค้นคว้า การเรียนแบบห้องเรียนกลับด้านแบบร่วมมือกัน (FCC) ได้ถูกนำมาใช้รายวิชาการอ่านเพื่อความเข้าใจ ในการเรียนการสอนวิธีนี้ นักศึกษาเรียนเนื้อหาวิชาผ่านสื่อการเรียนและกิจกรรมออนไลน์ก่อนการเรียนในห้องเรียน และในห้องเรียนนักศึกษาฝึกปฏิบัติเพิ่มเติมเป็นรายบุคคลและเป็นรายกลุ่ม วัตถุประสงค์ของการวิจัยครั้งนี้เพื่อตรวจสอบประสิทธิภาพของ FCC กลุ่มตัวอย่างของการศึกษาค้นคว้าครั้งนี้ได้แก่นักศึกษาไทยในระดับมหาวิทยาลัยที่เรียนภาษาอังกฤษในฐานะภาษาต่างประเทศ สาขาภาษาอังกฤษ ของมหาวิทยาลัยราชภัฏนครราชสีมา ผ่านรายวิชาการอ่านเพื่อความเข้าใจ ประสิทธิภาพของ FCC ประเมินด้วยการเปรียบเทียบคะแนนการอ่านเพื่อความเข้าใจก่อนเรียนและหลังเรียนของกลุ่มทดลอง (EG) ที่เรียนกับ FCC และเปรียบเทียบคะแนนทดสอบหลังเรียนระหว่างกลุ่ม EG กับกลุ่มทดลอง (CG) ที่เรียนด้วยห้องเรียนปกติ นอกจากนี้ ยังสำรวจความคิดเห็นของนักศึกษาเกี่ยวกับ FCC และประสบการณ์การเรียนด้วยแบบสอบถามและการสัมภาษณ์แบบกึ่งโครงสร้าง ผลการศึกษาพบว่า

1) นักศึกษาที่เรียนกับ FCC พัฒนาการอ่านเพื่อความเข้าใจที่เพิ่มขึ้น โดยมีคะแนนทดสอบหลังเรียนที่สูงกว่าคะแนนทดสอบก่อนเรียนอย่างมีนัยสำคัญทางสถิติที่ระดับ 0.01

2) นักศึกษาที่เรียนกับ FCC พัฒนาการอ่านเพื่อความเข้าใจได้มากกว่ากลุ่มที่เรียนกับห้องเรียนปกติ โดยมีคะแนนทดสอบหลังเรียนสูงกว่าอย่างมีนัยสำคัญทางสถิติที่ระดับ 0.01 ถึงแม้ว่าทั้งสองกลุ่มจะมีคะแนนทดสอบก่อนเรียนไม่แตกต่างกัน

3) นักศึกษามีความคิดเห็นที่เป็นบวกต่อ FCC และประสบการณ์การเรียนกับระบบการเรียนออนไลน์ (ลักษณะของระบบ ลักษณะของสื่อการเรียน ความง่ายในการใช้งาน ความมีประโยชน์ ทัศนคติเกี่ยวกับการใช้งาน และพฤติกรรมความตั้งใจ) นอกจากนี้ FCC นักศึกษามีความคิดเห็นว่า FCC เป็นวิธีการเรียนที่ดีกว่าวิธีเรียนปกติด้วยเหตุผลที่ว่า FCC มีความสะดวก ช่วยให้

THANASET CHAVANGKLANG : ENHANCING THAI EFL UNIVERSITY
STUDENTS' READING COMPREHENSION THROUGH FLIPPED
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COOPERATIVE LEARNING / FLIPPED CLASSROOM / READING
COMPREHENSION

Reading skills are important not only for academic achievement but also for professional development. However, some Thai EFL university students have been found to have relatively low reading comprehension ability, even with those majoring in English. Major causes include lack of reading strategies, improper instructional method, and large class size. In this study, a Flipped Cooperative Classroom (FCC) was introduced with a reading comprehension course. With this instructional approach, students learn course contents through online materials and activities before classroom, and in the classroom, they do more on individual practice and group activities. The objective of this study was to investigate the effectiveness of the FCC. The study was implemented with a group of Thai EFL university English-majored students at Nakhon Ratchasima Rajabhat University, through a Reading Comprehension course. The effectiveness of FCC was assessed by comparing between the pre-test and post-test scores of the experimental group (EG) who learned with FCC, and comparing the post-test scores between EG and the controlled group (CG) who learned with the conventional classroom. Students' opinions about FCC and online learning experiences were also investigated through questionnaire and semi-structured interviews. The study reveals three major findings.

1) Students learning with FCC improved their reading comprehension, indicated by the significantly higher reading scores of the post-test than that of the pre-test at the 0.01 significance level.

2) Students learning with FCC improved their reading comprehension more than the group learning with conventional classroom, indicated by the significantly higher scores of their post-test compared those of the controlled group at the 0.01 significance level, despite the fact that their pre-test scores at the beginning of the course were not different.

3) Students have positive opinions about FCC and learning experiences with online learning system (system characteristics, material characteristics, perceived ease of use, perceived usefulness, attitude about use, and behavioral intention). Additionally, in students' opinions, FCC is better than conventional classroom because of it is convenience; it helps students prepare for class; and it provides group work activities, realistic learning environment and learning materials; and translation features in the online learning. Minority of students also expressed some un-matched learning preferences with FCC.

Study results suggest that FCC is an instructional method which can be used to enhance students' reading comprehension.

School of Foreign Languages

Academic Year 2017

Student's Signature สมร

Advisor's Signature สุวิมล

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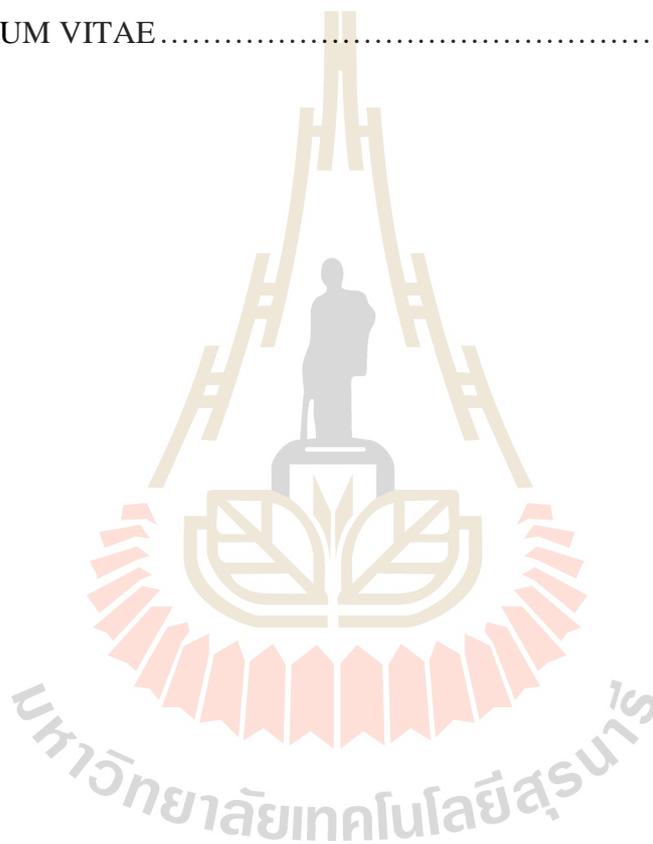
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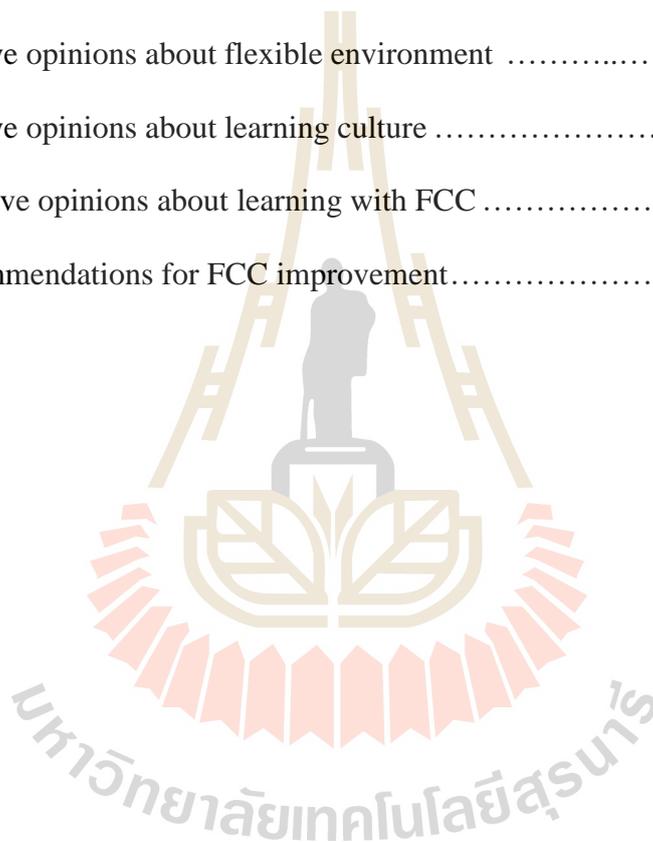


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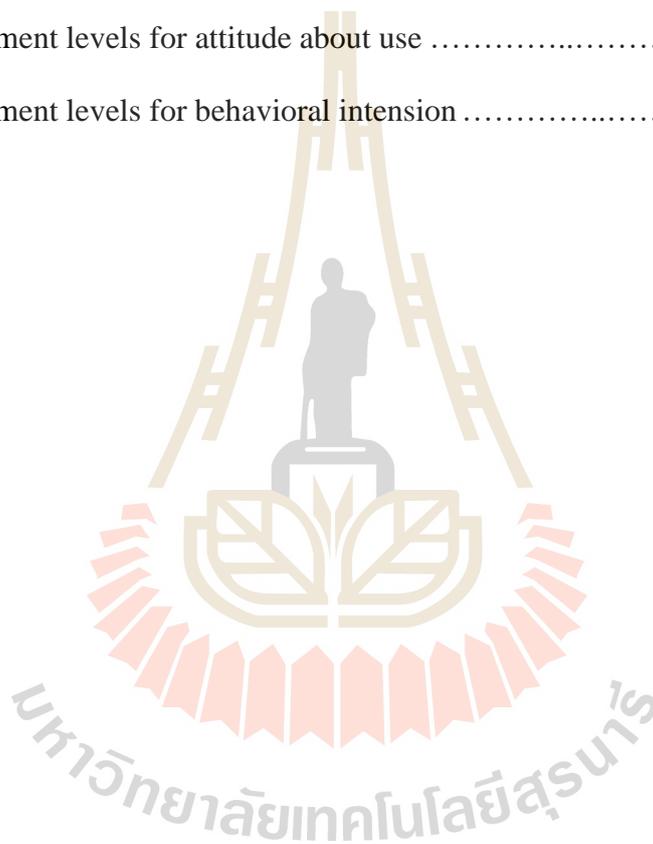


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CHAPTER 1

INTRODUCTION

In this study, the researcher attempted to investigate how flipped cooperative classroom could affect the reading comprehension of students at Nakhon Ratchasima Rajabhat University (NRRU). This introductory chapter provides statement of the problems, rationale of the study, research conceptual framework, purposes of the study, research questions, significance of the study, and scope of the study. The chapter also provides definitions of key terms of the study.

1.1 Statement of the Problems

Reading is one of the essential four language skills students need to master, not only for academic achievement but also for their professional development. For reading, like other skills, there have always been seen as having room for improvement for students. At the university level, on the one hand, students need to read study materials from a variety of sources, especially those available on the Internet. On the other hand, they have to face tests and examinations which usually contain a section on reading comprehension during their years of study in order to pass their subjects. These are just some of the many examples that students will encounter on occasions where reading comprehension skills are essential for their learning and future careers. Like all

other skills, students must possess a certain level of reading ability in order to pass their courses and to enter their chosen career.

Despite efforts to improve Thai students' reading skills and English language proficiency, their skills have been found to be at rather low levels by many researchers (Puangmaliwan, 2005; Chomchaiya & Dunworth, 2008; Uraiman, 2011; Chomchaiya, 2014; Kasemsap & Lee, 2015; Hayikaleng, et al (2016), and Sawangsamutchai & Rattanavich, 2016). Over at Nakhon Ratchasima Rajabhat University, Puangmaliwan (2005) found that in semester 2 and 3 of the academic year 2003, over 50 percent of English-major students scored lower than half in the comprehension tests of the English for Study Skills course. They received scores of no more than 28.95 and 29.60 out of 60 in the corresponding semester. More recently, a reading comprehension test was administrated to a group of third year Business English students in semester 1 academic year 2016. The results showed that the mean score was 38.94 out of 100. Additionally, two classes of first year English major-students were pre-tested in their Reading Comprehension course in semester 1 of the academic year 2017. The 82 students scored an average 19.02 out of 40. These results suggested that even the English-majored students possessed low reading comprehension ability.

As for identifying the causes of the problems, some studies have investigated factors contributing to the low levels of EFL reading comprehension (Strauss, 2008; Siriphanich and Laohawiriyanon, 2010; Tamrackitkun, 2010; Boonyapakob, et. al., 2012; and Todd, 2012 and Kongkerd, 2013). For Thai students, mostly involve the learners, the instructional methods, and the class size.

Among the main factors that affect reading comprehension include the students' low language ability, lack of reading skills or strategies, and low reading motivation.

With language ability, for example, most Thai students face the problems of remembering vocabulary and understanding sentences. They need to look up words in dictionaries, and this interrupts the reading process, slows down their reading speed, and reduces reading comprehension (Liamsakul, 1998). Moreover, students usually lack a repertoire of reading strategies to apply to an effective reading condition. For instance, Siriphanich and Laohawiriyanon (2010) claim that Thai university students who are poor readers have an undeveloped story structure and they cannot connect the new information received from the text to their individual experience. Regarding motivation, Thai students generally have low motivation to read (Siriphanich and Laohawiriyanon, 2010). Strauss (2008) investigated Thai L2 readers and found the reason behind their general reluctance to read English was due to the negative early reading experiences, leading them to avoid reading fiction and non-fiction texts. Together with their low language ability and reading techniques, they feel panic when reading and try to read as little as they can, resulting in low academic achievement with regard to reading comprehension.

Instructional method also affects students' reading ability. In general, instructional methods of teaching reading tend to include chalk and talk, with the emphasis on grammar that makes students uninterested to learn English (Tamrackitkun, 2010). Kongkerd (2013) found that in teaching reading, teachers in Thailand usually ask students to read aloud, read sentence by sentence, or section by section and then answer comprehension questions. Such conventional methods and teaching techniques have been found to be the main reason for the unsatisfactory English reading ability of Thai students, despite having been exposed to formal English language learning for many years (Vongkrahchang and Chinwonno, 2016).

Large class size is another potential factor influencing students' reading comprehension, as well as learning English in general (Boonyapakob, et. al., 2012, Todd, 2012). Due to academic management reasons, university English class sizes can be set at 50 or more students per class. The class sizes may vary from university to university. However, Todd (2012) found that, class size has an adverse effect on students' grade in English courses, especially when the class size exceeds 25 and 45 students per class. For such numbers, language learning activities involving individual practice and group learning are difficult to arrange. As reading courses require students to acquire individual knowledge and skills, a large class size cannot provide sufficient time for the teacher to manage the class effectively. Most of the class time is, therefore, used for content delivery, and less is time left for individual fluency practice. One-on-one student progress cannot be conducted properly, thus leaving the poor learners/readers behind. As long as the size of language classes are set as large as in other content-based subjects, reading classes will continue to be affected by the limitation of time available for practical individual activities in the conventional classroom.

In response to the lack of reading strategies, instructors may change their reading instructions to focus on providing students with sufficient strategies to facilitate them while interacting with the text (Durkin, 1993; Lehr and Osborne, 2006). However, this can only solve the problem of a lack of reading strategies; other problems regarding the instructional methods, reading motivation, and the class size need to be solved by considering alternative approaches. Obviously, there is a need to find a way to deal with these problems all at once.

1.2 Rationale of the Study

With regards to teaching reading comprehension, the researcher realizes that EFL students at Nakhon Ratchasima Rajabhat University have low reading abilities due to a lack of reading strategies, instructional methods, and large class sizes. Hence the researcher decided to solve the problem by means of giving reading lessons with an instructional method that supports maximum use of class time and creating a better learning environment.

A common way to solve the problem of the lack of reading strategies is to teach reading strategies to students. A number of reading strategies have been claimed to be essential for students and which should be included in all reading instructions. After an extensive search of literature on the subject (e.g. Duffy, 2009, Texas Reading Initiative, 2002, Duke and Pearson 2002, NSW Centre for Effective Reading, 2013, Duke, et al 2011, Denton, et al, 2000, Armbruster, et al, 2001, and Hock and Mellard, 2005), the following seven reading strategies are commonly suggested: predicting, generating questions, identifying main idea, identifying text structure, visualizing, inferring, and summarizing. These strategies, as well as others, have been taught in various educational contexts and among groups of learners. Moreover, they were taught using different instructional approaches and methods. As a result, teaching reading strategies alone may not be sufficient to totally claim for its effectiveness. Consequently, considerations should be put on an appropriate approach to deliver a reading strategy instruction, where all related contexts are taken into account for the optimum effectiveness of the course delivery.

With regard to the English reading instructions for EFL students at Nakhon Ratchasima Rajabhat University (NRRU), it was found that most, if not all, courses

followed the traditional or conventional classroom approach, at least for the sequence of instructional activities. The characteristics of the classroom approach are similar to what have been described by Tamrackitkun (2010), in which the methods used involve giving lectures with the emphasis on grammar. Moreover, a class size of around 50 students per class is not uncommon for English courses at NRRU. These factors have great influence on classroom management and student's learning achievement (Todd, 2011).

When it comes to choosing an instructional approach for the teaching reading strategies, one important issue to consider is the effectiveness of the use of instructional time. Regardless of what strategies or instructional media are being used, instructions usually begins with the delivery of learning inputs within the classroom time, followed by homework or assignments for students to practice reading outside class time. This method of instruction is referred to as a conventional classroom. The problem with this type of instructional method is that it is usually enough for mastery of learning contents but not for individual practicing. This problem has been tackled by reversing the direction of this method. That is, instead of giving lectures to students in class, students study the contents outside the classroom and come to class prepared, ready to do more individual practice and other activities in classroom in order to master the target skills. Such inverted direction is known as a 'flipped classroom' or 'inverted classroom' (Strayer, 2007).

Flipped classroom has been used in a various study levels and fields of study, including English language learning. Because flipped instruction method is relatively new, investigation of its effects on various learning issues is also limited. This is no exception in the area of higher education and learning English as a foreign language

(EFL) in general, and in a specific skill-focused course such as reading comprehension in particular. Nevertheless, some studies have been conducted and provide some initiating results. For instance, Karimi and Hamzavi (2017) investigated the effect of the flipped model of instruction on EFL learners' reading comprehension. The researcher used four instructor-made videos for the pre-class time activity. In the classroom the students were provided with activities to reflect, discuss, and practice what they had learned. Huang and Hong (2016), investigated English reading comprehension using a flipped English classroom where the class activities were centered around the collaborative reading tasks, which were organized into the stages of warming-up, a small-group task of collaborative reading of a passage to enhance their reading comprehension, reading fluency and application of the learned reading strategy, questioning and giving feedbacks regarding the reading passage, and class conclusion and introduction to next lesson. The results of these studies showed positive improvement in students' reading comprehension.

The term "flipped classroom" has a relatively broad definition so that it can lend itself to a variety of learning platforms and activities for both modes of learning – outside and inside classroom. For example, a flipped classroom may regard the out-of-class mode as only individual learning where each student watches online videos and takes self-assessment quizzes, while cooperative-based learning activities are reserved for face-to-face mode (Bishop and Verleger, 2013). On the other hand, some flipped classrooms employ certain types of online technology to assist out-of-class learning. Consequently, the effectiveness of a flipped classroom implementation must take into account the combination of the flipped learning approach itself and other elements being used in a particular model.

From the literature, the researcher can suggest that to achieve the maximum potential of a flipped classroom in solving problems regarding students' low reading ability, cooperative learning should also be allowed, both in the classroom and the online mode. This can be achieved by using technology that supports both online learning materials and the communication platform. This model is introduced by Liu and Liu (2016) and is known as the FCM model. Additionally, cooperative learning has also been used as a key element in a flipped classroom model, one of which is proposed by Erbil & Kocabas (2016) known as the FCM model and C-FLIP.

Since the FCM model of Liu and Liu (2016) as well as the C-FLIP model Erbil & Kocabas (2016) both contain the element of cooperative learning in both class modes, it would be more appropriate to explicitly state this element in the model, so as to distinguish from the general ones. Therefore, the new model can be called "Flipped Cooperative Classroom" (FCC Model). Additionally, the researcher has made some changes by specifying the types of learning activities in each classroom mode. This is for the purpose of identifying which elements of the model can be used for solving which problem.

Elements which have been added to the FCM model is the use of learning management system (LMS) as the educational technological tool to aid online learning. An LMS is the technology which serves educational purposes for learning online. It involves the use of a learning platform which may also come in the form of an online course/content management system (CMS) or virtual learning environment (VLE). Many LMS are available with a number of features which can be used for a flipped classroom. Apart from being a hosting site for the video lectures, an LMS can also allow for a great deal of interactivity for students. For example, students can interact

with digital contents through blogs, quizzes, and other forms of online feedback. Teachers can take advantages of an LMS for inputting grades and attendance checking, as well as managing various course activities and contents (Fathema, et al, 2015). Examples of available LMS include Edumodo, VersoApp, Schoology, My Big Campus, Haiku Learning, Sophia.org, Moodle, Black Board, Crazy For Education, InfoMentor, and Google Classroom.

Another feature that an LMS can offer is the function that allows interactions among students and between students and the teacher. A function such as Chat can enable out of class communication that supports group learning. Moreover, LMS is very useful for students to monitor their own learning progress through their grade records, either from the exercises, quizzes, and other forms of learning assessment (Sumak et al., 2011). This would help promote learning autonomy and reduce teacher's time for class monitoring. With these LMS platforms, technology can make a flipped classroom possible, and the instructor need to consider the one that best suits the classroom context.

Problems with the instructional method using the adapted FCC model of flipped classroom consist of two major parts. In part one, the Educational Technology, learning management system and multiple accessing devices are used to support the pre-class online activities (e.g. online lecture video, text-based lecture, quizzes, and discussion). In part two, Active Learning in the form of cooperative learning activities such as project-based learning (e.g. group discussion, peer interaction and guidance, individual/group tests) must be considered. These two parts together influence and improve learning environment and reading comprehension. In short, the FCC model is used in this study to solve the problems of: 1) ineffective use of class time due to large

class size by having students to learn lesson input with online technology; 2) low language ability by providing cooperative learning activities such as group work and projects; 3) low learning motivation by creating a good learning environment both online and during classroom time. Next, we will discuss how FCC can help to solve these problems.

Firstly, in a flipped classroom, lectures are moved out of the class, so that the classroom time is freed for active learning activities which focus on improving language skills. The problem of a large class size is not the class itself, but the time available for doing individual practice and group activities. The time used in a typical reading class is consumed in face-to-face interactions as well as for homework or outside classroom reading. For example, a 3-credit subject usually requires 3 hours for classroom activities and 6 hours for self-study. While the 3-hour class meeting can be managed by the instructor, the time for self-study is usually up to the students, although assignment submission can be used as an indication that the students actually did some work outside the classroom. However, with a flipped classroom, where its basic notion is “to deliver the teacher’s lectures before class through online videos, in order to free-up the in-class time for active learning and problem solving activities” (Lo and Hew (2017, p. 1), classroom lecture is assigned as a self-study task before the actual class time. By doing this, classroom time is no longer used for lecturing but for individual practice and group learning activities instead. Moreover, by using instructional technology, the time students used for doing out-of-class activities can be monitored, providing a means of managing the time required for the course effectively. This is considered a major shift in instructional design.

Secondly, a flipped classroom helps facilitate students with low language ability to learn better through technology and cooperative activities. A flipped classroom exhibits the feature of a blended learning approach which is the activity of teaching and learning that combines face-to-face physical activities with online learning (Heilesen, 2010; Lean, et al, 2014; Poon, 2014) It is considered a student-centered approach to learning because the students are active in the classroom activity, while the instructor becomes less involved in the activity and merely acts as a facilitator to motivate, guide, and give feedback on students' performance (Bergmann & Sams, 2012). In a flipped classroom, the students actively watch lecture video outside class time, at their preferred place and at their own pace, as well as doing self-check for the comprehension of the learning contents in order to prepare for the classroom participation. In short, with a flipped classroom, student are supported by learning technology that suit their learning pace together with supports from group members and the instructor.

Finally, a flipped classroom employs learning technologies and active learning activities to help improve the learning environment, which can enhance students' learning motivation and learning achievement. Hence, the benefit of applying a flipped classroom not only contributes to better understanding of technology use in teaching and class activities, but also improve students' learning motivation because they will use a variety of technological media in their independent learning activities, while the lecturer will utilize technological media for his teaching practices (Zainuddin & Attaran, 2015). Additionally, the use of flipped classrooms is based on the theory of Bloom's revised taxonomy of cognitive domain, consisting of remembering, understanding, applying, analyzing, evaluating, and creating, ranging from the lowest to the highest levels. The flipped classroom focusing on the improvement of

remembering and understanding; the lowest levels of cognitive domain, outside the class hours through practicing (Krathwohl & Anderson, 2010). The rest of the higher forms of cognitive works are to be emphasized within the class time including applying, analyzing, evaluating, and creating. When students are prepared – knowing and understanding the lesson - before they come to class, they will have more confidence to attend the classroom and are motivated to learn more at the higher levels of learning.

From the discussion thus far, the researcher can conclude that, in the search for a better instructional method for improving students' reading comprehension, a flipped classroom appears to be a promising alternative over the conventional one. Among the various models of a flipped classroom, researchers have suggested that an instructional approach which could effectively improve students' reading comprehension should be a flipped classroom combined with cooperative learning activities. After investigating several models of flipped classroom, the researcher decided to use the FCC model, which is the adapted version of the FCM model of Liu and Liu (2016) for solving the reading problems.

Recognizing the benefits of a flipped classroom method of teaching reading, together of its relative limits in the use in the field of EFL reading comprehension, the researcher sees the potential of using a flipped classroom with cooperative learning activities and the supports of LMS in solving the problems with low reading comprehension among EFL students at NRRU. It is, therefore, worthwhile to investigate its effectiveness when implementing the FCC with this particular group of students, especially when compared with the conventional classroom approach.

1.3 Purposes of the Study

The main aim of this study is to enhance students' reading comprehension by using a flipped cooperative classroom method for teaching reading comprehension with EFL students at Nakhon Ratchasima Rajabhat University. The purposes include:

1. To investigate the effects of flipped cooperative classroom on students' reading comprehension
2. To investigate the reading comprehension of students learning through the flipped cooperative classroom and those learning through conventional classroom
3. To explore students' opinions about learning experiences and the flipped cooperative classroom.

1.4 Research Questions

This study aimed to answer the following research questions.

1. What effects does FCC have on reading comprehension of Thai EFL university students?
2. What are the differences in reading comprehension between Thai EFL university students who learned with FCC and those who learned with the conventional classroom?
3. What are the students' opinions about learning with FCC?

1.5 Significance of the Study

Students' reading comprehension can be influenced by a number of factors such as the class size, the students, and the instructional methods. In order to solve the

problems of low reading comprehension among Thai EFL students, this study introduced a flipped cooperative classroom as a major teaching method. In addition to being a general model of flipped learning, this model employs explicit design of cooperative learning as the main approach for in-class activities, and utilizes educational technology, particularly the Moodle platform as the main learning management system (LMS) in this case, to support the out-of-class activities. The assumption was that by using this model of flipped cooperative classroom to teach reading strategies, students would improve their academic achievement and have positive learning experiences. Therefore, the significance of this study can affect not only the students, but also the instructors, educators, and the researchers in the field.

Firstly, the implementation of this flipped cooperative classroom model proved successful as the students improved their reading comprehension, hence achieving their academic goals. Not only that, the model could provide positive learning experiences, using both the in-class cooperative learning activities and the out-of-class activities with an online-supported learning platform. Therefore, the students were motivated to learn more and become efficient readers and successful learners in the course. Supports from every part of the flipped cooperative classroom model would work together to help the students to become better learners and happier readers.

Secondly, this flipped cooperative classroom model could benefit the teachers especially in the field of EFL reading comprehension, by providing a proper way to deal with reading comprehension issues within the scope of instructional design. The teaching model can also be applied to other subject areas. For example, within the flipped learning, the cooperative learning activities may be considered for teaching writing, listening, vocabulary, grammar, and other topics. Likewise, the LMS platform

can be used with a variety of video contents and quizzes, as well as other instructional uses. In general, flipped classroom with cooperative learning and technological support will be beneficial to both teachers who teach reading as well as teachers of other applicable subjects.

Thirdly, educators may take advantage of the flipped cooperative classroom either from the classroom learning approach or from the use of educational technology. This refers to changes at the policy level where flipped classroom can be one of the teaching methods that can be adapted to a wider context. When technologies are available as the results, the educational policy, the whole curriculum, or even institution will make full use of the flipped cooperative model.

Finally, the current study's results from the investigation of the use of a flipped cooperative classroom model could contribute to bridging the research gap concerning reading comprehension of Thai EFL university students. As there are many factors that can influence reading comprehension, the flipped cooperative classroom is one feasible approach for tackling the problem. Therefore, this study can serve as a useful resource towards improving students' reading comprehension through the use of an effective instructional approach up on which further research can explore.

1.6 Scope of the Study

The scope of this study includes the following:

1. The study sample or the participants were first year English major students at Nakhon Ratchasima Rajabhat University. Two intact classes of 37 and 34 students were enrolled in the Reading Comprehension course in the second semester of the academic year 2017 were used in the study.

2. The study covered eight lessons of the Reading Comprehension course and the experiment took 12 weeks. Each lesson took three periods of 50 minutes each, lasting for 2:30 hours in the face-to-face class time. Additionally, at least twice as much time (5 hours) was required for the outside classroom activities for both groups.

1.7 Definitions of Key Terms

1. The flipped cooperative classroom refers to the FCC model of a flipped classroom adapted from the FCM model of Liu and Liu (2016), which uses educational technologies in the pre-class learning mode and promotes in-class mode of learning to influence and improve the learning environment and reading comprehension skills. With this model, students learn in both online and face-to-face modes through cooperative activities, while instructors assist their learning.

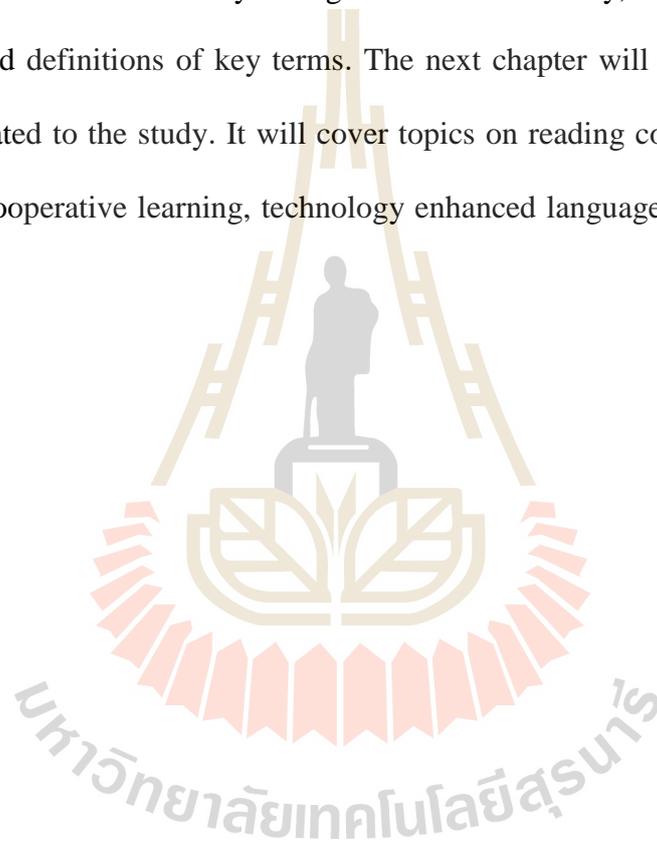
2. Conventional classroom is the teaching method which is based on lecturing, recitation, and reading assignment. The teacher has the primary responsibility in delivering contents based on textbooks, while students learn in the classroom and do homework outside the classroom.

3. Reading comprehension refers to the process of simultaneously constructing and extracting meaning through interaction and engagement with print (Reading Study Group, 2002), regarded in this study as the ability to identify from a reading passage: the main idea, supporting details, sequence, description, comparisons, and cause and effect relationships in this study.

4. Opinions refers to student's perceived learning experiences with the FCC (motivation, engagement, effectiveness, and satisfaction), and with the online learning system (system characteristics, material characteristics, perceived ease of use, perceived usefulness, attitude about use, and behavioral intention).

5. A learning management system (LMS) is a software application for the administration, documentation, tracking, reporting and delivery of educational courses or training programs (Ellis, 2009).

In this chapter, the researcher described the statements of research problems, the rationale of the study, followed by stating the purposes of the study and research questions. This was followed by the significance of the study, scope and limitations of the study, and definitions of key terms. The next chapter will discuss the review of literature related to the study. It will cover topics on reading comprehension, flipped classroom, cooperative learning, technology enhanced language learning, and related studies.



CHAPTER 2

LITERATURE REVIEW

This chapter presents a literature review of the topics related to this research study. The chapter will begin with discussing the topics on reading comprehension in relation to its general definitions, reading strategies, and reading instructions. Then the flipped classroom section will provide information on the general characteristics of flipped classroom before introducing a new model used in this study. Cooperative learning is also explained here and on how it fits into the current model of flipped classroom. Following that, Moodle is explained and its use in a learning management system which helps support online learning environments in the flipped classroom. The last section explores studies related to flipped classroom learning in general and in Thai EFL learning contexts in particular. All sections in this chapter are presented and discussed in relation to the research design of this study.

2.1 Reading Comprehension

2.1.1 What is Reading Comprehension?

Defining reading comprehension is difficult due to the difficulty in defining its border (Snow, 2010). Nevertheless, attempts have been made to define comprehension. The Research and Development (RAND) Reading Study Group (RRSG, 2002), for example, defines reading comprehension as “the process of simultaneously constructing and extracting meaning through interaction and

engagement with print". Based on this definition, the key features of reading comprehension include: the accurate decoding of print; a process of meaning construction when inferences and information are not available in the print and making meaning representation; and the reader's active and motivated engagement.

Based on this definition, the success of any reading comprehension event depends on the combination of the following three dimensions: 1) the text, 2) the reader, and 3) the task, which are situated under the sociocultural context. Hence, reading comprehension is the result of the variation of the demands of the text, the challenges of the task, and the skills.

The text plays significant roles in reading comprehension. When exposed to a text, the reader uses all available means to comprehend that text, ranging from the knowledge about the language, knowledge about meaning of words being presented according to the background knowledge, and the ability to infer meaning of the words in relation to other words and to the mental representation of the word (Snow, 2010). Comprehension also varies from the short simple text to the longer, more complex passages, as the reader need to employ more sophisticate mental ability. However, the text is not the only factor that determines the comprehension level. It must be considered together with other factors.

Snow (2010) claims that the reader is the main element that determines the success on comprehending the text. That is, students at different points of development have different abilities to comprehend text. This leads to the variations found when creating reading instructions that serves different groups of learners at both extremes of the scale. For example, struggling readers would need to be presented with instructions which can help them to comprehend at the words and sentence levels, while the more

proficient readers would require more strategies such as building and revising text representation; making inferences using sentence connectors and the real world situation; and mechanism for comprehension monitoring and repairing.

The last factor in determining reading comprehension is the task, which can be related to differences in the nature of reading tasks in different fields. Thus, any reading task of science texts would aim at remembering new information in the text, while tasks in reading a novel of the literature arts would require the learners to know basic characters, settings, and plots. However, comprehension goes beyond remembering information and basic characters, settings, and plots. Comprehension of an expository text may mean making interpretation, making connections, and critiquing the information. Likewise, making meaning out of a novel would be the appreciation of the mood, the characters' and author's perspectives, as well as the theme and the author's goal in writing the book.

The overall view of reading comprehension according to this definition is that successful comprehension occurs when these three dimensions are well aligned. Nevertheless, the three dimensions of reader, text, and task are just simple elements affecting reading comprehension, and there are more considerations regarding how to better understand comprehension by means of setting an appropriate definition. Therefore, in making an appropriate definition of reading comprehension, some other views of comprehension need to be considered in order to come to an appropriate definition.

2.1.2 Theories of Reading Comprehension

There are some theories which are particularly useful for explaining reading comprehension, namely, the simple view of reading (Gough and Tunmer, 1986),

background knowledge (Kintsch, 1998; Kintsch and Kintsch, 2005), and the role of motivation (Guthrie (2003).

In the simple view of reading, Gough and Tunmer (1986) explained that comprehension is the product of the capacity to decode and the capacity to understand spoken language. According to this view, comprehension is limited by both the speed and accuracy of word reading and oral comprehension ability. That is, if a reader has none of these abilities, he/she has no comprehension. Consequently, to improve reading comprehension, the readers need to build oral language skills such as vocabulary, comprehension of complex syntax, and comprehension of extended spoken forms. Although this view of comprehension works well in some respects, it does not explain other the importance of other critical elements such background knowledge and motivation, etc.

The view that includes background knowledge as an important element of comprehension is introduced by Kintsch, where the text, which is produced by the comprehension process, interacts with the mental model. Mental model is the representation of meaning which is constructed from the text-based and the knowledge of the world (Kintsch, 1998; Kintsch and Kintsch, 2005). Under this view, moreover, comprehension occurs when the reader interacts not only with the mental model, but also with text genre and other communication signals at the sentence level and at larger discourse levels. With these interactions, the reader makes meaning of the text by integrating pieces of information together.

Another critical view of comprehension involves motivation. Guthrie (2003) pointed out that a person's background knowledge seems to be rich in the area of interest. Moreover, readers are likely to insist on their reading when: 1) they are

interested in the topic, and 2) they have personal experience or self-efficacy. When the self-efficacy of the reader grows, comprehension skills improve, resulting in better comprehension skills and background knowledge in turn.

Reading comprehension has been discussed in relation to human information processing (Phakiti, 2006) through a model diagram showing all possible related elements. Through this model, reading comprehension can occur with careful metacognitive controlling and monitoring. Based on the human information processing, providing reading strategies through strategic instruction is one way to intentionally make students aware of their cognitive competence. In reading, many strategies have recognized as effective for improving reading comprehension, for example, identifying main ideas, author's attitudes/tones, summarizing main information, analyzing author's purposes, predicting, etc.

With regards to L2 reading, strategic instructions are essential to assist student's ability to comprehend texts, due to the complexity of the processes within the human information processing (Phakiti, 2006). In this process, a reader receives inputs through his/her receptor and processes within the working memory. Many processes occur during this period (comprehending, goal setting, memorizing, planning, retrieval, monitoring, generating feedback, and evaluating) in order to update the reader's mental representation. Through these conscious metacognitive control and monitoring, the reader process knowledge of various kinds (Domain-general/world or topical, domain-specific, procedural knowledge, and conditional knowledge) which are stored within the long-term memory known as knowledge of self and beliefs and other from people.

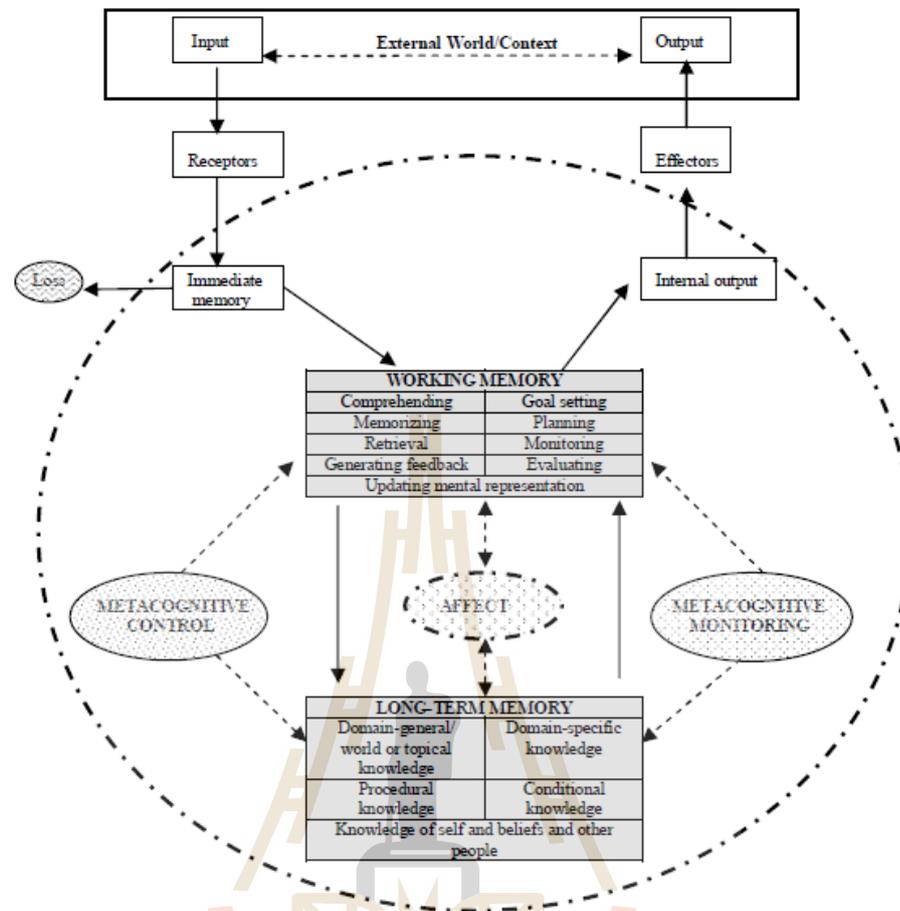


Figure 2.1 Human Information Processing (Phakiti, 2006)

Having discussed the definitions of reading comprehension together with examining different related views, the researcher realizes that reading involves complex mental processes together with other external factors. In this current study, the researcher consider the simple definition of reading comprehension as proposed by Reading Study Group (RRSG, 2002), that reading comprehension is “the process of simultaneously constructing and extracting meaning through interaction and engagement with print”. The reason is that, key elements are provided which can help determine reading comprehension ability, which are: the accurate decoding of print; a process of meaning construction when inferences and information are not available in

the print, and making meaning representation; and the reader's active and motivated engagement.

2.1.3 Reading Strategies

Reading strategies and reading skills are considered key elements in reading instructions which aim to improve reading comprehension. The terms reading strategies and reading skills are sometimes used interchangeably; however, there are some differences between them. Afflerbach et al (2008) and Manoli and Papadopoulou (2012) argue that the main difference between reading strategies and reading skills concerns with the deliberation of use. That is, while strategies are used consciously for achieving comprehension, skills are automatic process occurring while reading. For an instructional purpose, a reading strategy is viewed as a method of accomplishing comprehension which requires a set of skills. Therefore, in order to comprehend a text, only certain strategies are more appropriate than others, hence different set of skills are required for each strategy. It can be concluded that, not only the readers (the students) need to have basic skills for reading, they need to be trained on how to use them strategically, namely using suitable strategies to tackle various text types.

Many individual skills have been identified as to what make good readers. Similarly, a number of strategies have been mentioned. Nevertheless, there has not been a single set of strategies accepted by all scholars or instructors. While there is a great deal of research that helps us understand how to teach students the strategies they will need to be good comprehenders, there is no research done to state that there is one set or a preferred set of strategies or sequence of using these strategies for successful reading (Wright Group, n.d.).

Based on a review of literature, twenty reading strategies have been mentioned in books and articles (Duffy, 2009, Texas Reading Initiative, 2002, Duke and Pearson 2002, NSW Centre for Effective Reading, 2013, Duke, et al, 2011, Denton, et al, 2000, Armbruster, et al, 2001, and Hock and Mellard, 2005). These include: Generating Questions, Summarizing, Visualizing/ Imaging, Predicting, Fix-It/ Monitoring comprehension, Inferring, Identifying main idea, Identifying text structure, Using graphic organizer, Think-aloud, Activating and using background knowledge, Looking for clues, Answering questions, Retelling, Setting purposes for reading, Previewing, Theme, Drawing conclusion, Evaluating, and Synthesizing.

Out of these, some strategies have been more frequently mentioned than others, including the following eight strategies: Generating Questions, Summarizing, Visualizing/Imaging, Predicting, Fix-It/Monitoring comprehension, Inferring, Identifying Main Idea, and Identifying Text Structure.

From the researcher's point of view, among these strategies, Fix-it or Monitoring comprehension is considered a strategy which also involves the use of other strategies. Therefore, if it is to be taught, this strategy can be considered an option, or to be introduced at a later stage. When considering these strategies in the reading process, some of them may be used in the before-, while- and after-reading stages. Consequently, this study will focus on the following seven strategies:

Before- and During-Reading Strategies

1. Predicting
2. Generating Questions

During-Reading Strategies

3. Identifying Main Idea

4. Identifying Text Structures

5. Visualizing

After-Reading Strategies

6. Inferring

7. Summarizing

Teaching these strategies for reading is important, but choosing an appropriate instructional approach is also critical. The next section will explore the characteristics of a reading comprehension instruction in order to identify ways to optimize their effectiveness.

2.1.4 Reading Comprehension Instruction

A number of characteristics of an effective instruction for reading comprehension have been suggested. For example, Duke et al (2011) provide ten essential elements for fostering and teaching reading comprehension. The elements include:

1. Build disciplinary and world knowledge.
2. Provide exposure to a volume and range of texts.
3. Provide motivating texts and contexts for reading.
4. Teach strategies for comprehending.
5. Teach text structures.
6. Engage students in discussion.
7. Build vocabulary and language knowledge.
8. Integrate reading and writing.
9. Observe and assess.
10. Differentiate instruction.

The ten elements according to Duke et al (2011) are general suggestions of what an effective reading comprehension instruction should have. For a more effective

process of reading instruction, three steps are commonly suggested as a general framework that can be applied to the teaching of reading strategies.

Before Reading. During this stage, the teacher motivates students through activities that may increase their interest and activate students' background knowledge important to the text content. At the same time, students establish a purpose for reading, identifying and discussing difficult words, phrases, and concepts in the text, preview the text to make predictions about its content, or think, talk, and write about the topic of the text.

While Reading. Teacher may remind students to use comprehension strategies, ask questions that keep students on track and focus their attention on main ideas and important points in the text, focus attention on parts in a text that require students to make inferences, call on students to summarize key sections or events, and encourage students to return to any predictions they have made before reading to see if they are confirmed by the text. The students may determine and summarize important ideas and supportive details, make connections between and among important ideas in the text, integrate new ideas with existing background knowledge, ask themselves questions about the text, sequence events and ideas in the text, offer interpretations of and responses to the text, check understanding by paraphrasing or restating important and/or difficult sentences and paragraphs, and visualize characters, settings, or events in a text.

After Reading. The teacher may guide discussion of the reading, ask students to recall and tell in their own words important parts of the text, offer students opportunities to respond to the reading in various ways including through writing, dramatic play, music, readers' theatre, videos, debate, or pantomime. The students may evaluate and discuss the ideas encountered in the text, apply and extend these ideas to

other texts and real life situations, summarize what was read by retelling the main ideas, and discuss ideas for further reading.

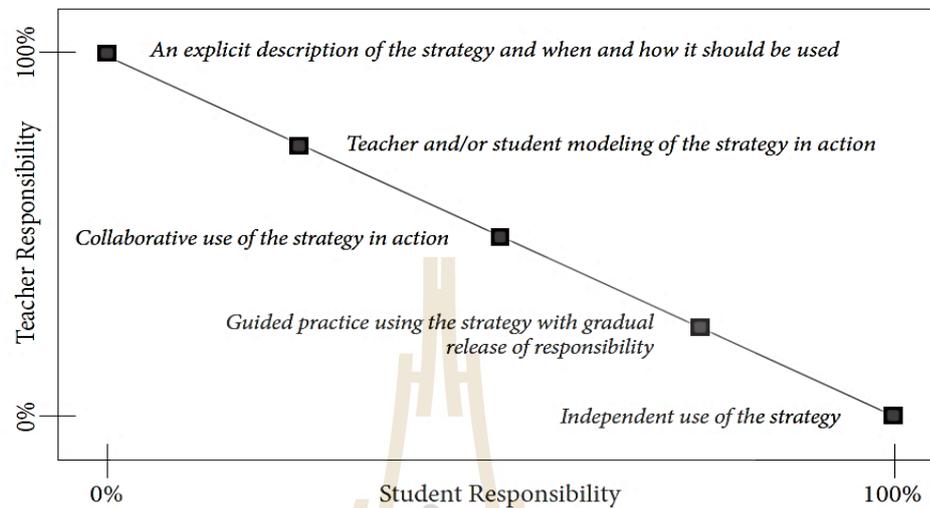


Figure 2.2 An Adapted Version of the Gradual Release of Responsibility

Model(Duke & Pearson, 2002, pp. 208–210)

Another feature of an effective instruction for teaching reading comprehension strategies deals with the balance between the instructor's roles and the students' roles. This feature is recommended by Pearson & Gallagher (1983) in their model of gradual release of responsibility. This model illustrates how the responsibilities of reading instruction are gradually released and transferred from the teacher to the students in five stages. The model shown in Figure 2.1 has been adapted by Duke and Pearson (2002). The five stages of responsibility release begin with an explicit description of the strategies and when and how it should be used, followed by the teacher and/or student modeling of the strategy in action, collaborative use of the strategy in action, guided practice using the strategy with gradual release of responsibility, and independent use of the strategy. Through this process, the teacher's

sole responsibility in the first stage is gradually transferred to the students until total responsibility is taken up by the student in the final stage of independent use of the strategy.

From the above discussion, reading instruction has the general characteristic of being divided into the stages of before reading, while reading, and after reading, each of which contains different activities (Duke et al, 2011). These activities are conducted in such a way that the teacher's responsibility is reduced along the instructional time line in the opposite direction to the students' responsibility, according to the Gradual Release of Responsibility (Duke & Pearson, 2002). Hence, the reading instruction usually begins with activities which needs teacher scaffolding, and ends with student's independent learning activities. Through this, students learn from the teacher until they can perform reading by themselves.

Apart from elements and stages in a general reading instruction, many frameworks have been introduced that may be used in a variety of learning contexts. These frameworks are described in the following section.

2.1.5 Frameworks for Reading Comprehension instruction

Various frameworks have been suggested for effective reading comprehension instructions. The following five frameworks are claimed to be highly effective (Liang and Dole, 2014). These frameworks either focus on understanding content or learning the process, or both. These frameworks are: 1) The Scaffolded Reading Experience (SRE); 2) Questioning the Author (QtA); 3) Collaborative Strategic Reading (CSR); 4) Peer-Assisted Learning Strategies (PALS); and 5) Concept-Oriented Reading Instruction (CORI).

The Scaffolded Reading Experience (SRE) is an instructional framework which is designed for improving students' understanding and engagement with individual texts by giving students support for practice in reading all types of text with understanding, especially difficult texts. SRE consists of the planning stage and the implementation phase. In the planning phase, the teacher identifies factors influencing students' success and failure in reading, the purpose of reading, and plans reading activities to achieve the purposes accordingly. In the implementation phase, the teacher gets involve in three sets of activities – pre-reading, during reading, and post reading. Throughout these activities, the teacher helps the students to achieve the reading goals.

Questioning the Author (QtA) is an instructional framework which emphasizes on students asking questions regarding the author in order to gain understanding about the text. In QtA, the students are taught to ask questions on what they read, to think, to probe, to associate, and to critique. Questions to be asked can lead to the teacher-student and student-student high-level discussions on text, like the author's idea and the broader context of the text. Understanding about the text occurs during the discussions. The formats of the discussion can be done with the whole class or in small groups, and it can be completed within one class or takes many weeks depending on the length of the text.

Collaborative Strategic Reading (CSR) focuses on understanding the strategic process, that is, the students learn certain comprehension strategies to apply with different text types. Typical CSR instruction consists of cooperative learning groups moving through four cards of comprehension strategies to read and understand their text. For example, the group may start with the Preview card in which they need

to brainstorm what they know about the topic and make some prediction about what they are going to read, and sharing among the group members. After that, they use the second card called Click and Clunk that requires them to find words, concepts, or ideas that they do not understand (clunk) and use the prompt to direct them to what strategy to be used in order to overcome the misunderstood words, ideas, or concept in the passage. The next card, Get the Gist, ask the students to find the main idea of the passage. In the last card, Wrap Up card, students are asked to generate a list of questions with answer to show that they understand the main points of the text. The CSR has been found to be effective when used in a cooperative reading instruction where multiple reading strategies are being used for different types of texts. In addition to learning the strategy process, the students can comprehend the text read.

Peer-Assisted Learning Strategies (PALS) involves two students, with the role of ‘Coach’ and ‘Reader’ taking turn reading and doing after reading activities. There are three activities for PALS. In the first activity, the higher reader or the coach reads a paragraph as the model for 5 minutes, and then the reader reads the same paragraph for another 5 minutes. The coach shows prompt cards to the reader asking questions such as ‘What happened first?’, ‘What happened next?’, and so on. The next activity is called Paragraph Shrinking. Each reader continues taking turns reading a paragraph before stopping and find the paragraph’s main ideas, which is the answer for the prompt questions ‘Who or what is the paragraph about?’ and ‘What is the most important thing about the who or what?’. Prediction Relay is the last activity which is used with larger reading unit. There are four sub activities: 1) making a reasonable prediction; 2) reading half a page; 3) checking the prediction; and 4) making summary

of important information. PALS is effective when a pair consists of a proficient reader who can help the partner.

The last framework is **Concept-Oriented Reading Instruction (CORI)**. This framework focuses on both understanding the content and learning the process. There are four phases in the instruction process. The first phase is called Observe and Personalize where students are motivated to learn the particular topic of interest. The teacher may present pictures of models related to the topic and observe their students' interest after asking related questions. In the second phase, Search and Retrieve, students search for information from various sources of text. Then in the third phase, students comprehend more about the topic using more strategies and integrate the searched information. The final phase, Communication, involves the students finding ways to present information to their peers. Throughout the process in the CORI, the main goal is the students' motivation and engagement. Students are motivated about the topic and engage in the process of understanding the contents while using different comprehension strategies.

The reading instruction frameworks described here are suitable for different reading instructions and in different learning situations. There may be variations regarding their implementation with real learning situations. For this study, many of these frameworks will be considered for use in various activities based on their suitability in the lesson contexts. In particular, these frameworks will be chosen to suit the cooperative learning activities, especially for the flipped classroom model.

2.2 Flipped Classroom

This section discusses the various topics in the flipped classroom model. The section begins by providing a broad definition of flipped classroom before examining theories underpinning the flipped classroom. After that, components and models of flipped classroom will be investigated. Finally, the role of flipped classroom in relation to cooperative learning will be discussed.

2.2.1 What is a Flipped Classroom?

Flipped classroom is considered one of the rotation models in the Blended Learning (Halili and Zamzami, 2015). In general, a flipped classroom, or inverted classroom is an instructional method that moves content lectures to be studied by the students outside of the classroom to free up the class time for more active learning activities. The flipped classroom has been given a number of definitions.

Abeysekera and Dawson (2015) have given a broad definition of a flipped classroom which is a set of pedagogical approaches that: 1) move most information-transmission teaching out of class; 2) use class time for learning activities that are active and social; and 3) require students to complete pre- and/or post-class activities to fully benefit from in-class work. This definition is regarded by the authors as a superset of existing definitions; therefore, it does not mention about the merit or efficacy of the flipped classroom approach, criticism of existing teaching modes, the motivation to use flipped classroom approach, and technologies used in the flipped classroom approach.

Bishop and Verleger (2013) define a flipped classroom as “an educational technique that consists of two parts: interactive group learning activities inside the classroom, and direct computer-based individual instruction outside the classroom”. This definition is restricted to the flipped classroom which uses videos in the outside

classroom activity, and disregard designs that do not use the videos. The flipped classroom according to this definition is illustrated in Figure 2.3.

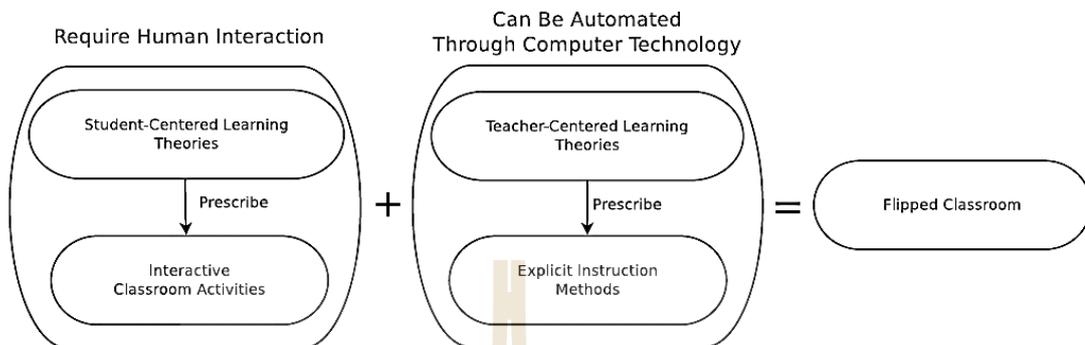


Figure 2.3 Flipped classroom. (Bishop and Verleger, 2013)

Based on the definition given by Bishop and Verleger (2013), it is clear that the outside class activity is included in the explicit instruction in the form of lecture video, under the teacher-center learning theories. In contrast, although the inside classroom activities are supposed to be interactive under the umbrella of student-centered learning theories, there are many terms involved. That is, it is suggested that to be regarded as a student-centered learning, the activity needs to involve active learning. An active learning activity may be in such forms as, cooperative learning, collaborative learning, and peer tutoring, all of which are under the peer-assisted learning – these forms of learning can co-exist with problem-based learning. Bishop and Verleger (2013) provide a Venn diagram to illustrate these complex relationships, as shown in Figure 2.4.

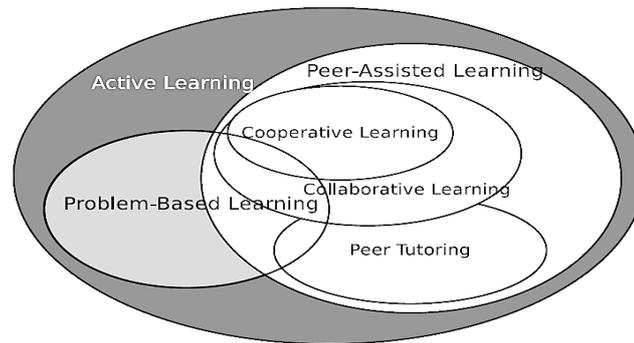


Figure 2.4 Venn diagram of several student- centered learning theories and methods. Bishop and Verleger (2013)

From the discussions so far, the definitions of a flipped classroom generally regard the out-of-class activities to be designed for individual learning, what Bishop and Verleger (2013) refer to as the explicit instruction methods under the teacher-centered learning theories. In other words, the general model of a flipped classroom usually assumes individual learning in the preparation module of learning and emphasizes more active learning activities. That is, the learners are expected to learn individually in the online mode, and then they are allowed to learn in groups in the face-to-face mode of learning.

However, it is argued that if learning cooperatively or collaboratively can be made possible through the advancement of online technology, there is no reason to limit the learners only to the individual learning. On the other hand, cooperative learning can be promoted in a flipped classroom by assigning group learning activities to the learning flipped classroom model. For example, a definition given by Kim et al (2014) is that a flipped classroom is an open approach that facilitates interaction between students and teachers, and differentiated learning by means of flipping conventional events both inside and outside of the classroom and supporting them with

digital technologies. This definition clearly states that interaction, which includes cooperative learning, can occur both within the online and the face-to-face classes. This idea is supported by a flipped classroom model introduced by Liu and Liu (2016), integrating the online discussion activity into the pre-class and the in-class sessions in addition to other common activities of a flipped classroom. The model is presented in the figure below.

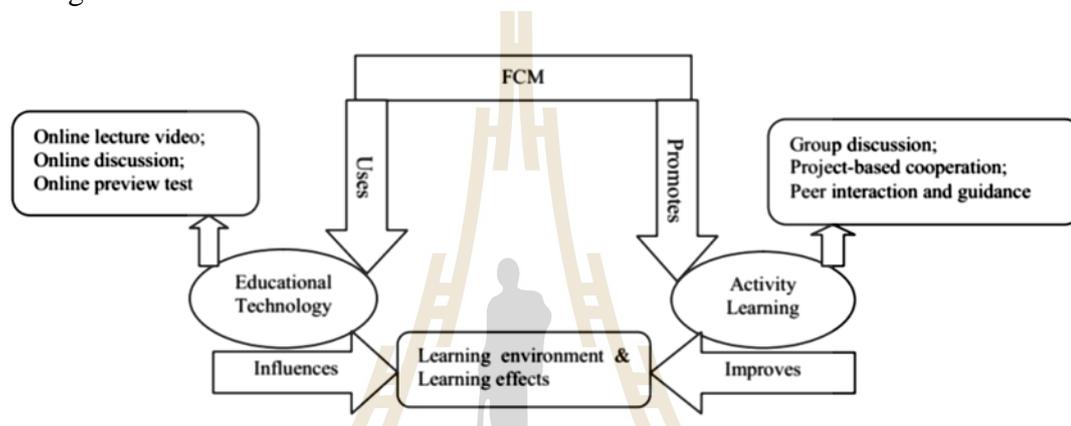


Figure 2.5 The theoretical framework of a flipped classroom and interactive relationships of its elements.

As illustrated in Figure 2.5, the Flipped Classroom Model (FCM) uses educational technology (online lecture video, online discussion, and online preview test) in the pre-class session to influence learning environment and learning effects, while promoting the activity learning in the classroom through group discussion, project-based cooperation, and peer interaction and guidance to improve learning environment and learning effect. Essentially, cooperative learning can occur in both in the online out-of-class and the face-to-face in-class environment.

In summary, while many definitions of a flipped classroom regard active learning only in the in-class part, leaving the out-of-class session for individual learning

with technology (Abeysekera and Dawson, 2015, Bishop and Verleger, 2013), some definitions do include student-led activities such as collaborative or cooperative learning within the out-of-class session (Kim et al, 2014, Liu and Liu, 2016). Therefore, if the general definition of a flipped classroom is to be used, it is recommended that types of learning approach need to be reconsidered so that the two parts of the instructional mode support active learning activities.

2.2.2 Characteristics of Flipped Classrooms

Flipped classroom is an instructional approach or method which has many characteristics and related learning theories and concepts, depending on the general characteristics and specific activities being used. In general, the most relevant theory is Blended Learning (BL), under which flipped classroom falls. Other theories are related to flipped classroom in terms of the learning methods being used, such as the Project-based Learning (PBL), instructional approach like student-centered learning in the Constructivist Theory and Social Interdependence Theory (SIT), or the cognitive outcomes being focused like Cognitive Taxonomy Theory (CTT).

Blended Learning (BL) is a pedagogical approach which involves face-to-face, computer mediated, and online learning. In BL, many types of combination between teaching and learning are presented, resulting in multiple teaching methods, teaching environment, teaching media, and teaching elements. The main advantage of BL is that it minimizes some weaknesses of the full online course by providing the face-to-face time for the instructors to clarify the misconceptions (Tong et. al, 2012; Hussey, et al, 2015). Flipped classroom learning takes a form of BL which involves the combination of online and classroom mode. However, the difference is only the reversed learning order, where online lectures occur before the classroom activities.

Therefore, the flipped classroom will be largely enhanced by BL especially in the online part.

Project-Based Learning (PBL) is related to flipped classroom learning in that it is a student-centered pedagogy in the form of project or problem. Learning activities involve solving problems by student or group of students. PBL has been found to be the most effective way to deal with student engagement with learning content as it provides students with opportunity to solve problems in the real world. The teacher plays the role of a facilitator working alongside with the students, assisting the process of questioning and structuring meaningful and authentic tasks, as well as providing useful feedback to students (Bender, 2012; Hussey et al., 2015). In some flipped classroom models, PBL is designed for enhancing active learning through cooperative project, where students learn from the group process and the feedbacks of each other and the instructor.

Cognitive Taxonomy Theory (CTT) focuses on Bloom's cognitive domains in learning. The hierarchical nature of the modified domains starts from the lowest level of remembering and ends with the highest level of creating. CTT fits into the flipped learning in that, the online part of the flipped classroom is designed to prepare the learners to master their learning domains of remembering and understanding before the class time, in order to free up the class time for high levels of domains, namely applying, analyzing, evaluating, and creating (Alsowat, 2016). The Bloom's taxonomy of the CTT therefore serves as the basic structure of the flipped classroom instruction that the teacher should take into account when designing and implementing their instructions (Gareis & Grant, 2015; Hussey et al., 2015).

Another important theory is the **Constructivist Theory**, which focuses on active learning that values students' questions, students as thinkers, and working in groups. Based on this theory, students learn more when they are given opportunity to take responsibility of their own learning. Moreover, constructivists believe that learning process is not sequential and linear, but highly complex and integrated. The learning process also involves having students engaged in meaningful activities which are modified by their previous knowledge. Learning activities are structured for learners to generate and make control of their learning development throughout the process from the beginning to the end (Foote, et al, 2013; Keengwe et al., 2014). In the flipped classroom, most instructions are designed with various forms of active learning activities, not only in face-to-face element, but also in the online learning environment.

Student-centered Learning is also a form of active learning which involves transforming learning into a dynamic, interactive learning environment. Under the student-centered learning approach, educators act as the facilitators to guide learners while they are applying concepts. This approach highly values creative engagement in the subject matter. It is claimed that these activities are the heart of flipped classroom – no student-centered learning activities, no flipped classroom (Mathews, 2015).

Social Interdependence Theory (SIT) presents another view of constructivist active learning and student-centered learning where the focus of learning is on structuring the participants' goals, which will further determine the interaction patterns and the subsequent learning outcomes. An important term of this theory is cooperation which describes the interdependency among learners. When students cooperate, they create positive social interdependence among themselves to achieve the shared goal. When students develop positive social interdependence, they have higher

self-esteem, better social skills, and better grades. In flipped classroom, positive social interdependence is considered as one of the key elements which can be promoted through cooperative learning (Ainsworth, 2013; Johnson & Johnson, 2011). Cooperative learning activities should therefore be considered in the flipped classroom instructional design.

The above learning concepts are discussed here in relation to their relevancy to the general features of the flipped classroom. They explain how flipped classrooms can effectively enhance students learning. However, there are also many other theories which may relate to the implementation of flipped learning when considering different aspects in the flipped classroom structure. For example, in a flipped classroom which employs certain types of technology for the online learning environment, theories related to online learning such as computer-mediated learning or mobile learning may be relevant. In the current study, a mobile-enabled learning management system (LMS) is to be used in the online part of the classroom, which will be discussed in a later section.

2.2.3 Components of a Flipped Classroom

Elements of a flipped classroom can be viewed in many different dimensions. According to Brame (2013), there are four key elements of the flipped classroom identified by Vanderbilt University's Center for Teaching:

1. Provide an opportunity for students to gain first exposure to content prior to class.
2. Provide an incentive for students to prepare for class.
3. Provide in-class activities that focus on higher-level cognitive activities.
4. Provide a mechanism to assess student understanding.

These four key elements are based on the statement of *How People Learn* (National Research Council, 2000) which state that to develop competency in a subject, students must develop factual knowledge, understand that factual knowledge in the context of a conceptual framework, and then organize knowledge in a way that allows them to transfer and apply it. By allowing students to use knowledge in class with feedback from peers and the instructor, flipped classrooms help students correct misconceptions and organize new knowledge effectively.

Another set of key elements of a flipped classroom is provided by the University of Adelaide (2017). These elements represent characteristics or framework for designing and implementing a flipped classroom. The elements include the followings.

- 1) How and why - students need to understand both how and why they should attend a flipped classroom.
- 2) Workload shift – workloads are only shifted, not increased.
- 3) Conceptual framework - learning is designed using various frameworks is for before class and in class sessions.
- 4) Pre-class cognitive engagement – students need to engage in various interactive pre-class activities.
- 5) Gathering data of student understanding - student levels of understanding of pre-classroom content is essential before the face-to-face time.
- 6) Space and Time – space and time need are considered differently in a flipped classroom with regard to the traditional classroom.

7) Metacognitive – a flipped classroom provides students with ways to see how they move from lower levels to higher levels of thinking and control their own learning progress.

8) Value added – students should view face-to-face time for more than just remembering and understanding the contents but for higher order of thinking skills.

9) Interactivity and cognitive engagement – the face-to-face session should focus on socially interactive and cognitive engagement.

10) Lectures and mini-lectures – flipped classroom should take advantage of lectures and mini-lectures.

Another different view of flipped classroom provided by the Flipped Learning Network (2014) regards four elements as the FLIP Pillars. These elements identify key methods of learning, which is provided by the instructor according to the flipped classroom design.

1. Flexible Environments. Flexible environment can be created by the instructor by: establishing spaces and time frames that allow students to interact and reflect on their learning as needed; observing and monitoring students to make adjustments as appropriate; providing students with different ways to learn content and demonstrate mastery.

2. Learning Culture. In the flipped learning model, learning culture shifts considerably in the way that students explore contents before face-to-face time for more in-depth learning. Instructors can create flipped learning culture by: giving students opportunities to engage in meaningful activities without the teacher being central; scaffolding activities and making activities accessible to all students through differentiation and feedback.

3. Intentional Content. Instructors decide on what contents are important and how to help students gain conceptual understanding of those contents. Instructors can assist students for learning intended contents by: prioritizing concepts used in direct instruction for learners to access on their own; creating and/or curating relevant content (typically videos) for students; differentiating to make content accessible and relevant to all students.

4. Professional Educators. Teachers need to make observations on their students and provide feedbacks relevant the students' work. Teachers implements this by: being available to all students for individual, small group, and class feedback in real time as needed; conducting ongoing formative assessments during class time through observation and by recording data to inform future instruction; collaborating and reflecting with other instructors and taking responsibility for transforming the practice.

With regard to the above views, it can be concluded that categories of the flipped classroom elements may not be as important as what they are for learning effectiveness. Therefore, when designing and implementing a flipped classroom, various aspects should be considered for all relevant elements. That is, although there has not been an agreed category, many offer useful consideration in the flipped classroom operation. The next section offers further consideration of a flipped classroom model to be used in this study.

2.2.4 Models for a Flipped Classroom

A number of models have been used with the flipped classroom method. Each model comes from the theories on which the learning activities are based. Although there have not been an agreement on the distinct names and their features, some researchers have attempt to identified various flipped classroom models.

Karlsson and Janson (2015) provide a general model for the flipped classroom. The model consists of two learning modules. The preparation module consists of learning videos, quiz, and reading, while the In-class learning module focuses on clarification, In-depth, and Outlook.

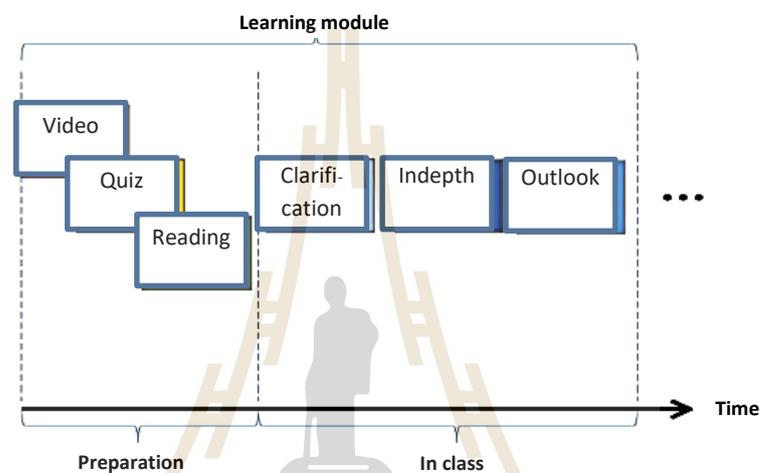


Figure 2.6 Illustration of a flipped classroom module (Karlsson & Janson, 2015)

A Flipped Mastery Learning is introduced by Bergmann and Sams (2012). In this model, students are supposed to learn and achieve course objectives at their own pace. Namely, the teacher needs to identify differences in learning progress and adjusts learning environments accordingly to facilitate those individual differences. This model, although difficult to implement in a large class, has been found useful in teaching small groups of students with large ability gaps and personal needs.

A flipped classroom according to Bishop and Verleger (2013), who have identified different types of active learning and their relationships (see Figure 2.3), can have many models depending on the learning type used in the inside classroom activity. The followings are possible models: Implicit Instruction Methods + Peer-assisted

Learning; Implicit Instruction Methods + Collaborative Learning; Implicit Instruction Methods + Cooperative Learning; Implicit Instruction Methods + Peer Tutoring; Implicit Instruction Methods + Problem-based Learning; and Implicit Instruction Methods + Integrated Active Learning

There will be endless models depending on the variation of elements in the online and classroom design. For the purpose and scope of this study, the Implicit Instruction Methods + Cooperative Learning model will be chosen as the core design. This model will be further modified in details to suit instruction. The detail of the flipped classroom with cooperative learning will be discussed in the next section.

2.2.5 Flipped Cooperative Classroom

The general model of a flipped classroom usually assumes individual learning in the preparation module of learning and emphasizes more on active learning activities. That is, the learners are expected to learn individually in the online mode, and then they are allowed to learn in group in the face-to-face mode of learning. However, it is argued that, if learning cooperatively or collaboratively can be made possible through the advancement of online technology, there is no reason to limit the learners only to the individual learning. In other words, with educational technology, cooperative learning can also be applied to the out-of-class online mode of learning, in addition to the in-class face-to-face mode. Two flipped classroom models which mention the elements of technology and cooperative learning have been provided by Erbil and Kocabas (2016) and Liu and Liu (2016). These two models have both strengths and weakness, but together they can be developed into a good flipped classroom model.

An attempt to integrate cooperative learning into a flipped classroom model was done by Erbil and Kocabas (2016) proposed a model called C-FLIP (Cooperative Flipped Classroom). This model was developed in response to the notion that cooperative learning was found to be more effective with face-to-face interactions than online interactions (Johnson & Johnson, 2013), and that there was too little too little discussion of how technology can facilitate and enhance cooperative endeavors (Johnson & Johnson, 2014). In fact, various learning areas of cooperative learning have been supported by technology. To list a few: Cooperative reading, Cooperative writing, Reflecting on a discussion, Illustrating a report, Multimedia projects, Covering relevant events, Communication and collaboration software, WebQuests, Creating a website, Web-enabled multiplayer simulation games, and Course management (Johnson and Johnson, 2014).

The ultimate aim of C-FLIP m model was to enhance learning through the use of the four elements for the flipped classroom (FC) proposed by Hamdan and McKnight (2013) and cooperative learning (CL) process of Slavin (1995). According to this model, FC elements (Flexible environment, Learning culture, Intentional content, and Professional educators) are integrated with the first two CL elements of Group goals and Social cohesion to promote student's Motivation to learn, Motivation to engage groupmates to learn, and Motivation to help groupmates to learn. Students motivation leads to and is affected by evaluated explanations (peer tutoring), peer modeling, cognitive elaboration, peer practice, and peer assessment and correction. The end result of this model is Enhanced Learning.

The advantage of the C-FLIP model is that it illustrates relationships between various elements of two different models to explain how they improve

students' learning. On other word, it provides points of reference to the claims of how the learning outcomes have been improved. Therefore, any effects happened to students' learning outcomes can be referred back to the elements within the model. Although this model was originally designed improving students' learning at elementary education, its represent features which can be applied to all educational levels.

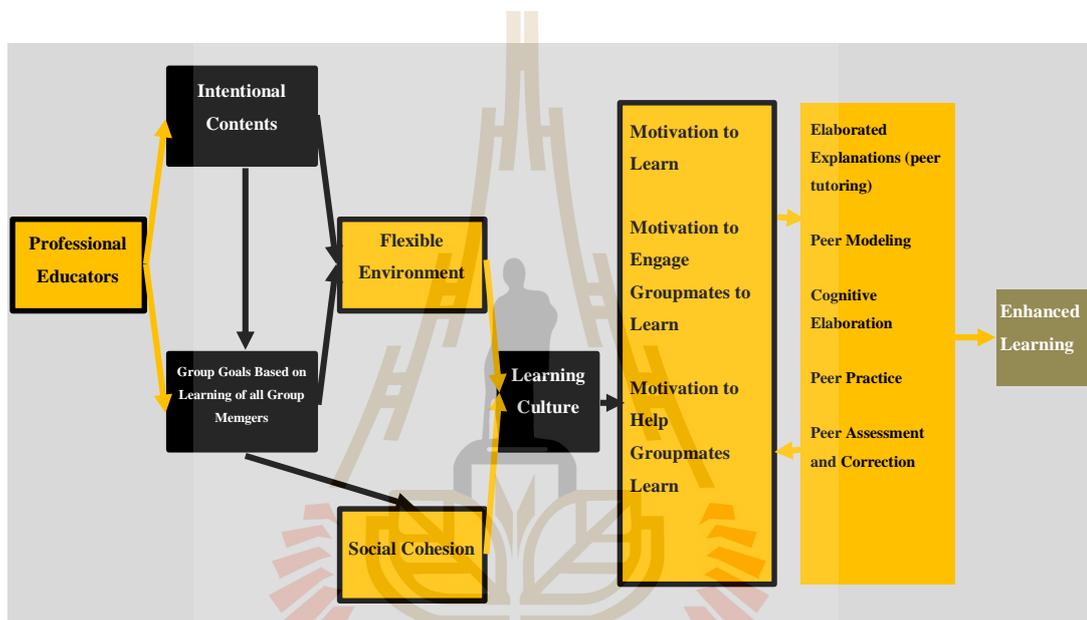


Figure 2.7 C-FLIP model (Erbil & Kocabas, 2016)

Nevertheless, there are also weak points of this model. This model does not include elements or explain how technology fits into the model. The absence of technological elements from this model make it relatively difficult to apply technological tools in order to make the model workable. With this conceptual model, the researcher suggests that other models need to be considered and integrated to provide a more workable model with practical value. To fulfill this gap, a model introduced by Liu and Liu (2016), the FCM Model, was consider.

The Liu and Liu' (2016) FCM Model integrates the online discussion activity into the pre-class and the in-class sessions in addition to other common activities of a flipped classroom. The model is presented in the figure below.

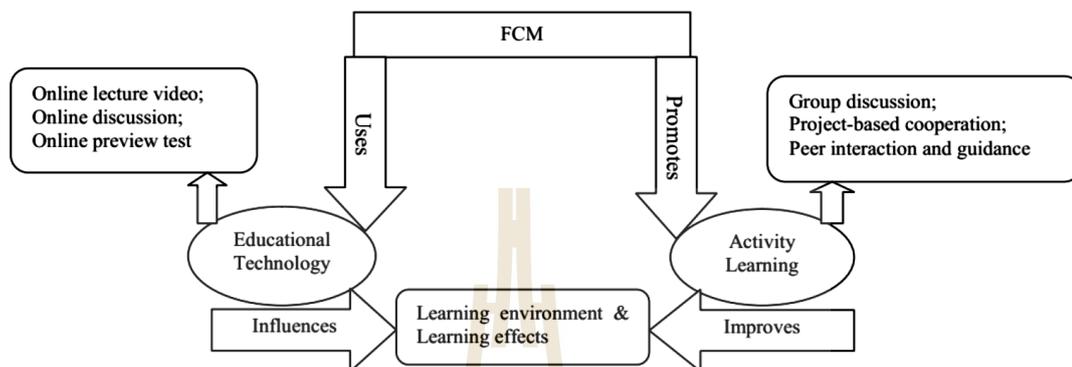


Figure 2.8 The theoretical framework of flipped classroom and interactive relationships of its elements (Liu & Liu, 2016)

As illustrated in Figure 2.8, the Flipped Classroom Model (FCM) uses educational technology (online lecture video, online discussion, and online preview test) in the pre-class session to influence learning environment and learning effects, while promoting activity learning in the classroom through group discussion, project-based cooperation, and peer interaction and guidance to improve learning environment and learning effect. Essentially, cooperative learning can occur in both the online out-of-class and the face-to-face in-class environment.

Having considered all the elements, it has been found that FCM model seems to contain all satisfied elements required for an effective flipped classroom. It uses educational technology and cooperative learning activities to emphasize student-led learning through the detailed steps in the out-of-class and in-class learning. Therefore, the results of the effective implementation of the FCM model (Liu & Liu, 2016) with actual learning were explained in terms of effective process of implementation as a whole. Nevertheless, there has not been explanations of the

model's effectiveness in relation to technological tools used in the process, for how they help improve the key elements of a flipped classroom. Rather, the effectiveness was based on the assumption that technology used for managing the flipped classroom was supportive for flexible learning environment. Moreover, the use of cooperative learning in the FCM model was seen as student-led learning, but explanations on which cooperative elements influenced students' learning, as described in Erbil and Kocabas' (2016) C-FLIP model. Therefore, adding more specific technology type and giving more details on cooperative learning environment would make the FCM a better model.

The following summary shows the advantages and disadvantages of each flipped classroom model.

1) Flipped Classroom Module (Karlsson & Janson, 2015). This model provides a general scope for a flipped classroom. It indicates clear components of each module of learning, where videos, quizzes, and reading are used for the Preparation module, while clarification, in-depth and outlook learning are focused in the In-class module. However, this module still lacks detail on how the Preparation module is implemented. Therefore, if the videos, quizzes, and readings are to be done through technology, the 'Technology' element should be explicitly presented.

2) Flipped Mastery Learning (Bergmann and Sams, 2012). This model takes a form of flipped classroom learning with the emphasis on serving individual's learning needs. The model aims at enhancing student's learning achievement through independent learning by maximizing learning flexibility to suit vast differences in student ability and learning styles. Although this model is ideal for classes of small sizes, it may not be suitable for large classes due to the difficulty in arranging activities to cover all learning preferences. Therefore, this model is not considered for this study.

3) Flipped classroom models (Bishop and Verleger, 2013). Various models are suggested based the integration of the general flipped classroom structure and a type of classroom activities. Each model consists of the “Implicit Instruction Methods’ part and the ‘Type of Learning Activity” part. Accordingly, six models are possible, including the ‘Implicit Instruction Methods + Cooperative Learning’ model. This model suggests that a flipped classroom can be implemented with cooperative learning activities to create successful learning. Although there are no explanations on how each part of the model are to be operated, this model is chosen as the main stem for this study. However, further development and elaboration are needed in order to make a complete model.

4) Cooperative Flipped, C-FLIP (Erbil & Kocabas, 2016). This model attempts to integrate cooperative learning into a flipped classroom model. It includes the four elements for the flipped classroom (FC) of Hamdan and McKnight (2013) and cooperative learning (CL) process of Slavin (1995). These elements are used to explain in terms of their relationships within the process of learning until the final goal, Improved Learning, is achieved. This allows the teacher or researcher to make reasonable claims that the improved learning is supposed to be the results of these elements in the C-FLIP model. However, this model does not provide sufficient details about technology used in facilitating instructional process.

5) Flipped Classroom Model, FCM (Liu & Liu, 2016). This model expands on the general flipped classroom model and presents its elements to illustrate their relationship. The advantage of this model is that it includes all essential elements of a flipped classroom. Moreover, relationships among elements are clearly stated. FCM uses Educational Technology: Online lecture video, Online discussion, and

Online preview test to influence Learning environment & Learning effects. At the same time, FCM promotes Activity Learning which includes Group discussion; Project-based cooperation; and Peer interaction and guidance to improve Learning environment & Learning effects. The FCM is so far one of the most comprehensive models which explains a flipped classroom and cooperative learning. However, there are still some elements in this model which need to be further developed, especially those associated with technological tools and cooperative learning.

The Development of the Current Model

As discussed so far, the model for a flipped cooperative classroom expands from the general flipped classroom to an essential element of cooperative learning by adding to the pre-class and in-class modes of learning in the form of discussions and various cooperative learning activities. In the current study, a new model has been developed integrating together two flipped classroom models: the C-FLIP (Erbil & Kocabas, 2016) and the FCM model (Liu & Liu, 2016), and specifying educational technology type into the model. This model is called Flipped Cooperative Classroom (FCC). With this model, the key technology used to support learning is the learning management system (LMS) and the accompanied mobile learning.

LMS is chosen as the key technology in this model because it is a web-based software application for the administration, documentation, tracking, reporting, and delivery of educational courses or training programs (Ellis, 2009). The main role is to handle all aspects of the learning process by means of being an infrastructure that delivers and manages instructional content, identifies and assesses individual and organizational learning goals, tracks the progress towards meeting those goals, and

collects and presents data for supervising the learning process of organization as a whole (Szabo & Flesher, 2002). Mobile learning, another key technology element, is added to the FCC to provide flexible and convenience learning environment to a flipped learning. To be effective, a flipped classroom needs to make the use of mobile devices in creating convenient environment, both the approachable convenience and convenience of using mobile devices (Kim, et al, 2016). With these two technological features of LMS and mobile learning, the FCC model is supposed to effectively improve learning outcomes.

The complete Flipped Cooperative Classroom (FCC) model for this study is presented in Figure 2.9.

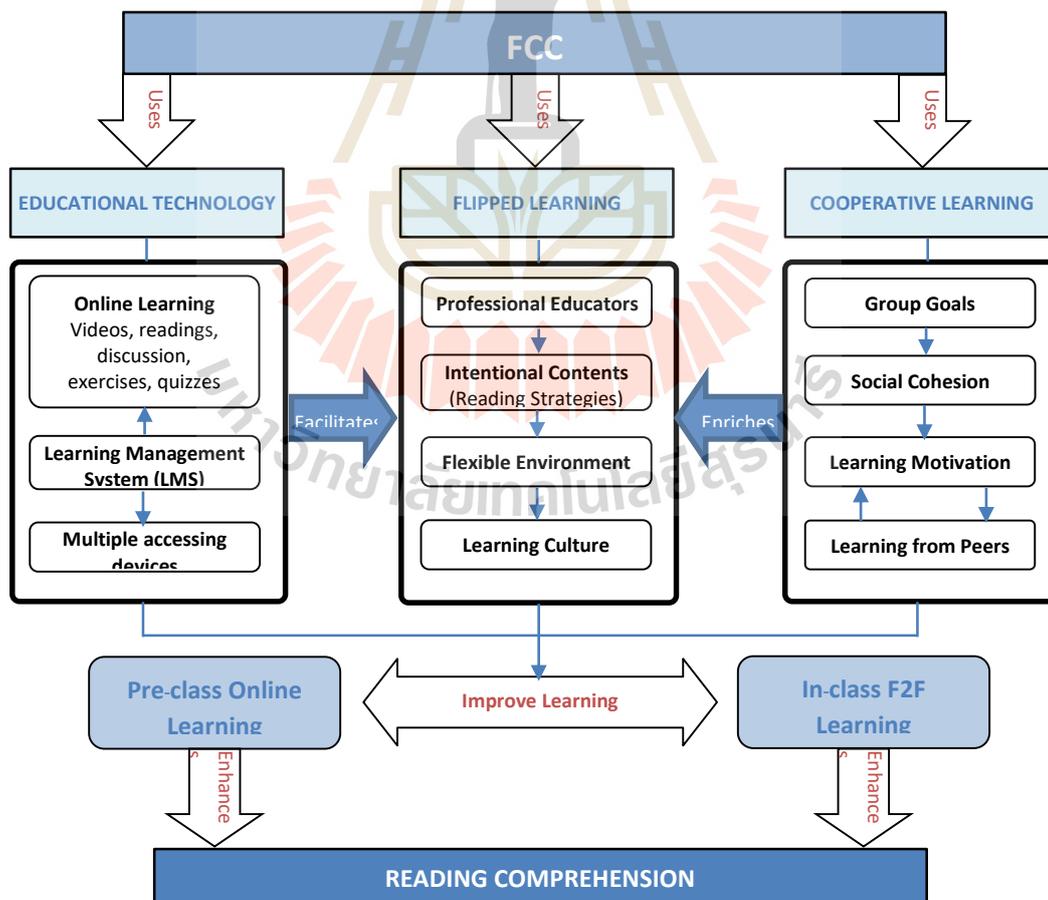


Figure 2.9 The Flipped Cooperative Classroom Model (FCC Model)

FCC Model consists of three main part: flipped classroom, cooperative learning, and educational technology. All the three parts contain elements which are related to each other in the way that support one another in order to improve learning environment in the two learning modes of Pre-class Online and In-class F2F. The final result of the model is the improved learning outcome, which is the students' reading comprehension in this case. The overall flow of the model are: (1) FCC uses Educational Technology to *facilitate* Flipped Classroom; (2) and uses Cooperative Learning to *enrich* Flipped Classroom; (3) to *improve* Learning Environment of both Pre-class Online and In-class F2F modes of learning, which *enhance* Reading Comprehension.

The Flipped Classroom part consists of two learning modes – Pre-class online and In-Class F2F. The effectiveness of the Flipped Classroom part is determined by the four conditions: professional educators, intentional contents to the course, flexible environment, and learning culture (Flipped Learning Network, 2014). These elements are related to each other in the way to enhance the effectiveness of a flipped classroom. Relationships between them can be in any order, but in this model, Professional Educators determine Intentional Contents, reading strategies in this case, which are learned within Flexible Environment an Learning Culture.

In this FCC model, the Educational Technology part is designed to support or *facilitate* the Flipped Classroom part. Technology used in this model is in the forms of LMS which delivers Online Learning materials and activities (videos, readings, discussion, exercises, and quizzes) through mobile leaning on multiple accessing devices. The capability of LMS and mobile learning together support instructors, learning content, flexible environment, and learning culture. In other words, integrating

LMS and mobile learning is one of the main components which is supposed to make FCC different from other flipped classroom.

LMS and mobile learning are used to support flipped classroom especially to increase learning flexibility and learning culture. This can be achieved by increasing convenience learning of the flipped classroom. According to Kim, et al (2016), two important key conditions that make the use of mobile devices easier for flipped learning include approachable convenience and convenience of using mobile devices. Approachable convenience refers to the simple process of approaching to data such as video clips, PDF files, and message board for cooperative learning, etc. On the other hand, convenience of using mobile devices concerns with the ability of the mobile devices to perform learning activities such as watching videos and downloading files onto the device for individual learning.

On the other side of the FCC model, the Cooperative Learning part is designed to *enrich* Flipped Classroom by the interaction of four elements. The Group Goal element *creates* Social Cohesion which encourage students' Learning Motivation, which may *result in* or *be caused by* Learning from Peers.

To sum up, the FCC Model is created by integrating the cooperative learning and LMS with mobile learning elements into the FCM Model (Liu & Liu, 2016) and the C-FLIP model (Erbil & Kocabas, 2016). Together, elements of Cooperative Learning enrich learning in both the Pre-class Online and In-class F2F modes. While group discussion activities can be operated easily within the face-to-face classroom setting, online discussions need to be done through Internet-connected devices. With the advancement of the LMS which has the mobile-device enabled features, the participants can now access the online course and perform group

discussion through their mobile devices such as smart phones and tablets easily. Therefore, mobile learning becomes an important part in enhancing the cooperative learning activities where discussions among group members are required. With their mobile devices and the all-time available Internet connection, group members can have no restriction in the time for making group discussion through the online chat function. Therefore, the flipped cooperative classroom model will include the modes of online learning through multiple devices, such as PCs, notebooks, and mobile devices. When considering the Educational Technology in the FCM model, the element should be added with the Learning Management System (LMS) and the multiple accessing devices.

As cooperative learning used as a learning approach in both the online and the in-class mode of the flipped classroom model of the current study, it is important to investigate cooperative learning in more details.

2.3 Cooperative Learning

2.3.1 Background of Cooperative Learning

Cooperative learning is referred to a set of teaching strategies used to promote face-to-face interaction among students and help them reach specific learning and interpersonal goals in structured groups (Johnson & Johnson, 1994; Slavin, 1997). Although most cooperative learning approaches share this definition, strategies used in cooperative learning may vary in a number of ways. For example, the strategies may be informal groupings to allow students to work together, or they may be structured, with students having specific tasks in their group and assessing their group and

individual performances. Normally, cooperative learning groups involve four members; however, the number of students may be greater or fewer. Groups may work together for a few minutes, a couple of weeks or for many months (Slavin, 1997).

According to Johnson and Johnson (1994), there are three types of cooperative learning groups: cooperative base, informal cooperative learning, and formal cooperative learning groups. The cooperative based groups refers to longer-term “heterogeneous learning groups with stable membership” (Richards & Rodgers, 2001, p: 196). This type of grouping may last a year or more, and it is established to provide support, encouragement, and assistance among students to achieve shared academic goals. The responsibility of the students in these groups is to check their team member’s attendance to lessons as well as assignment completion. The members may also discuss their personal problems in their learning (Johnson & Johnson, 2003). Informal cooperative learning groups, on the other hand, are short-term groupings with random membership. The main purpose of this type of cooperative groups is to focus student attention on the material and facilitate learning during direct teaching. Activities that are commonly used in this kind of cooperative learning groups include short pre- or post-lecture discussions, Round Robin, and Think-Pair-Share. The third type is the formal cooperative learning groups, where students work together on specific tasks to achieve shared learning goals or complete a given assignment. The groups of this type may last from one class period to several weeks. There are a number of activities which can be used to improve students’ reading skills or practice problem solving and decision making, such as Jigsaw, Jigsaw II, and Numbered Heads Together, Ask Together, Learn Together, etc.

2.3.2 Benefits of Using Cooperative Learning

Research studies on cooperative learning have clearly suggested that regardless of what form cooperative learning takes within classrooms, when well-structured, it offers many benefits for both teachers and students. Cooperative learning not only helps teachers in classroom management and provides an alternative instructional practice, but also creates a more learner-centered atmosphere (Cangelosi, 2000; Sharan, 1994). For students, cooperative learning seems to improve their management (Baloch, 1998; Good & Brophy, 2000), social (Kagan & Kagan, 1994; Johnson & Johnson, 1992), and academic skills (Jacob et al., 1996; Stahl, 1995; Wohl & Klein-Wohl, 1994).

Research suggests that cooperative learning provides benefits for teachers. Orlich et al. (1998) claimed that cooperative learning helps classroom management and instruction. Cangelosi (2000) indicates that use of cooperative learning activities provides student engagement in lessons, helps students develop intrinsic motivation, contributes to solutions for conflicts among students, and reduces disruptive behaviors of students. Therefore, he suggests that language teachers should organize cooperative learning groups to have more efficient classroom management. It has been shown in the study conducted by Gwyn-Paquette and Tochon (2003) that teachers who include cooperative learning activities in their teaching plans have fewer classroom management problems.

Additionally, cooperative learning activities provide an alternative instructional practice for teachers by creating more learner-centered classes and focusing on students learning needs (Nunan, 1992). Teachers who use cooperative learning activities concentrate on engaging students in the learning process rather than

on the presentation of instruction through direct teaching. During cooperative learning activities, teachers can observe each student's difficulties in learning, strengths, and learning styles. This information helps teachers in organizing and presenting the instruction to be taught (Sharan, 1994).

Cooperative learning offers benefits for both students and teachers. Research results have pointed to cooperative learning's positive effect on student's self-management skills. Good and Brophy (2000), for example, suggest that cooperative learning teaches management skills to students as it encourages students responsibility for each other. Each student has a task in group and with completing each task and coordinating with others, group work can be completed. Several tasks are associated with cooperative learning such as organizing materials, keeping the group working, watching the time, and following directions also seem to be factors that help improve the management skills of students (Bacoche, 1998; Orlich et al, 1998).

Students acquire social skills with cooperative learning (Kagan and Kagan, 1994). That is, when cooperative learning is used, students learn to understand, respect, and support one another. Moreover, other studies have shown that cooperative learning improves students' self-esteem, enables them to establish positive interpersonal relationships, and fosters positive interdependence (Johnson & Johnson, 1992).

Cooperative learning helps students in developing higher level academic skills in different academic disciplines. Wohl and Klein-Wohl (1994) suggest that cooperative learning activities assist students in acquiring skills for effective communication in language arts by creating learning environments similar to real life situations. Stahl (1995) stated that cooperative learning encourages students to interact, ask and answer questions, solve problems, and make decisions. Stahl (1995) also noted

that cooperative learning activities may be useful in teaching reading because it improves academic skills of students in language arts such as synthesizing, generalizing, summarizing, drawing conclusions, and determining relevant and irrelevant ideas. Jacob et al. (1996), in their study, also reported that second language learners had opportunities to improve their academic skills when they are cooperatively studying on reading texts.

2.3.3 Cooperative Learning Instruction

One of the most widely used and well-structured cooperative learning instructional models is provided by Johnson and Johnson (2004). For instance, an instructional model for a lesson with a Formal Cooperative Group learning type is organized along four main phases. The first phase, Making Pre-instructional Decisions, consists of considerations on: 1) Academic Objections, 2) Cooperative Activity, 3) Group Size, 4) Method of Assessing Students, 5) Roles, 6) Room Arrangement, and 7) Materials. Topic in the second phase, Explaining Task and Cooperative Goal Structure, include: 1) Academic Tasks, where procedures of each of the main activities are explained, 2) Criteria for Success, 3) Positive Interdependence, 4) Individual Accountability, 5) Intergroup Cooperation, and 6) Expected Behaviors. The Monitoring and Intervening phase is concerned with observation procedures, the observer, intervening for task assistance, and intervening for teamwork assistance. In the final phase of Assessing and Processing, the focus is on assessment of members' individual learning, assessment of group productivity, positive feedback to each student, celebration, and other issues. Throughout these phases, the teacher considers details of each topic in order to gain optimum learning to achieve the lesson's objectives.

For other forms of cooperative groups, Johnson and Johnson (2004) also provide different instructional models of cooperative learning. For Informal Cooperative Group, lesson instruction includes phases of conducting introductory focused discussion, conducting intermittent pair, discussion every ten or fifteen minutes, and conducting closure focused discussion. The Cooperative Base Group lesson will start with opening class meeting to check homework, ensuring members' understanding of academic material, and competing routine task such as attendance. Then the class ends with class meeting to ensure members' understanding of academic material, before assigning homework assignment. Cooperation of this type of learning occurs when members help and assist each other learn in-between classes. The model is normally used for conducting semester- or year-long projects. The descriptions of the three cooperative learning models are illustrated in the following table.

Table 2.1 Models of Cooperative Learning (Johnson and Johnson, 2004)

Cooperative Learning		
Formal Coop Learning Make Preinstructional Decisions	Informal Coop Learning Conduct Introductory Focused Discussion	Coop Base Groups Opening Class Meeting To Check Homework, Ensure Members Understand Academic Material, Complete Routine Tasks Such As Attendance Ending Class Meeting To Ensure Members Understanding Academic Material, Homework, Assignment
Explain Task And Cooperative Structure	Conduct Intermittent Pair Discussions Every Ten Or Fifteen Minutes	Members Help And Assist Each Other Learn In-Between Classes Conduct Semester Or Year Long School Or Class Service Project
Monitor Learning Groups And Intervene To Improve Taskwork & Teamwork Assess Student Learning And Process Group Effectiveness	Conduct Closure Focused Discussion	

Table 2.1 shows broad categories of cooperative learning models and describes the distinctive characteristics of each model. However, each of the instructional activities and other specific activities which serve cooperative learning need to be described in more detail.

2.3.4 Cooperative Learning Activities

Many of the activities in cooperative learning are based on the theories of Piaget and Vygotsky, who emphasizes the importance of discussion and problem solving among peers in the learning process. Cooperative learning began to be used as a structured method of learning in the 1970s. Originally, cooperative learning was used mostly in elementary and secondary schools in North America (Slavin, 1997). However, current studies show that cooperative learning activities may be successfully used both in colleges and universities (Ghaith, 2003; Zimbardo, et al, 2003).

There are a variety of models and activities in the field of cooperative learning used both in schools and at higher levels of education. For example, the Learning Together Method (Johnson & Johnson, 1994), Group Investigation (Sharan, 1994), Teams-Games-Tournament, Student Teams-Achievement Divisions (Slavin, 1994), Jigsaw (Aranson as cited in Good & Brophy, 2000), Jigsaw II (Slavin, 1994), Asking Together, Learning Together (Açıkgöz, 2002), Think-Pair-Share (Olsen & Kagan, 1992), and Numbered Heads Together (Stone & Kagan, 1995) are among the best-known and widely researched cooperative methods and activities.

The Learning Together Model. This model of cooperative learning was developed by Johnson and Johnson (1994). In this model, heterogeneous groups of four or five learners work on assignment sheets. The main aspect of this model is that the groups need to consist of students who differ in achievements, gender or ethnicity

working together to achieve shared learning goals and to complete the group assignments.

Group Investigation. The model was developed by Sharan and Sharan (1994), and its main characteristic is that students form groups that study subtopics of a unit. The group members choose the subtopics, plan their investigations, carry out individual tasks, plan and make presentations. The teacher and the students evaluate their projects together.

Team-Games Tournament (TGT) model. The TGT model is established by Slavin (1994) and have students work together in heterogeneously grouped teams to compete against other teams. The process starts from the teacher presenting the instruction, followed by groups discussing and working on the material. Finally, the groups compete with other teams to answer questions prepared by the teacher. The tournaments may last for several weeks.

Students Teams-Achievement Divisions (STAD). This model is a simpler version TGT, where the difference is that students are grouped and work as in TGT while in STAD tournaments are replaced by quizzes. After cooperative group work, students are given quizzes to be answered individually. Both individual and group quiz scores are used for evaluating student learning.

Jigsaw. This model was developed by Aronson and his colleagues (as cited in Good & Brophy, 2000). In this model, each member of the group studies his/her own piece of material in an expert group and returns to the home group to discuss this material. In order to complete the group's task, each member must participate in the activity. At the end of the activity the student may be given individual quizzes (Clarke, 1994; Good & Brophy, 2000).

Jigsaw II. Jigsaw II was developed by Slavin (1994) as a modified version of the original Jigsaw. In this version, students work on a common material first and then are given separate topics to become experts on. Having worked on their topics in the expert groups, students return to their home groups to explain the materials that they have studied.

Asking Together, Learning Together. In the activity, developed by Açıkgöz (2002), students study reading texts in their cooperative learning groups. Each group is required to prepare high consensus questions for the reading assignment, write them on pieces of paper, and give them to other groups and the teacher. After that, the groups discuss the answers to the questions and the teacher may randomly choose students to answer the questions.

There are also many other cooperative learning models which have brief, informal or formal cooperative structures such as Blind Hand, Pens in the Middle, Round Robin, Think-Pair-Share and Numbered Heads Together that can be applied in classroom teaching (Baloche, 1998). For Think-Pair-Share (Olsen & Kagan, 1992), students are given a question or problem to think about, answer individually, and share it with a partner and the whole class. In Numbered Heads Together (Stone & Kagan, 1995), students in the group have a different number. The teacher asks a question to be discussed by the group members together. Then, the teacher calls out a number, and each students who has that number from each group stands up. The teacher chooses one of them to answer the question.

2.3.5 Cooperative Language Learning

In Cooperative Language Learning, students are grouped within the classroom to study on specific assignments cooperatively and providing benefits for

each team member to practice the target language while interacting with each other (Kessler, 1992). According to Richards & Rodgers (2001), there are five major objectives in cooperative language teaching:

1. to provide opportunities for naturalistic second language acquisition through the use of interactive pair and group activities;
2. to provide teachers with a methodology to enable them to achieve this goal and one that can be applied in a variety of curriculum settings (e.g., content-based, foreign language classrooms; mainstreaming);
3. to enable focused attention to particular lexical items, language structures, and communicative functions through the use of interactive tasks;
4. to provide opportunities for learners to develop successful learning and communication strategies; and
5. to enhance learner motivation and reduce learner stress and to create a positive affective classroom climate.

2.3.6 Cooperative Learning and Reading in L2

Anderson (1984) claims that reading in a foreign language is both a reading and a language problem, especially for lower proficiency students. Students who have problems in reading in their L1 have problems in reading in L2, too. Students who have fewer problems in reading in L1, read slower in L2 than they would read in L1. They also may have comprehension problems resulting from difficulty with understanding syntactic structures, grammar, vocabulary, and reading strategies in a foreign language. Many research studies suggest that use of cooperative learning activities can assist lower-level students in solving their language problems in reading. For example, Klinger and Vaughn (2000), found that bilingual students helped their

low English proficient peers in understanding meanings of vocabulary, main idea of the texts, asking and answering questions, and activating previous knowledge as they experienced cooperative learning activities in reading. The results of the English vocabulary tests also proved that students significantly improved their vocabulary knowledge compared to their previous test results.

Jacob et al. (1996) claimed that Learning Together form the cooperative learning which allowed students to ask questions to one another and discuss answers in order to understand the academic language in the reading materials. Consequently, cooperative learning activities assisted learners in understanding the information in the texts while they were studying the difficult academic terms and concepts in the reading material. Grabe (1991) stated that the regular use of cooperative learning activities in reading instruction is encouraged “to promote discussions of readings and to work with information from the readings, exploring different solutions for complex activities” (p. 396).

An experimental study by Ghaith (2003) conducted with the participation of 56 Lebanese high school learners of English as a foreign language showed that the Learning Together form of cooperative learning improved the EFL reading achievement of students. Both experimental and control group students were given the same reading exam before the treatment. The same reading material was taught in both experimental and control groups during the 10-week study. However, in the control group the material was taught according to the procedures in the text book, while the experimental group was exposed to the Learning Together model of cooperative learning. At the end of 10 weeks, both groups were given another reading exam. The

comparison of results showed that there was a significant difference between the two groups with a higher achievement in favor of the experimental group.

Cooperative learning has its own characteristics, being categorized into different instructional models of either Formal Cooperative Group, Informal Cooperative Group, or Cooperative Base Group model (Johnson and Johnson, 2004). Cooperative learning also has distinctive characteristics at the activity level, where various activities are invented to suit different learning areas, including language in general, and L2 reading in particular. The use of these activities is, therefore, dependent on the overall instructional model. For this current study, learning activities will be considered in according with learning modes both in the face-to-face classroom as well as the online mode with technology. The next section will describe how technology will be used in a reading classroom in the form of flipped learning model, employing cooperative activities.

2.4 Learning Management System (LMS)

Flipped classroom is a type of blended learning in which technology plays vital roles in the instructional success. As the pre-class session of a flipped classroom is essentially performed out-of-class through online learning environment, the technology used for managing learning activities needs to be considered according to how the class activities are designed. Additionally, in a flipped classroom which is designed for cooperative learning, technology that supports interactive communication among learners is important. That is, the learners need to make their individual learning through learning materials, mostly videos, as well as communicate with peers and the instructor, while the teacher monitors the students' learning and data. One of the

suggestions suggested by Semetaite (2016) is to use an online learning management system (LMS) to handle a flipped classroom. This section will briefly describe what an LMS is, and then Moodle will be described as the chosen LMS for the current study, especially its features that serve the cooperative learning activities of the course.

2.4.1 Learning Management System (LMS)

A learning management system (LMS) is defined as a web-based software application for the administration, documentation, tracking, reporting, and delivery of educational courses or training programs (Ellis, 2009). An LMS is the framework that handles all aspects of the learning process. It is also regarded as the infrastructure that delivers and manages instructional content, identifies and assesses individual and organizational learning or training goals, tracks the progress towards meeting those goals, and collects and presents data for supervising the learning process of organization as a whole (Szabo & Flesher, 2002). What an LMS can do include helping the instructor deliver material to the students, administering tests and other assignments, tracking student progress, and managing record-keeping. Generally, LMSs provide tools and functions such as course management tools, online group activities like chats and discussions, various formats of documents e. g. lecture materials, homework, assignments, power points, video clip viewing and uploading, grading, and course evaluation. With these features, LMSs are used to support a wide range of classes, from face-to-face classes to the fully online courses, as well as several hybrid forms, such as blended learning and flipped classrooms. The main purpose of an LMS is to deliver and manage instructional content, handle student registration, course administration, tracking and reporting student's works (Gilhooly, 2001).

Learning management systems can be divided into general and specialized LMSs, and they may be further categorized into learning content management systems (LCMS), course management system (CrMS), virtual learning environment (VLE) and mobile learning. Some LMSs can be classified into more than one category, for example, Blackboard, Moodle, Schoology, to name a few Bergmann (2013). Regardless of their categories, however, the consideration for selecting an LMS depends largely on features they offer that serve the instructional purpose. For the flipped classroom, an LMS need to host lessons and the videos within the same site. Alternatively, an LMS should allow making links to lessons materials on other websites or other videos, hosted video, hosting websites such as YouTube, SchoolTube, Screencast.com, Dropbox, Google drive, and other sites. In brief, an LMS is considered a suitable technology for a flipped classroom, where online leaning and management are crucial elements.

Effective use of an LMS partly relies on the ability to access the Internet. To be successful, students should have Internet access at home or through mobile devices. The teacher may need to utilize a computer laboratory. In addition to having Internet access, teachers need to make sure their students engage with the lessons. Initial engagement tactics may be needed such as watching and analyzing the first video as a whole class to make sure the students understand the new process and realize that the process is important to their learning. The final issue in this thinking phase is to prepare for getting supports in case difficulties should occur in the operation of the flipped classroom (Semetaite, 2016). With sufficient Internet access and a powerful LMS, flipped classroom activities should be operated with minimal problems.

Choosing an LMS for online/blended instructional management and ensuring access to the Internet are basic requirements when dealing with a flipped classroom. However, when dealing with a flipped classroom with online cooperative learning activities, the teacher needs to consider an LMS which support interaction among the group members and the class. When considering all the necessary feature which an LMS can support a flipped classroom, Moodle, an open source learning management, is one that has high potential to be used for this particular study.

The next section will describe a Moodle LMS which consists of features necessary for both hosting the lesson videos, lesson materials, and communication channels that support group learning. More importantly, the LMS provide flexible channels for accessing the course either through PCs or mobile devices that ensure anytime and anywhere online cooperative learning environment for the learners.

2.4.2 MOODLE and the Flipped Classroom

With regard to the flipped classroom, Moodle is a virtual learning environment (VLE) as well as a learning management system (LMS) that provides communication channels between the instructors and the students. The communication modes in Moodle can include the simplest forms of sharing such as file-sharing, calendar, and announcements. Therefore, Moodle supports flipped classroom by acting as a platform for information exchanging such as videos, quizzes, and reading materials. Moreover, Moodle can provide information to the teachers while hosting many more educational activities of the flipped classroom (Triantafyllou, 2015).

In this study, Moodle will be used to support the cooperative learning in the online part. Moodle will provide individual and cooperative learning activities by hosting instructional materials, managing learning activities, and providing channels

for group and class interactions. As briefly described earlier, Moodle provide many features that support a flipped classroom management especially on cooperative learning. The following table summarizes some of the essential features.

Table 2.2 Sample Moodle features and their and applications for language teaching

Moodle elements	Application in language teaching
Assignment: • online activity • offline activity • uploading a file	Can be used for translation, text reference, gap-filling and transformation exercises, writing essays and letters, etc. There is a possibility to attach an audio or video file for listening comprehension tasks.
Journal	Offers the same forms of work as “Assignment” but provides students with the opportunity to return to a text of an assignment many times to correct it in compliance with tutor’s comments.
Survey	Represents questions with variants of answers; allows getting statistics of answers in percentage and in a form of a diagram.
Glossary	Gives opportunity to create a glossary of lexical units, terms, quotations, etc. both for students and tutors; automatically links words and expressions of the course with their definitions in glossary.
Lesson/lecture	Intended for step-by-step study of a topic: each correct answer opens a new page with a new assignment or information. Incorrect answer returns students to description of the topic. This element can be used for presentation of cultural information, teaching grammar, reading, listening, etc.

Table 2.2 Sample Moodle features and their and applications for language teaching (Continued)

Moodle elements	Application in language teaching
Wiki	Can be used for creating collaborative group projects where all participants have rights to edit a text.
Forum	Intended for information exchange between all course participants. This element can be used for group discussions and communication with a tutor.
Test	Allows creating a question bank used for continuous and final assessment; contains different types of questions.
Resource:	Intended for placing different information: text, graphics, audio and video files, source lists, and useful links directory. Unlike all previous elements, resource doesn't involve interaction and assessment.
• text page	
• web page	
• directory	
• link to a file or web site	

2.4.3 Cooperative Learning in an Online Environment with Moodle

Cooperative learning in a flipped classroom can be supported by a number of modules. The followings are main modules used with all the lessons: Lesson/Lecture (for hosting lesson materials and videos), Moodle Quiz (for quizzes and test), Chat (for group discussion and communication), Reports (for student' and instructor's monitoring learning outcomes), and Moodle Mobile (for students' access through mobile devices).

A. Lesson/Lecture

The Lesson module in Moodle is the main place for hosting lesson materials and a variety of digital learning resources including videos. These resources can be hosted within the Moodle site or linked from other websites. For example, the lesson

videos can be placed onto the site for convenient access and downloaded. Alternatively, the Lesson module can link to the video in a website such as YouTube, etc. All these resources can be easily viewed and downloaded for learning at the student's convenient time.

B. The Moodle Quiz

The Moodle Quiz module allows teachers to design and build quizzes of various question types, including multiple choice, true-false, essay, matching, etc. Questions are stored in question banks and can be randomly selected for quizzes and exercises. If desired, the teachers are able to shuffle the questions in a quiz. Therefore, it is applicable to a wide range of courses purposes.

The Moodle's quiz module itself has a large number of options that make it extremely flexible. The quiz can be set for time limits for an attempt to be completed, as well as the open and close dates and times for the quiz. This option is useful when the teacher wants to be sure that quizzes and exercises are taken and submitted before the class in the flipped instruction model. Teachers can also enter feedback both for each answer (either correct or wrong) and also general feedback, when the attempt is complete. Feedback can be very useful in guiding students while trying out the quiz or between subsequent attempts, if this is allowed. By providing feedback adapted to each student's answers, teachers can support students during out-of-class instruction and also monitor comprehension and provide just-in-time explanations. Moreover, quizzes can be added to the in-class activities topics, which students found challenging based on the quiz results. Finally, students can regulate their learning as they can check the correctness of their answers, and the knowledge that they are expected to have before class.

Regarding assessment, Moodle allows the teacher to assign point values to each question and weigh each question in the quiz. Moreover, teachers may award partial credit to other answer choices (apart from the correct one), if desired. Teachers may give individual students or student groups a different open/close period, time limit and/or number of attempts than the rest of the class. These features provide customization options to teachers that may be necessary in out-of-class learning environments.

In general, the Moodle Quiz module chosen as a learning activity in the flipped lessons can provide effective learning management for the teacher while enabling various option that suit individual and group learning. Therefore, when used properly, Moodle quiz can be a useful tool for a flipped classroom especially for the out-of-class session.

With the video quiz, videos can be placed directly into the quiz in order to make sure the students can watch and answer the questions or do the required activities at the same place. This also has an advantage in that the teacher can check whether the students actually watch the video before doing the quizzes.

C. Chat

The Chat activity in Moodle provides a great place for both synchronous and asynchronous means of communication. Moreover, it can be customized to limit the discussions within certain groups or groupings of students. This enhances the way the class is organized into cooperative groups. All the conversational texts of each group are kept in the site database, and the teacher can monitor group learning process accordingly.

D. Moodle reports

One of the outstanding features of Moodle is the ability of Moodle to report various learning activities. The Moodle reports module can generate reports of all learners for each course. Reports can contain: a) competency breakdown, b) a log of activity in a Moodle course for various periods, c) a live log of currently occurring activities, d) course activity report, showing the number of views for each activity and resource, e) a participation report for a particular activity, and f) analytic graphs and tables of user activity. The Moodle reports allow teachers to know what students have been doing in their Moodle courses. For example, they can get information on which pages they are accessing, the times at which they access them, and the activities they perform there.

In a flipped classroom, reports can be a valuable tool for the teacher, since a large amount of information is provided to students online. By using reports, teachers are able to alert students or improve navigation to course material they are neglecting, in order to make sure that they take full advantage of all the online resources provided. Moreover, they can adjust the course to suit students' viewing habits. Finally, course activity reports can be used to get insight on student participation and engagement in a flipped classroom.

E. Moodle Mobile

Although students can access Moodle courses via Internet browsers on all Internet-connected devices, they can also enter the site on mobile devices through an app. Moodle Mobile is the official mobile app for Moodle that allows the learners to interact with the course activities in a number of ways. The student can browse the content of the courses, online and offline, receive instant notifications of messages and

other events, quickly find and contact other people in the course, upload images, audio, videos and other files from a mobile device, track the progress, mark tasks as complete and browse the learning plans, attempt quizzes, post in forums and edit wiki pages, and view the course grades. With Moodle Mobile, the flipped lessons and course interaction can be enhanced by ensuring access to the course through both PCs and on a number of mobile devices including tablets, mobile phones and smart phones. Additionally, by using mobile devices, students can have unlimited access to the course anywhere and at any convenient time. The following are major features of Moodle Mobile which will be exploited to enhance the flipped classroom especially the online cooperative learning.

1) **Accessing the course.** Students can access the course, the contents, participants, grades, and notes easily with user-friendly interface.

2) **Connecting with course participants.** Students can connect to participants within their own group and also other groups for quick interaction.

3) **Accessing the course content.** Students can view course activities and download materials for offline use. They can also work through Books and IMS Content packages directly in the app. This will increase time for learning the course contents without the limitation of Internet connection.

4) **Viewing grades and grading.** Moodle Mobile provides a Grades link for each course where students can quickly access to the gradebook, and teachers can view assignment submissions on the move.

5) **Sending messages to participants.** Students can send and view private messages to colleagues and students from the Messages link in the side tab.

6) *Engaging in chat.* The Chat function provides the means for communicating among learners within the course and within their group. The chat activity can be set for separate groups where messages can only be sent and seen by members of in the group. Where all members in the class are allowed to join the chat, the group chat will not be set, and the course chat is used instead. This type of chat allows all students to interact with each other and the instructor regarding the course matters. The Moodle Chat activity is useful in increasing cooperation among students, especially for the group to perform their tasks.

7) *Taking quizzes.* With Moodle Mobile, students can complete quizzes right on their mobile devices.

Obviously, Moodle mobile gives students additional time and channels for logging into the course aside from using PCs to do out-of-class activities on the online flipped sessions of the course. Therefore, it will ensure that students have adequate time to learn the required lessons, do the assigned tasks, and prepare for the face-to-face classroom meeting.

2.5 Related Studies on the Use of Flipped Classroom in EFL Contexts

This section presents some research studies related to the use of flipped classroom instructions and its effect on students' learning achievement and opinions. Some studies revealed results in general English language learning contexts, while others touched upon the contexts of EFL learners.

Flipped classroom learning has been used in many fields of learning. Baranovic (2013) examined the impact of flipping on his first-year composition course at a university in the United States. By creating multimedia lecture videos, he

eliminated the need for traditional lectures and replaced these with creative writing-style workshops. To facilitate the workshop, his classroom became a circular, communal space of socially constructed standards, encouraging a collaborative recursive writing process and stimulating creative thinking in his students. Results showed that the course benefitted students of all writing levels, in particular non-native English speakers. Students invested heavily in the workshop and in each other's writing, and their writing exceeded the standards set by the university.

Another study which investigated the effect of flipped classroom on writing was done by Engin (2014), who describes a project that aimed to leverage the students' interest and experience of technology and multimodal environments to develop their academic writing skills and second language learning. Students were expected to follow a model, research a topic, and craft a digital video tutorial on an aspect of academic writing which would form part of the already established flipped classroom model. Feedback from students suggests that there was tension between students as producers, and students as consumers. Student-created videos promoted second language learning through research, simplification, explanation, and encouraged more focus on form, and promoted accuracy in English. However, it was also noted that students preferred a teacher explanation than a peer explanation, and there were concerns over the "trustworthiness" of a peer produced video tutorial.

Mireille (2014) also examined the impact of using a Flipped Classroom Instructional Method on the writing performance of the twelfth grade Emirati female students and identify female students' perception of the Flipped Instruction in an ESL writing setting. For this purpose, a 15-week teaching program was designed to cover the main IELTS Tasks 1 and 2 writing objectives. The program consisted of

instructional videos and differentiated class tasks that were used with only one group of students, while the other group studied the same teaching material in a learner-centered class. Both groups completed a pre-test and post-test to answer the inquiry of the study. Findings revealed statistically significant differences between the mean scores in favor of the students in the experimental group. This improvement in the writing performance was attributable to the Flipped Instruction method of teaching. Students' attitudes towards the Flipped Instruction were proved to be equally favorable.

Listening skill has also been investigated in relation to the use of flipped classroom instruction. In the study by Roth & Suppasetserree (2016), the researchers explored the effectiveness of the flipped classroom in enhancing Cambodian pre-university students' English listening skills and investigated the students' opinions on the flipped classroom to enhance English listening comprehension. The results indicated that the flipped classroom enhances Cambodian pre-university students' English listening skills by which the average scores of post-test of the experimental group was higher than the average scores of pre-test. Additionally, the learners expressed in the questionnaire and semi-structured interviews the positive views on learning English via flipped classroom. The study was concluded that the positive learning improvement and opinions about learning might be due to a great help of the flipped classroom in guiding teaching of English listening to EFL teachers and improving EFL learners' English listening comprehension. Specifically, learners had the chance to get exposure to learner-center approach with technology which provided plenty online learning resources such as English videos on YouTube, quizzes posted on Facebook page, etc. The reason was also the intentionally designed videos to contain authentic American Spoken English videos which helped students improve their

listening skills from native speaker. Moreover, students learned with interactive and cooperative learning activities both through Facebook and face-to-face classroom in order to accomplish learning tasks. It can be concluded from this study that flipped classroom can be used to enhance students' language skills and learning attitude by the use of technology and interactive learning activities.

Flipped classroom has also been reported to be used with listening, writing, and translation. Wang and Zhang (2013) analyzed data gathered from four learners in their English for Educational Technology class using triangulation based on questionnaires, interviews and observations, and found significant improvements in their listening, translation, and writing skills. They also found improvements in their speaking, as measured by more active group discussion and participation in class in English and the acquirement of more difficult vocabulary words.

Integrated language skills were also used with flipped learning. Li (2013) also described her flipped classroom and painted a picture of her learners before and after the flip, as the classroom changed from being teacher-centered to becoming more learner centered. She found that the flip helped in many ways: by allowing the teacher to individualize instruction, allowing students more opportunities to engage in the four skills, creating students who are more self-disciplined to study, making students more active in class, not wasting students' time on note-taking in class, and reducing teacher pressure to create materials as they can share online. As a result, Li suggested that the flipped classroom be considered as a viable teaching technique in China.

In terms of suitability, flipped classroom instruction was investigated with the use of various activities in the study by Sung (2015). The study looked into a flipped English content-based class where 12 participating college students were enrolled and

completed all the course requirements in an elective course. Before each class, the students were guided to preview lesson materials such as readings and videos and to engage in diverse online activities on an LMS flat form. Then, they did collaborative class activities such as sharing their Thought Papers, discussing the questions on weekly readings developed online, and doing a final project of designing an evaluation plan. The results of the analysis of both informal and formal course evaluations and student work showed that they viewed flipped learning positively despite initial difficulties of adjusting themselves to it. They also viewed that flipped teaching can be a good momentum for change in current English language teaching.

More closely related to the EFL context of the flipped classroom, Webb, Doman, and Pusey (2014) conducted an experiment with intermediate level EFL classes at a university in Macau, China. Data from observations and surveys revealed that initially the flipped model did not match learner expectations of teacher roles in the classroom. However, at the end of the 15-week course, students in the experimental classes requested additional flipped materials and appeared more comfortable with the model. Additional findings from teaching journals uncovered that three out of the four teachers recommend the flipped approach for promoting creativity and opportunities for higher order learning in the classroom. The journals also indicated some skepticism among teachers with regards to applying the flipped concept to language instruction and struggles with student engagement with the materials.

There are also studies which were conducted within Thai EFL contexts. For example, Thaichay and Sitthitikul (2016), in the investigation of effects of flipped classroom instruction on language accuracy and learning environment, found that Thai EFL upper-secondary school students of the study improved their language accuracy

and had positive attitudes toward flipped classroom. The study results suggest that flipped classrooms provides active environments which help enhance students' language accuracy and learning attitude.

In the study by Suranakkharin (2017), a flipped model was investigated for its effect on Thai learners' collocation learning outcomes. The study results showed that students who learned with flipped classroom performed their English collocation knowledge better in the post-test than the pre-test. Although their post-test scores were not statistically better than students in the non-flipped classroom, interview results indicated that they were happy and satisfied with learning with the flipped model. The researcher included that the fact that flipped classroom students significantly improved their course outcomes and learning satisfaction was partly due to two potential determinants, which included a set of four major principles and the design of learning materials.

Suranakkharin (2017) regarded the successful learning in a flipped classroom as the results of the four major principles proposed by Hamdan et al. (2013), which include flexible learning environment, learning culture, intentional content and professional educators. Firstly, learning culture was based on the learner-center approach where flipped classroom provides interactive and dynamic learning culture by having students watch videos of the target language contents at anytime and anywhere. Secondly, this learning culture was supported by the flexibility of the flipped classroom which helps students learned and improve their outcomes. Another contributing factor is the supply of the flipped classroom contents which were intentionally designed for students to master the subject. The final factor is the

profession educator or instructor who manages the three mentioned principles (flexible environment, learning culture, and intentional content) for the maximum effectiveness.

Not only flipped classroom approach studied for its impact on learning outcomes, but also on learning affective. Butt (2014) investigated the flipped classroom in his final-year actuarial course in Australia. By giving a two-part questionnaire to his students, he found that students perceived that they learned the most from performing an activity, and that they preferred individual study over lectures, tutorials, and group study. By comparing students attitudes at the beginning of the semester and then again at the end, Butt found that students who originally viewed the flipped classroom unfavorably at the beginning of the course began to change their opinions about this by the end of the class.

With regards to students' opinion on flipped learning, the study of Karimi and Hamzavi (2017) revealed that EFL students reported that the factors that improved their reading comprehension and the self-learning opportunity were the in-class activities and the availability of the videos outside classroom. Additionally, they stated that students had more time in class for brainstorming their mind and writing down their ideas at their own pace of learning. They also had more time to acquire sentence structures outside classroom to apply in the classroom, which helped them perform better in the reading test. Moreover, many students admitted that the flipped model of instruction made them feel more confident and independent.

The study of Al-Harbi and Alshumaimeri (2016) also showed that students' attitudes towards using the flipped classroom strategy in the EFL class were positive based on students' responses to a questionnaire and semi-structured interviews. The results were similar to Enfield (2013) which found most of the students' comments

about the flipped course were generally very positive. Several students stated that they learned much better and it appeared that students benefitted from the flipped classroom.

In conclusion, studies on flipped classroom learning are available in many fields of studies and various contexts. However, the use of flipped classroom in reading courses is relatively limited, especially with reading comprehension. Moreover, flipped classroom studies conducted with EFL learning environment, especially in the Thai context, are also few and far between. Similar cases exist for flipped classroom in higher education. Additionally, studies which specifically indicate the use of cooperative learning in a flipped classroom have not been reported directly. In other words, flipped cooperative classroom does not directly appear in the literature. This is not to mention studies which exclusively focuses on using cooperative learning in a flipped classroom to teach a reading comprehension course for first year EFL students at a Thai university. This emphasizes the necessity for conducting the current study.

Chapter 3 has presented reviews of literature related to this study. It started by giving background of reading comprehension, including instructions and reading strategies. Then, it introduced the topic of flipped classroom, particularly various models of flipped learning. After that, the chapter discussed cooperative learning in relation to the flipped learning model used in this study. The topics of Moodle learning management system was also investigated as well as related studies on the use of flipped classroom in EFL context. In the next chapter, methodology of the research is presented.

CHAPTER 3

RESEARCH METHODOLOGY

This study is designed to investigate the effects of the flipped cooperative classroom (FCC) on English reading comprehension strategies of first year English-major students at Nakhon Ratchasima Rajabhat University. The study employs the experimental design in the investigation. This chapter explains the following sections: Research Design; Population and Samples; Construction of Research Instruments; Data Collection; and Data Analyses. The pilot study section will present results from the pilot study designed to test the research tools as well as some preliminary data. The last section will illustrate the conceptual framework of the study.

3.1 Research Design

This study is designed to be a quasi-experimental research. The design is illustrated in the following figure.

	Pre-test	Experiment	Post-test	Questionnaire	Interview
EG	O ₁	X ₁	O ₂	OE, OF	OE, OF
CG	O ₁	X ₂	O ₂	-	-

Figure 3.1 Research Design

- EG = The experimental group
- CG = The control group
- X₁ = The flipped cooperative classroom

X ₂	=	The conventional classroom
O ₁	=	Pre-test
O ₂	=	Post-test
OE	=	Opinions about learning experiences
OF	=	Opinions about flipped cooperative classroom

According to Figure 3.1, the study employs the quasi-experimental design. There are two groups of samples: the control group (CG) and the experimental group (EG). Pre-test (O₁) is applied to both group at the beginning of the experiment. Then, treatments X₁ and X₂, which are the flipped cooperative classroom and the conventional classroom, are applied to EG and CG, respectively. After treatment, Post-test (O₂) is administrated to both group. Additionally, the EG is asked to respond to questionnaire (OE) and interview (OF). Data from the tests, questionnaire, and interview are then analyzed. The variables of this study are:

1. Independent variable: the flipped cooperative classroom approach for teaching reading comprehension to students at Nakhon Ratchasima Rajabhat University;

2. Dependent variables:

- 1) The learning achievement of reading comprehension skills of students at Nakhon Ratchasima Rajabhat University;

- 2) Students' opinions about learning experiences using the flipped cooperative classroom in their Reading Comprehension course

The study consists of issues to be explored and instruments to be used for each data types in order to answer the research question. The details are illustrated in Figure 3.2.

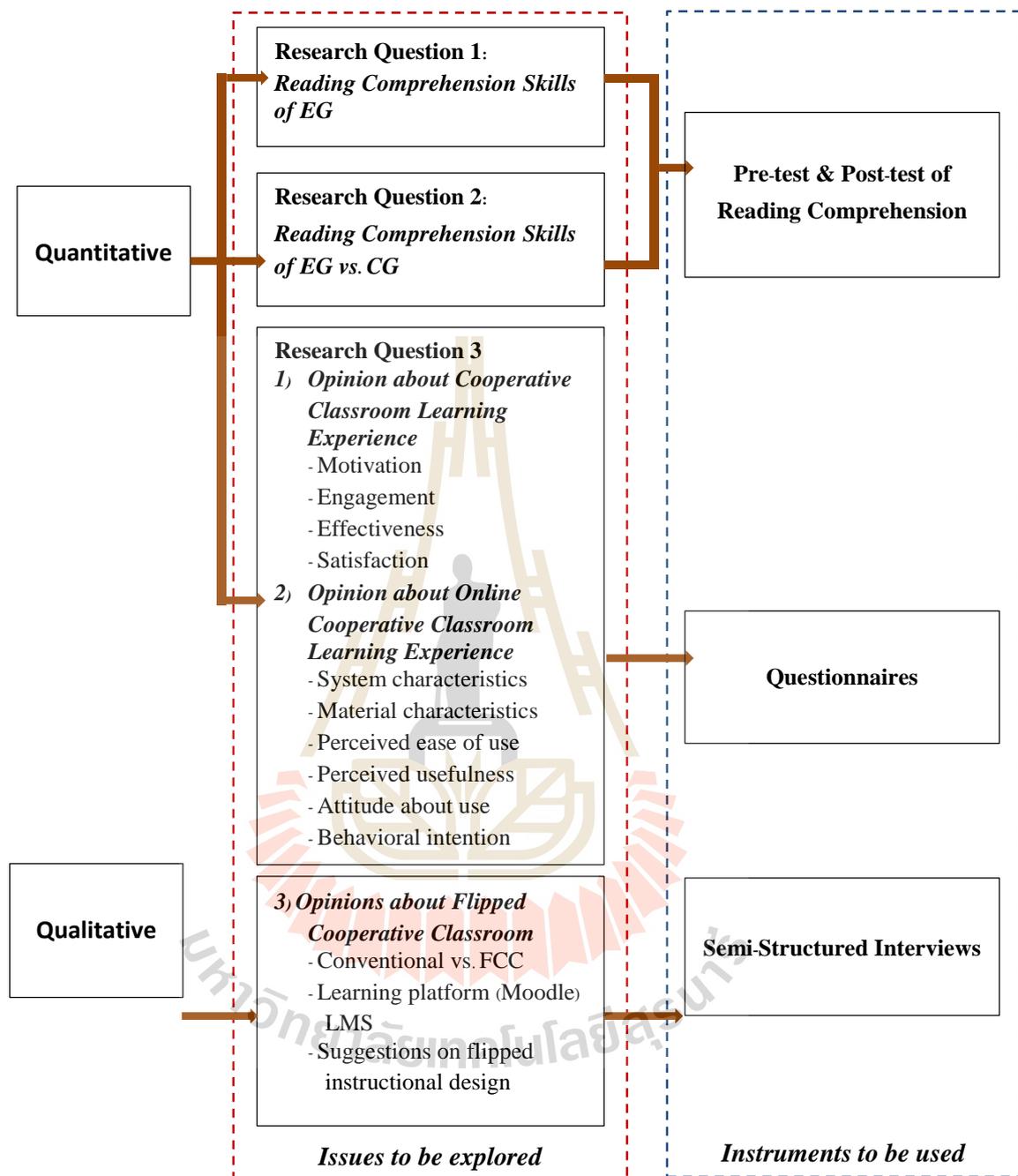


Figure 3.2 Issues to be explored and instruments to be used in the current study

3.2 Population and Samples

The population of this study were the first year undergraduate English major students at Nakhon Ratchasima Rajabhat University who were enrolled in the second semester of the academic year 2017. The total number was 220 students.

The study samples were two intact classes of English- major students, consisting of 37 and 34 students, at Nakhon Ratchasima Rajabhat University who enrolled in the Reading Comprehension course in semester 2 of the academic year 2017. Both classes were purposively selected for this study based on the availability basis. The first group was randomly assigned a control group (CG), and the second was set as the experimental group (EG). Before the experiment, both groups were not different in terms of their reading comprehension ability, as determined by their pre-test scores.

3.3 The Construction of Research Instruments

There are five research instruments for this study: lesson plans (for conventional classroom and flipped cooperative classroom - FCC), flipped cooperative classroom lessons (FCC Lessons), pre-test/post-test, questionnaire, and semi-structured interview.

3.3.1 Lesson Plans

The lesson plans for both the conventional and FCC used equal instructional time and the same contents, which are based on the instructor-created materials for the Reading Comprehension course. The contents of the whole course as well as the seven reading strategies were derived from the course description. According to the Business English curriculum, this course is worth 3 credits where the duration of 3 hours is allocated to the face-to-face classroom, and at least 6 hours for self-study outside classroom. Students were allowed to do exercises by to prepare

themselves before coming to classroom as much as they wish, as set out in the curriculum. However, two lesson plans differ in time management in each learning mode. While the 3 hours in the classroom time can be managed by the university's timetable, the 6 hours self-study time for the conventional class is usually not restricted. Hence, the way to monitor students' self-study time is through the submission of homework or assignments. On the other hand, the outside classroom time of the flipped classroom is managed and monitored by the use of the LMS. Time used for all online learning activities as well as students' grades are recorded in the online course system, ensuring that students use their self-study time effectively. The two lesson plans are also different in terms of instructional procedures and learning activities.

For the conventional lesson plans, all instructional activities are set within the in-class time, and they are mainly teacher-led. That is, the lessons are delivered in the form of lectures with some student participation. The class may be wrapped up with a summary and some lesson quizzes at the end. Throughout the lesson, activities required students to work primarily on an individual basis. Student practice is in the form of homework or assignments.

On the other hand, activities in the FCC lessons take place in the pre-class and in-class time. Additionally, the FCC instructional activities are based mainly on cooperative learning and student/ learner centered. A major difference from the conventional instruction is that the FCC instructions on the online pre-class session is designed for cooperative learning activities where students need to complete the assigned tasks as a group. Therefore, the EG students need to work in an online environment cooperatively using the communication tools provided in the course. The

students have options to access the course materials and activities either through a web browser on their PC or notebooks, or an app on their mobile devices.

Lessons for the in-class session of the FCC are organized into steps following cooperative methods suggested by Johnson and Johnson (2004). The steps include making pre-instructional decisions, explaining task and cooperative goal structure, monitoring and intervening, and assessing and processing. These steps are done to make sure students properly understand each reading strategy and an individual quiz of the lesson is also provided. After that, the students are assigned to discuss and conduct their project work. The group project is designed for the whole class and is gradually built up each week. The project details are outlined below.

Group Reading Project

Aim: To enhance reading comprehension skills

Concept: Each group is going to make a presentation of a survey report on a selected issue arising from your group's reading text.

Procedures:

1. Choose a theme/topic for your reading.
2. Search for a relevant article from media such as Internet, newspaper, journal, etc.
3. Make a short summary of your text.
4. Identify conflicts (what people might agree or disagree with) in the text.
5. Create a survey questionnaire including questions which ask for people's opinions on the conflicts.

6. Conduct the survey. Make sure you have sample video clips to support your survey conclusion. A minimum of 20 respondents are required for the questionnaire. Two selected respondents who agree and two who disagree are to be interviewed and video recorded.

7. Analyze the survey data and make a short report on the results, which should answer these questions:

- What do people think about the issue? Do they agree or disagree with the issue being investigate? This may be in the form of number and percentage.

- Why do people agree or disagree? This can be explained qualitatively.

(Be sure to support the opinions by video clips on both side.)

8. Make a presentation (PowerPoint) on your report.

Additional requirements:

1. All group members must have a role in the project. The following duties must be shared among the members: search for the article, read and make a summary, generate survey questions, conduct the survey, interview, record the video, analyzed data, make the summary report of the results, prepare the PowerPoint slides. This should be indicated in the report and in the slides.

2. All members need to take part in the presentation.

Project products:

1. A project report

2. A PowerPoint slide show

Themes:

Select a theme for your group project. Use the following topics as guidelines.

1. Health (smoking, drinking, losing weight, fast food, etc.)
2. Technology (smartphone use, game addict, artificial intelligence, etc.)
3. Environment (air, soil, deforestation, pesticide, Aeolian species, water, etc.)
4. Social (social media use, mass media, etc.)
5. Others (choose your own)

Project timeline

- | | |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Week 1 | <p>Introducing the group project</p> <ul style="list-style-type: none"> - Forming groups for the project - Selecting theme/issue for the reading project |
| Week 2 | <p>Reading 1</p> <ul style="list-style-type: none"> - Making a summary of the issues - Identifying interesting issues from the reading text |
| Week 3 | <p>Reading 2</p> <ul style="list-style-type: none"> - Generating questions for survey questionnaire based on the identified issues - Creating a questionnaire - Selecting groups of respondents |
| Week 4 | <p>Survey 1</p> <ul style="list-style-type: none"> - Conducting a survey - Recording the interviews' video clips |
| Week 5 | <p>Data analysis</p> <ul style="list-style-type: none"> - Data |

- Week 6 Survey report
- Writing a summary of the survey report
- Week 7 Presentation slides
- Preparing presentation slides
- Week 8 Finalizing the project
- Finalizing the report
 - Rehearsing for the project presentation
- Week 9 Project presentation
- All groups submitting the report
 - Making presentation by all groups

The main differences between conventional and FCC lesson plans are summarized in the following table.

Table 3.1 Comparison between conventional and FCC lesson plans

Conventional	FCC
<u>In-class Session</u> (Face-to-face, 3 hours) <ul style="list-style-type: none"> - Lesson introduction - Teacher directed instruction - Individual quiz on the lesson 	<u>Pre-class Session</u> (Delivered online on LMS, accessed through PC browsers and mobile app, for at least 6 hours) <ul style="list-style-type: none"> - Watching videos - Reading lesson contents - Doing online exercises - Attending cooperative group chat - Making group summary of lesson - Doing self-assessment quizzes

Table 3.1 Comparison between conventional and FCC lesson plans (Continued)

Conventional	FCC
<u>After-class Session</u> (at least 6 hours) - Student practice on their own (by doing homework, assignments) and submit to the instructor.	<u>In-class Session</u> (Face-to-face, 3 hours) - Pre-activity class discussion - Making pre-instructional decisions - Explaining task and cooperative goal structure - Monitoring and intervening - Assessing and Processing - Individual quiz on the lesson - Group project work

The objectives of both lesson plans are determined by the instructor. The reading strategies, learning activities, and learning objectives of the lesson plans are shown in Table 3.2. The conventional lesson plans and the FCC lesson plans are in Appendix A, and Appendix B, respectively.

Table 3.2 Reading strategies, learning activities, and overall learning objectives

Strategies	Conventional Lesson Plans	FCC Lesson Plans	Overall Learning Objectives
1. Predicting	<u>In class learning:</u> Methods of making prediction and reading comprehension	<u>Online learning:</u> - Methods of making prediction and reading comprehension <u>In class activities:</u> - Anticipation guide - Vocabulary prediction - CATS (covers, author, title, skim)	The student will be able to make predictions to aid comprehension of text.

Table 3.2 Reading strategies, learning activities, and overall learning objectives

(Continued)

Strategies	Conventional Lesson Plans	FCC Lesson Plans	Overall Learning Objectives
2. Generating Question	<u>In class learning:</u> - Levels of comprehension - Questions for narrative, expository, and functional texts	<u>Online learning:</u> - Levels of comprehension - Questions for narrative, expository, and functional texts <u>In class activities:</u> - Questions for narrative texts - Questions for expository texts - Questions for functional texts	The student will be able to generate questions to aid comprehension of text.
3. Identifying Main Idea	<u>In class learning:</u> - Main idea and supporting detail - Finding the main idea	<u>Online learning:</u> - Main idea and supporting detail - Finding the main idea <u>In class activities:</u> - Main Idea vs. details - Supporting the main idea - Important details - Using equation to find the main idea	The student will be able to identify main idea and supporting details to aid comprehension of text.
4. Identifying Text Structure	<u>In class learning:</u> - Description - Chronology/ Sequence - Compare and contrast - Cause and effect	<u>Online learning:</u> - Description - Chronology/ Sequence - Compare and contrast - Cause and effect	The student will be able to identify text structures to aid comprehension of text.

Table 3.2 Reading strategies, learning activities, and overall learning objectives

(Continued)

Strategies	Conventional Lesson Plans	FCC Lesson Plans	Overall Learning Objectives
5. Visualizing	<u>In class learning:</u> - Inferring - Methods used for making inferences - Visualizing process	<u>In class activities:</u> - Identifying text structure activities using text organizers and comprehension question frames <u>Online learning:</u> - Inferring - Methods used for making inferences - Visualizing process	The student will be able to use visualization to help comprehend text.
6. Inferring	<u>In class learning:</u> - Inferring - Using context clues - Guided reading questions, - Inferring activity - KIS activity.	<u>In class activities:</u> - Draw and label visualizations - Visualizing from a vivid piece of text <u>Online learning:</u> - Inferring - Using context clues - Guided reading questions, - Inferring activity - KIS activity.	The student will be able to infer meaning from what was read to help comprehend text.
7. Summarizing	<u>In class learning:</u> - Summarizing - Rules for writing summaries - Using Summary Frames	<u>In class activities:</u> - Inferring - KIS Strategy <u>Online learning:</u> - Summarizing - Rules for writing summaries - Using Summary Frames <u>In class activities:</u> - Hand summaries - Using titles	The student will be able to summarize what was read to help comprehend text.

Lesson plans for the conventional classroom and FCC are created based on the instructor-created course book for the whole course. The lesson plans for the conventional classroom include all activities within the face-to-face sessions. The activities follow the usual process of presenting contents by the teacher, doing individual reading tasks by the students, followed by individual reading practice/ exercises/ quizzes. The lessons end by wrap-up activities and/ or homework/reading assignments.

On the other hand, the flipped cooperative classroom lessons consist of cooperative learning activities to be done out of class time before the face-to-face session. Students are required to watch the video and take associated exercises and quizzes individually. After that, students work in groups making a summary of the lesson videos. In order to show their cooperation on the task, the students need to attend the Chat activity where their input conversation texts are stored. Group discussions through the Chat activities are restricted to sharing ideas on how to make a lesson summary from the videos. The goal is to have all the members contribute to the process of making a lesson video and understand the lesson content while their activities are stored in a digital written format as evidence of cooperation. Upon the completion of the pre-class online task, the group members are supposed to be prepared for the learning contents and confident with their lesson understanding, ready for the class meeting.

To ensure students have done the online activities before class, a number of checking methods are used. Firstly, exercises and quizzes scores of each student are stored with the Moodle system and can be checked by the instructors at real time. Additionally, starting and finishing times and number of attempts on each exercise are

recorded. Secondly, every group need to submit each lesson's summary online. To be able to create the summary, students need to view the videos and read the lesson materials. Therefore, submitting the lesson summary is used as an indication of students having studied the lesson. Moreover, making the lesson summary is a group work which requires every group member to take part. To ensure everyone's contribution, they have to use the Group Chat to discuss how to come up with a good summary for the group. Records of the group chats are stored in the LMS system as evidence of their summary making process. All these measurements are used together to encourage and monitor students to do the online tasks, in addition to some incentive for course evaluation.

In class, the activities in the FCC focus on learning activities based on the cooperative learning methods, where students are put in groups of four; each member may have the same or different role in the group, depending on the activity types. However, every group member needs to contribute to the learning, and they help each other to complete the tasks. The lessons are designed to facilitate active learning through group discussion and active participation.

Lesson plans for the conventional classroom were assessed by three experts using the Assessment Form for Content Validity of the Conventional Classroom Lesson Plans, and the FCC lesson plans were assessed by the Assessment Form for Content Validity of the Flipped Cooperative Classroom Lesson Plans. Each of the two assessment forms consists of 12 items with five levels of rating scale for their suitability. The lesson plans and the online materials were assessed according to the following criteria.

4.51 – 5.00	means	very suitable
3.51 – 4.50	means	suitable

2.51 – 3.50	means	moderately suitable
1.51 – 2.50	means	unsuitable
1.00– 1.50	means	very unsuitable

The results of the experts' assessments on the lesson plans revealed that the overall content validity of the conventional plans and the FCC lesson plans was at the 'Suitable' levels, with the mean score of 3.76 (S.D. = 0.62) and 3.86 (S.D. = 0.72), respectively. See Appendix C and Appendix D.

3.3.2 Flipped Cooperative Classroom (FCC) Lessons

The flipped cooperative classroom lessons are created in an online course hosted in the Moodle learning management system run by the instructor (<http://alls.gnomio.com>). The course consists of seven topics according to the reading strategies being investigated. The contents of the online course is based on the flipped cooperative classroom lesson plans, focusing on the pre-class and in-class activities. The online course is the host for lesson videos and quizzes covering the seven reading strategies over the 12 week periods.

The construction of the FCC lessons consists of two major parts: construction of lesson learning materials and activities, and construction of instructions for accessing and using online course through PCs and mobile devices.

A. Construction of instructions for using online course

Instructions for using the online course guide students on how to access the course and do course activities through a web browser on PC and an app on mobile devices such as smart phones and tablets. All the instructions are in Appendix E.

B. Construction of learning materials and activities

The online course consists of seven learning topics, each of which will be released one week prior to the in-class session. The first week is reserved for the course introduction, and the preparation for using online lessons. The next seven weeks cover topics on the seven reading strategies (Predicting, Generating Questions, Identifying Main Idea, Identifying Text Structures, Visualizing, Inferring, and Summarizing). Each topic begins with a video lecture related to the topic content. The video will be in English with optional English sub-titles. In addition to the video lecture, a webpage containing the lesson contents is also provided in a hyperlink format for students to learn through a text mode. Learning activities include studying the unit contents through watching the lecture video and/or reading the content pages and doing the quiz about the unit content. After viewing the video, students work in groups to make a summary of the video(s) of the lesson. They are required to use the Group Chat function at the General Section as their online discussion platform. By using the chat function, their discussion records are kept as evidence of how they shared ideas and how they came up with their lesson summary.

In each online lesson, students need to complete the quiz on the individual basis in order to ensure that every student is responsible for their own learning.

Features of the FCC lessons

1. The course site: <https://alls.gnomio.com/course/view.php?id=2>
2. The course name: Reading Comprehension
3. General Section: Group Chat activities – Only members of a group can see and participate in the chat.
4. Week 1 Section:

- Course outline – Overview of the course description.
- Group Reading Project – details of the group reading project which will be done throughout the semester.

5. Videos, Reading Materials, and Exercises:

Videos are provided as multimedia learning materials focusing on giving background information about the topic. In addition to videos, learning content pages are provided with more details about each reading strategy. After viewing the videos and reading materials, exercises are provided for students to check their comprehension of the learning contents. The exercises are set for multiple attempts, allowing students to redo them as often as needed.

All spoken videos can be viewed with English subtitles. However, non-spoken videos are text-based themselves which do not need subtitles. The total length of videos of each lesson ranges between 5-12 minutes. Videos of each strategy are at the following urls.

Unit 1: Predicting

- <https://www.youtube.com/watch?v=nsLD33rczFA> (4.03 minutes)

Unit 2: Generating Questions

- https://www.youtube.com/watch?time_continue=3&v=C2fWZHaNugc (1.56 minutes)
- https://www.youtube.com/watch?time_continue=1&v=dJ6o02BssDI (2.11 minutes)
- https://www.youtube.com/watch?time_continue=6&v=n_g7Nq-sTIA (2.11 minutes)

Unit 3: Identifying Main Idea

- <https://www.youtube.com/watch?v=42SJTk2XSi4> (2.02 minutes)
- <https://www.youtube.com/watch?v=JS29h3ABBqs> (9.18 minutes)

Unit 4: Identifying Text Structures

- https://www.youtube.com/watch?time_continue=1&v=zVU8xoXRHys (5.42 minutes)
- https://www.youtube.com/watch?v=7kWGQ-_ipBY (3.49 minutes)

Unit 5: Visualizing

- https://www.youtube.com/watch?time_continue=12&v=Qcm0KjiuqhU (59 seconds)
- https://www.youtube.com/watch?time_continue=8&v=h5p3oTmQc50 (6.26 minutes)

Unit 6: Inferring

- <https://www.youtube.com/watch?v=Aw8VZHMg-x8> (6.48 minutes)

Unit 7: Summarizing

- https://www.youtube.com/watch?time_continue=18&v=Dbf_Jby-OS0 (4.40 minutes)

6. Lesson summary submission:

Instructions: Watch the video and make a group summary

1. The summary should contain:

- 1) The main idea
- 2) 3-4 important points
2. The summary should be written in 1 paragraph.
3. The length of the summary is between 50-80 words.
4. Write down the summary in the space provided below.

7. Lesson Quizzes:

Quiz 1: Predicting (10.00 marks)

Quiz 2: Generating Questions (14.00 marks)

Quiz 3: Identifying Main Idea (10.00 marks)

Quiz 4: Identifying Text Structures (6.00 marks)

Quiz 5: Visualizing (14.00 marks)

Quiz 6: Inferring (14.00 marks)

Quiz 7: Summarizing (5.00 marks)

The flipped cooperative classroom lessons were assessed by three experts for contents and content validity. The results from the experts' assessment revealed that the overall content validity of the FCC lessons was at the 'Suitable' level, with the mean score of 3.87 (S.D. = 0.73). See Appendix F.

After that, the lessons were tried out with the first year students who were not the intended sample group of this study. One intact class taking the Reading Comprehension course in semester 1 of the academic year 2017 was selected for the try-out. The plans and the online course were adjusted after having been tried-out with this class, taking into account the problems encountered during the implementation of each activity. The lessons were continuously improved on a weekly basis focusing on

major issues e. g. activity instructions, video contents, time for doing activities, technical matters on the LMS, and the use of mobile application, etc.

3.3.3 Pre-Test/Post-Test

The pre-test/post-test are used as the main tools for assessing students' reading comprehension. The tests have the same structure, consisting of reading passages and 40 multiple-choice questions. The questions are designed to test students' reading comprehension at the literal and inferential levels which can be achieved by employing integrated skills of reading comprehension strategies – predicting, generating questions, identifying main ideas, identifying text structure, visualizing, inferring, and summarizing.

Pre-test and post-test were constructed using the following steps.

1. *Preparation of test content.* The pre-test and post-test were constructed by the researcher based on relevant theories and documents. The contents of the tests included passages which require test-takers to use the seven reading strategies to find the answers.

2. *Writing out the tests.* The number of 100 items were created from the levels of reading comprehension. There are 20 reading passages, each of which is followed by five comprehension questions. The questions from each passage elicit comprehension at both the literal and inferential levels.

3. *Checking the validity of content.* The 100 test items were then checked by three experts for content appropriateness as well as the index of item-objective congruency. (See Appendix G). The unaccepted items (having IOC less than 0.50) were improved upon as suggested by the experts. The criteria for assessing the IOC of the items are as follows:

+1	means	suitable item
0	means	uncertain item
-1	means	unsuitable item

According to the experts' IOC results (see Appendix H), there were 71 items that were acceptable and 29 items which needed more improvement. There were no items completely deleted from the test without suggestion for improvement. Most improvements were about adjusting the question to the correct level of comprehension, i.e. literal and inferential. After all modifications and improvement to the passages and the 100 test items were made, the test was ready for further try out.

4. *Trying out the tests.* The improved items were administrated as a try out to fourth year English-major students at Nakhon Ratchasima Rajabhat University who have studied the Reading Comprehension course before. The test took two hours, one week before the beginning of semester 1 of the academic year 2017. A total number of 35 students completed the test. The overall content validity of the tests was at the 'Suitable' level, with the mean score of 3.87 (S.D. =0.73).

5. *Checking the reliability of content.* The try-out data were analyzed for the test's difficulty (p) and discrimination (r). Only 40 items with the most appropriate values of difficulty and discrimination were used for the tests. The whole test was also be analyzed for reliability according to Kruder Richardson-20 method (KR-20).

Based on the analysis results (see Appendix I), the overall reliability of the test was 0.935. However, 20 items were deleted from the test because either their difficulty (p) or discrimination (r) value did not meet the minimal standard for passing the criteria of a suitable item. In other words, these items were too difficult/too easy (p

value not in the 0.2-0.8 range) or had a weak discrimination power (less than 0.2). The 80 acceptable items were then chosen for the pre-test and posttest.

These items were then equally divided into first and second halves, each containing 40 items, to be used as the pre-test and the post-test, respectively. This process is based on the Split Half method (Webb, et al, 2006). The reliability coefficient value between the two tests was 0.889, indicating that the tests are highly correlated. The complete set of pre-test and post-test are shown in Appendix J and Appendix K. Reliability of the pre-test was 0.929 and post-test was 0.891.

3.3.4 Questionnaire

The questionnaire is used for collecting quantitative data on students' perceptions and opinions of flipped cooperative classroom learning experiences. It consists of two sections. Section 1 is about students' perceptions of the flipped cooperative classroom learning experience, covering the items on motivation, engagement, effectiveness, and satisfaction. Items in this section are adapted from Hsieh et al (2016). Section 2 is adapted from the original Technology Acceptance Model developed by Davis (1989) and Davis, et al. (1989) which contained elements of the perceived ease of use, attitude toward use, and behavioral intention, and the additional of two elements of system characteristics and material characteristics modified by Huang, et al (2011). Section 2 is designed to explore the students' perceptions of using Moodle LMS as the flipped learning platform. Each item is measured in a 5-level rating scale of 1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree), and 5 (highly agree). Since the sample were first year students, the questionnaire administrated to them was in Thai with English translation.

The questionnaire contains a total of 36 items. The complete draft of the questionnaire was assessed by three experts for content validity as well as to make sure that each item conveys the same meaning in Thai and English. After that, the researcher made corrections according to the experts' comments and the IOC scores of each item. The overall content validity of the questionnaire was at the 'Suitable' level, with the mean score of 0.76 (S.D. = 0.52). The IOC results for the questionnaire are shown in Appendix L. The improved items of the questionnaires were administrated as a try out to second year English-major students at NRRU.

3.3.5 Semi-Structured Interview

One of the objectives of this study is to explore students' opinions about the FCC model and their experiences learning with FCC. For this study, opinion is understood as how students value or evaluate the use of FCC including all its elements and how the value and evaluate their experiences learning through the FCC in relation with their learning success. To explore these aspects, semi-structured interview is the method, in addition to the questionnaire, was used to extract students' responses regarding their opinions. Semi-structured interviews are commonly used to obtain data from responses about real life experiences and related thoughts in order to extract meaning from such responses. For this particular group of students, which were in their early year of undergraduate study, interview is considered an appropriate way of gain data that reveal meaningful information. The flexibility nature of the semi-structured interview provide opportunities for students to express themselves in a non-threatening atmosphere.

The Guided Questions

The semi-structured interview questions are written to elicit students' opinions on some particular points related to the overall FCC instructional method and their learning experiences. The data collected aim to be more in-depth and qualitative. Therefore, a set of questions was set as a guideline for interviewing and it may be used in different order depending on students' responses. The set of questions was assessed by the experts for appropriateness in the same way as the questionnaire. The experts' IOC results (see Appendix M) showed that the overall validity of the interview questions was at the 'Suitable' level, with the mean of 0.78 (S.D. = 0.43). After experts had given the feedback on the interview questions, the researcher made corrections accordingly. Subsequent tryout of the semi-structured interview was conducted with a group of NRRU second year students majoring in English. Although this group of students had not attended any flipped classroom, the researcher asked them to give responses as if they had been learning through a flipped classroom in order to check how they understood the questions being asked. Results of the try out showed that students could answer most of the questions with some suggestions about confusing words. For example, in Question 1, students said that the word "time and attempt used in the course" had negative meaning in Thai. Therefore, they suggested that the question changed so that the FCC course and the conventional course are clearly compared. Therefore, Question 1 was changed to "What do you think about learning with FCC compared to other lecture-based teaching courses? Other questions were fine for the students to answer.

Conducting the Interviews

The interviews were conducted on a group basis. There were eight groups, seven groups with four students each and one group with five students, making the total number of 33 students. Each interview lasted from 11 to 18 minutes, depending on the coverage of the response and how students explained their reasons. The reason for conducting the group interview was that there were six questions in the interview where every student was required to answer the same six questions. However, since students learned the course in groups, and the limitation of time, members of the same group were interviewed together. Despite being interviewed in groups, each student was free to respond to each question freely, independent of the other group members. Therefore, the interview time was saved by asking once and receiving different responses. The interviews were conducted in Thai, audio recorded, and transcribed. All the transcriptions were then translated into English.

Concerns about Interview Quality

As interview was used to collect qualitative data which by means of direct interaction between the researcher and the interviewees, and the data involved the expression of people's thoughts, the researcher was aware of the quality of the interview. The quality concerns included the validity and reliability of the interview.

In terms of validity, apart from the experts' assessment during the interview question construction, researcher also considered validity during the period of interview conduction. Validity was considered as one of the quality measures of the interview in terms of securing that interview questions truly measured what were intended to (Cohen, et al., 2011). According to Klevan (2007), validity in research is used for ensuring the trustworthiness of data interpretation, which concerns the truth in data. In

the interviews with students of this study, the researcher considered some aspects related to validity of the data by means of gaining the most honest responses from the students regarding the opinions about FCC and learning experiences.

Three issues were considered to improve interview validity include establishing trust, creating students' comforts, and avoiding bias (Cohen, et al, 2011). Firstly, the students' comforts were created by making students familiar with the researcher. This was done throughout the study period when the researcher gave instructions on how to use the online learning system through their mobile devices. The researcher also communicated with the students when need consultancy regarding technical matters of the online learning system. With the presence throughout their study time, students get familiar with the researcher. On top of that, as the researcher was one of the lectures of the department where these students belong, students had seen the researcher in other roles in the faculty which make students became even more familiar with the researcher. Being familiar with the researcher leads to trusts which allowed students to respond to the question as close to their opinions as possible. Secondly, the researcher create students' comforts by conducting the interviews within the classroom they used for the course. At the beginning of each interview, the researcher began by explaining that the interview responses would not affect their cores grade and that there were no right or wrong answers to the interview questions. Finally, to reduce the bias of that might occur from both the researcher and the students, guided questions were used in the way that responses could be made either positively or negatively. Moreover, students were informed that their responses need not to be the same with the other group member. Therefore, responses from students were kept uninfluenced by those of other students, resulting in data with the least bias as possible.

Reliability of the interview was the issue concerning how it would be replicated by other research and obtain the same result (Silverman, 2014, Cohen, et al., 2011). In this study, reliability of the interview was assured by providing guided question of the interview and details of the interview process. As an inexperienced interviewer, the researcher kept the questions and responses within the scope of the interviews. Apart from that, all the interviews were audio-recorded on both a smart phone and a tablet in order to keep ensure coverage of the interviews records. All these measures were done to ensure the maximum reliability of the interviews procedure.

Ethical Issues

To ethical consideration, the researcher addressed the issue in two main points of the study. Firstly, the students were informed that participating in research activities which were not included in the course requirement such as pre-test, questionnaire survey, and interviews were on the voluntary basis, and that participating in these activities would not affect their course grades. Secondly, their responses on the questionnaire and the interviews were kept anonymous in both the audio records, transcripts, and the reports. The purpose was to protect the students' identity in accordance with the appropriate ethical consideration of the research.

3.4 Data Collection

The data were collected during the experiment period in semester 2 academic year 2017 during January and April 2018. The experiment took 12 weeks. Each week consists of three 50-minute periods. Both classes were taught by the same instructor, while the researcher was responsible for administrating the online part of the course. This instructor was chosen to be the teacher of the Reading Comprehension course

which included a section dealing with online learning because she is also responsible for teaching another technology-related English subjects: Technology and Language Learning. Therefore, this instructor is familiar with using online technology in teaching language. The procedure of this study is shown in Figure 3.3.

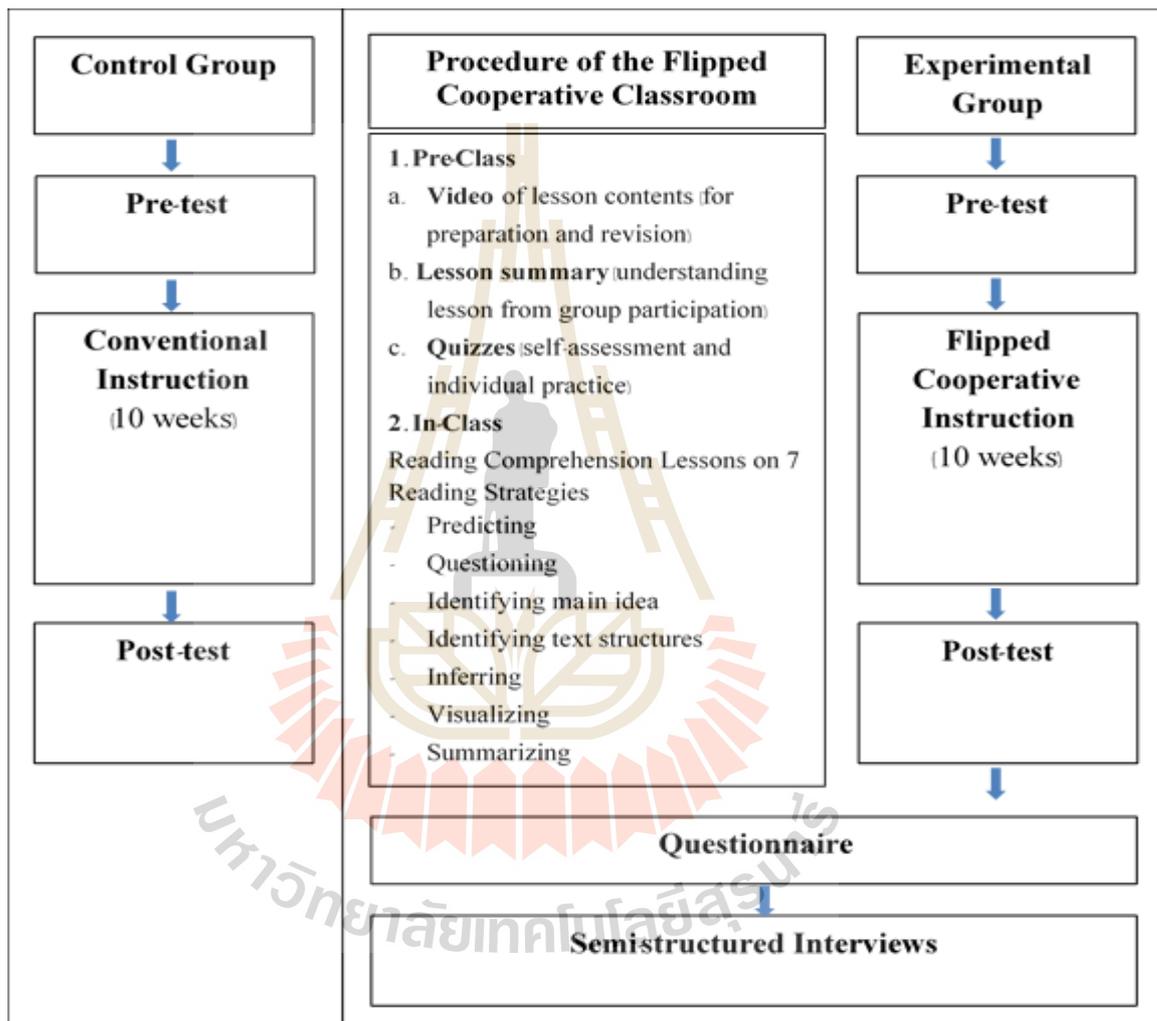


Figure 3.3 Procedure of the current study

The data were collected from the following activities.

1. Both classes of experimental group and control group was tested by the pre-test in the first week of the course.
2. Both classes took the post-test at week 11.

3. The questionnaire was administrated to the class learning through the flipped cooperative classroom method at week 11.

4. Interviews were conducted with selected students in the experimental group in week 12.

3.5 Data Analyses

The following analyses were performed on the data collected.

1. Comparing between scores of the pre-test and the post-test of Experimental Group using paired sample t-test.

2. Comparing the scores of the pre-test between Experimental Group and Control Group using independent t-test in order to make sure that the two groups are equal in terms of their reading comprehension.

3. Comparing the scores of the post-test between Experimental Group and Control Group using independent t-test.

For each t-test analysis, an Effect Size (ES) value was calculated to determine the size of the difference in addition to the p value of the t-test. The ES values were calculated using the Cohen's *d* method (Cohen, 1988). The criteria for determining the ES were based on Ellis (2009): Small (0.20-0.49), Medium (0.50-0.79), Large (0.80-1.29), and Very Large (1.30 and above).

4. Frequency and percentage were used to analyze the questionnaire data. The criteria for assessing students' perception levels were based on the median score on the five rating scale.

5	means	strongly agree
4	means	agree

3	means	neutral
2	means	disagree
1	means	strongly disagree

5. The interview data were analyzed using content analysis method.

Analyzing Process

The process of data analysis took the general five steps outlined by Taylor-Powell & Renner (2003), which include steps of: getting to know the data, focusing the analysis, categorizing information, identifying patterns and connections within and between categories, and interpreting the data. The step of categorizing information includes two major sub-steps of categorizing and coding, which are important for the rest of the process. The data coding and categorizing process consisted of the First Cycle coding and Second Cycle coding.

First Cycle Coding

Several codes used in the First Cycles of this study were based on Miles et al (2014) and Saldana (2009). These codes were used as they were related to the many types of responses appearing in the interview transcription. They included the followings:

1. Descriptive coding - To note the topic and sub-coding and to be used with other codes
2. Vivo Coding - To quote words or short phrases from the participant's own language

3. Process Coding - Using gerunds (“-ing” words) exclusively to connote observable and conceptual action in the data

These first three types served as a primary code which were used in combination with other attributes to form other types of codes, such as the followings.

4. Emotion Coding - Labels the emotions recalled and/or experienced by the participant or inferred by the researcher about the participant. (1. Emotional code alone, 2. Emotional code in the In Vivo code)

5. Evaluation Coding - Assign judgments about the merit, worth, or significance of programs or policy (Magnitude [+/-] + Descriptive: + Value)

6. Causation Coding - Extracts attributions or causal beliefs from participant data about *how* and *why* particular outcomes came about

7. Recommendation tag - To indicate some actions to follow-up (REC: Descriptive – recommendation)

The use of these codes depended on the type of responses in certain contexts. The In Vivo stated the direct quotation of the participants, while other codes relied largely on the researchers’ careful interpretation. The coding process was revised for at least three round in order to increase the validity of the data analysis. Changes were made to both the type of code used and the interpretation of the data.

Second Cycle Coding

In the Second Cycle coding, codes are summarized into categories, themes, or constructs. In this stage, Pattern Coding (Miles et al (2014) was used. Along this process, first, codes were transformed into patterns, which could fall into one of these pattern types:

1. Categories or themes
2. Causes/explanations
3. Relationships among people
4. Theoretical constructs

In this study, the first two types, categories/themes and causes/explanations, were mostly found.

The method of transforming codes in to patterns started from identifying the code type which played the most critical roles in a particular issue of investigation. After that, the rest of the codes were identified for their common features/patterns which can be grouped into the same categories/themes. At this stage, all codes has a category/theme to belong. After this, interpretation narrative for each category/theme was written. All narratives served as the basic reports of the findings, which can be further discussed.

3.6 A Pilot Study

A pilot study is conducted before the actual study. It can be a mini-version of a full-scale study or a trail run to prepare for the complete study. It can be treated as a feasibility study or a specific pre-testing of the research instruments including questionnaire or interviews. There are several goals of a pilot study. For example, Welman and Kruger (1999) suggests that a pilot study can be done for the following purposes:

1. To detect possible flaws or errors in measurement procedures (i.e. instructions, time limits, and so on) as well as in the operationalization of independent variables.
2. To identify unclear or ambiguous items in a questionnaire.
3. To identify the non-verbal behavior of participants in the pilot study, which may give important information about any embarrassment or negative experiences concerning the content or wording of items in a questionnaire.

Some other goals of a pilot study according to Simon (2011) are: 1) to check whether the study's instructions are comprehensible, 2) to check if the investigators/technicians/instructors are sufficiently skilled in the procedures, 3) to check the wording of a survey/questionnaire, 4) to check the reliability and validity of results, 5) to check the efficacy of the statistical and analytical processes.

The main objective of the pilot study was to pre-test the research tools, including the implementation process and the preliminary results of the study. The aim was to identify the practicality of the use of the tools and make some adjustments before the actual implementation. The pilot study was done with a class of 32 first year students majoring in English at Nakhon Ratchasima Rajabhat University in semester 1,

academic year 2017 during August to November 2017. The results of the pilot study can be summarized as follows.

3.6.1. Course Orientation and Pre-test (Week 1)

As the group of students used in the pilot study were new students and the Reading Comprehension course was one of the subjects they were taking for the first time in semester 1 of their program, the first week of in this course was arranged for both course orientation as well as the pre-test. The two classes (groups) were introduced to the course outline which covered learning activities to be done each week as well as the course evaluation schemes. The last 60 minutes of the class was arranged for the pre-test which was a paper-based test consisting of 40 questions. The results showed that the students were able to complete the 40-item test within the given 1 hour.

Apart from the course outline and the pre-test, the experimental group was instructed to prepare for their learning with the online lessons as part of flipped learning. Firstly, students were asked to form a group of four as their learning group throughout the semester. Then, they were briefed about the group's reading project. After that, they were asked to follow the instructions for installing the Moodle Mobile application on their mobile device. They used a preset user name and a password to gain access to the online course Reading Comprehension. Step-by-step, they were guided on how to use the features of the application in their learning. They then tried the following activities:

- 1) Viewing course outline
- 2) Viewing video
- 3) Taking an example online quiz and getting the quiz results

- 4) Entering a group chat and making conversations with the students in their group
- 5) Opening an online assignment and submitting different assignment formats, such as online text, files attachments, and media attachments.
- 6) Viewing their progress reports on each activity such as assignment and quizzes.

After all these activities were completed, they were informed to prepare for the next class by studying the online lesson, which included viewing lesson videos, doing online quiz, discussing and making group summary of the lesson before submitting the online assignment task.

3.6.2. Course Implementation (Week 2 to Week 8)

Both classes were taught according to the lesson plans: conventional lesson plans for class 1 and flipped cooperative lesson plans for class 2. However, the report here focuses on the class using the flipped cooperative classroom method, especially the online part. The results can be summarized as follow.

During the seven weeks, statistics show that most students participated in the online activities. The statistics were drawn from the data recorded in the Moodle Reports. For video activity, the percentage of viewing rose from 61.8 percent on the first topic to 70.6 % on topic 4, before declining to 26.5 on the last topic. The number of viewings ranges from 65 to 88 in the first 5 topics, but reduced to 18 and 15 views in the last two topics. The reason for this was that the students were busy doing some other work such as the reading project and works in other subjects.

Table 3.3 Records of online activities in the FCC

Weeks	Activities	Results N=34	Remarks
Week 2	Predicting		
	1) Viewing Video (2)	69 Views from 21 students (61.8%)	
	2) Doing exercises	-	Exercises not provided.
	3) Taking quiz 1	621 attempts from 32 students, 19 attempts on average	Quiz as an exercise.
	4) Joining chat	-	Not set as compulsory.
	5) Submitting lesson summary	8 groups	
Week 3	Predicting		
	1) Viewing Video (2)	88 Views from 21 students (61.8%)	
	2) Doing exercises	-	Exercises not provided.
	3) Taking quiz 1	618 attempts from 32 students, 19 attempts on average	Quiz as an exercise.
	4) Joining chat	-	Not set as compulsory.
	5) Submitting lesson summary	7 groups	
Week 4	Predicting		
	1) Viewing Video (2)	83 Views from 19 students (55.9%)	
	2) Doing exercises	-	Exercises not provided.
	3) Taking quiz 1	828 attempts from 31 students, 27 attempts on average	Quiz as an exercise.
	4) Joining chat	-	Not set as compulsory.
	5) Submitting lesson summary	8 groups	

Table 3.3 Records of online activities in the FCC (Continued)

Weeks	Activities	Results N=34	Remarks
Week 5	Predicting		
	1) Viewing Video (2)	65 views from 24 students (70.6%)	
	2) Doing exercises	-	Exercises not provided.
	3) Taking quiz 1	651 attempts from 31 students, 21 attempts on average	Quiz as an exercise.
	4) Joining chat	-	Not set as compulsory.
	5) Submitting lesson summary	7 groups	
Week 6	Predicting		
	1) Viewing Video (2)	68 views from 19 students (55.9%)	
	2) Doing exercises	-	Exercises not provided.
	3) Taking quiz 1	673 attempts from 33 students, 20 attempts on average	Quiz as an exercise.
	4) Joining chat	-	Not set as compulsory.
	5) Submitting lesson summary	8 groups	
	1) Viewing Video (2)	18 views from 10 students (29.4%)	
	2) Doing exercises	-	Exercises not provided.
	3) Taking quiz 1	692 attempts from 32 students, 22 attempts on average	Quiz as an exercise.
Week 7	Predicting		
	4) Joining chat	-	Not set as compulsory.
	5) Submitting lesson summary	5 groups	

Table 3.3 Records of online activities in the FCC (Continued)

Weeks	Activities	Results N=34	Remarks
Week 8	Predicting		
	1) Viewing Video (2)	15 views from 9 students (26.5%)	
	2) Doing exercises	-	Exercises not provided.
	3) Taking quiz 1	310 attempts from 22 students, 14 attempts on average	Quiz as an exercise.
	4) Joining chat	-	Not set as compulsory.
	5) Submitting lesson summary	5 groups	

As exercises were not created at the pilot study, quizzes here refer to exercises that provide student practices after viewing the videos. In the quiz activity, it was found that up to 828 attempts were recorded, with the maximum average of 27 attempts per student. This suggests that students felt comfortable to take quizzes multiple times until they were satisfied with their results. Another possible reason may be that the quizzes were designed mostly with multiple choice questions similar to those they had seen in the pre-test. This may help motivate them to take as many rounds as they wish with the aim of hoping to do well in other tests.

The chat activity in the pilot study was not attended by any group of students. The reason was that this activity was at first not required as a part of the prerequisite to the submission of the lesson summary. Students were told to use other ways in their group discussions to get the summarizing task done. Therefore, none of the groups used the Chat function in the Moodle provided. Rather, they preferred face-to-face discussion or other social media for their group work. Additionally, as these students

were studying full-time, they met each other in groups most of the time at the university or at their accommodation. Therefore, discussing over online chatting may not be necessary for them, as it wasn't really required by the course. Consequently, to be able to monitor group discussions, the chat activity needs to be set as compulsory to the lesson summary. That is, in order for the summary assignment to be marked, the group had to enter the chat room and had a discussion on the assignment.

Although students did not use the chat to discuss their group summary assignments, up to 8 groups regularly submitted the lesson summaries. The online summary assignments were setup so that the groups can enter their summary in the form of online text. Students found this convenient because they did not need to attach the work as any file format. On the teacher's side, the text of the summary appear straight away for viewing and marking. The groups who did not submit online actually did not submit on time; they needed to hand-in a hard copy in class instead.

3.6.3. Post-test (Week 11)

The students were tested for their reading comprehension using the post-test at week 11. The test contains a different set of 40 multiple choice questions. Within the 1 hour time allowed, the students were able to complete the test. The test was paper-based and arranged in a test-room style in the normal classroom. There were no problem regarding the amount of time used for this test, which was 60 minutes. Therefore, the same test format can be used for the actual experiment.

Regarding the test results, there was a slight improvement in the post-test score compared to that of the pre-test, although not statistically significant. Table 3.4 illustrates the figures.

Table 3.4 t-Test: Paired two sample for means

Variables	Mean	S.D.	t value	P value
Pre-test	25.73	7.97	1.187	0.122
Post-test	26.70	5.71		

Table 3.4 shows that the pre-test mean score is 25.73 (S.D.=7.97) and the post-test score is 26.70 (S.D.=5.71). With these scores, the P-value (0.122) suggests that the post-test score is not significantly higher than the pre-test score at the 0.05 significance level.

3.6.4. Questionnaire (Week 11)

The questionnaire was administrated to the class at week 11, right after the post-test. Thirty-two students responded to the questionnaire. The students had no problems understanding questionnaire items and could complete the survey within 15 minutes. The results are summarized in the following table.

Table 3.5 Results of the questionnaire – Section 1

Section 1: Perceptions of the flipped cooperative classroom

No.	Items	1	2	3	4	5
1	Using learning methods in this course is a good way of learning.	0.0	3.1	37.5	37.5	21.9
2	I enjoyed the teaching approach used in this course.	0.0	0.0	31.3	43.8	25.0
3	I think the learning method used in this course is an effective way to learn.	0.0	0.0	37.5	40.6	21.9
4	I feel motivated in the classroom.	0.0	0.0	34.4	34.4	31.3
5	I participated and engaged myself in learning in the course.	0.0	0.0	18.8	43.8	37.5
6	I became an active learner in this course.	0.0	0.0	18.8	50.0	31.3
7	I thought the time and effort I spent in the learning method of this course was worthwhile.	0.0	0.0	31.3	28.1	40.6
8	I learned more in the course.	0.0	3.1	15.6	46.9	34.4

Table 3.5 Results of the questionnaire – Section 1**Section 1:** Perceptions of the flipped cooperative classroom (Continued)

No.	Items	1	2	3	4	5
9	I like learning with the method used in this course compared to other lecture-based course.	0.0	0.0	28.1	43.8	28.1
10	I think this classroom learning method guided me toward better understanding of the course topics.	0.0	0.0	40.6	31.3	28.1
11	I experienced pleasure in the classroom.	0.0	0.0	21.9	50.0	28.1
12	I devoted myself more to the instructional/class activities in the classroom.	0.0	0.0	21.9	50.0	28.1
13	I spent more time and effort than usual on my classroom learning activities.	0.0	0.0	31.3	34.4	34.4
14	Generally, I'm happy and satisfied with this learning experience.	0.0	0.0	18.8	50.0	31.3
Section 1 Total		0.0	0.4	27.7	41.7	30.1

Data for Table 3.5 shows that, on the overall basis, the majority of the students (41.7 percent) agreed with the positive statements about the flipped cooperative classroom. The majority of the students (34.4-50.0 percent) responded to most statements at the 'agree' level, four of which are rated by 50.0 percent of the students. There are two statements where students 'strongly agree' which are: "I thought the time and effort I spent in the learning method of this course was worthwhile" and "I spent more time and effort than usual on my classroom learning activities". There are also three statements in which students are 'not sure' about. That is, they are unsure: whether using learning methods in this course is a good way of learning, whether they feel motivated in the classroom, and whether this classroom learning method guided them toward better understanding of the course topics. Although students agreed with most statements, and no students 'strongly disagree' with any statement, there are some

students (3.1 percent) who ‘disagree’ that using learning methods in this course is a good way of learning and that they learned more in the course.

Table 3.6 Results of the questionnaire Section 2 (Perceptions of Moodle learning platform)

No.	Items	1	2	3	4	5
A. System characteristics						
1	Using online lessons provided English learning activities in a realistic environment.	0.0	9.4	25.0	46.9	18.8
2	Using online lessons provided a stimulating English learning environment.	3.1	3.1	18.8	46.9	28.1
3	I was able to use online lessons effectively to interact with the instructors and my peers to learn English.	0.0	3.1	28.1	46.9	21.9
4	I felt more comfortable in using online lessons to make comments on the output produced by my peers, compared to a face-to-face comment.	3.1	0.0	21.9	34.4	40.6
5	I was able to use online lessons to sharpen my reading proficiency based on the comments and suggestions made by the instructor and my peers.	6.3	0.0	31.3	31.3	31.3
Total A		2.5	3.1	25.0	41.3	28.1
B. Material characteristics						
1	The video materials made by the instructors led to a better understanding of English reading strategies.	0.0	6.3	18.8	46.9	28.1
2	The video materials made by the instructors helped me immerse myself in the learning atmosphere of the class.	3.1	3.1	21.9	34.4	37.5
3	The video materials made by the instructors were useful for learning English reading strategies.	0.0	6.3	15.6	43.8	34.4
4	The video materials made by the instructors helped me understand the important points included in the units.	0.0	3.1	18.8	50.0	28.1
5	I think that the video materials made by instructors were useful for improving my reading comprehension.	3.1	0.0	18.8	46.9	31.3
Total B		1.3	3.8	18.8	44.4	31.9

Table 3.6 Results of the questionnaire – Section 2 (Perceptions of Moodle learning platform) (Continued)

No.	Items	1	2	3	4	5
C. Perceived ease of use						
1	I received clear guidance about my school work via online lessons.	6.3	6.3	12.5	46.9	28.1
2	Using online lessons did not require too much time.	6.3	3.1	15.6	40.6	34.4
3	Learning to use online lessons for my class activities was easy.	12.5	9.4	6.3	34.4	37.5
4	Interacting with my instructors and peers via online lessons was convenient and not stressful.	9.4	6.3	6.3	31.3	46.9
Total C		8.6	6.3	10.2	38.3	36.7
D. Perceived usefulness						
1	Learning through online lessons improved my English reading comprehension.	3.1	12.5	15.6	46.9	21.9
2	Learning through online lessons enhanced my desire to use English reading strategies.	9.4	6.3	18.8	40.6	25.0
3	Learning through online lessons provided a beneficial outcome to this class.	6.3	6.3	18.8	37.5	31.3
4	The comments and suggestions made by the instructors and my peers through online lessons were useful for improving my work.	6.3	6.3	12.5	56.3	18.8
5	Learning through online lessons strengthened my critical thinking as I considered the work of my peers.	3.1	9.4	12.5	43.8	31.3
Total D		5.6	8.1	15.6	45.0	25.6
E. Attitude about use						
1	I liked using online lessons to learn English.	6.3	9.4	12.5	40.6	31.3
2	I have a positive attitude about using online lessons in this class.	6.3	6.3	18.8	37.5	31.3
3	I feel that using online lessons to learn English is a good idea.	6.3	9.4	25.0	28.1	31.3
4	I looked forward to using online lessons in this class.	9.4	15.6	18.8	34.4	21.9
Total E		7.0	10.2	18.8	35.2	28.9

Table 3.6 Results of the questionnaire – Section 2 (Perceptions of Moodle learning platform) (Continued)

No.	Items	1	2	3	4	5
F. Behavioral intension						
1	If I have access to online lessons, I will continue to write in English, in addition to my own language.	3.1	9.4	21.9	25.0	40.6
2	If I have access to online lessons, I will continue to use it to improve other English skills.	3.1	6.3	18.8	40.6	31.3
3	If I have access to online lessons, I will be happy to use the reading strategies I have learned.	3.1	6.3	25.0	34.4	31.3
4	When I use online lessons, I will have confidence when I participate in conversations in English.	6.3	12.5	15.6	34.4	31.3
Total F		3.9	8.6	20.3	33.6	33.6
Section 2 Total		4.6	6.5	18.3	40.0	30.6

Table 3.6 summarizes results of students' perception on Moodle as a learning platform. Overall, most students (40 percent) 'agree' with using Moodle. However, students responded to statements differently, ranging from 'strongly disagree' (4.6 percent) to 'strongly agree' (30.6 percent).

When considering responses to the six sub-sections, students' perceptions varied. That is, while 41.3 percent of student 'agree' that the system characteristics are good, 28.1 percent 'strongly agree', while 2.5 percent 'strongly disagree'. Likewise, the majority (44.4 percent) 'agree' that learning materials are good, and 31.9 percent 'strongly agree', while 1.3 percent 'strongly disagree'. Some students (38.3 percent) 'agree' and some others (36.7 percent) 'strongly agree' that Moodle is easy to use with, 8.6 percent 'strongly disagree'. With regard to the usefulness of Moodle, 45.0 percent of students 'agree', 25.6 percent 'strongly agree', but 5.6 percent 'strongly disagree'.

As high as 35.2 percent of students ‘agree’ and 21.9 percent ‘strongly agree’ that they have good attitudes about the use of Moodle, while 7.0 percent ‘strongly disagree’. Considering the behavioral intention, most students (33.6 percent) ‘agree’ and ‘strongly agree’ to the intention of further use, but 3.9 percent ‘strongly disagree’.

3.6.5. Interviews (Week 12)

Originally, the interviews were to be conducted in week 12. However, due to the time limitation, the researcher chose to conduct the interviews by having all the students respond to the interview questions in a written format in Week 11 instead. Therefore, the interview questions were printed on a piece of paper with spaces underneath each question. Students responded to each question in writing. During this time, the teacher left the room for some time until most students had completed their writing. On the whole, students understood the questions being asked in the interview, and they preferred expressing their opinions in Thai rather than in English, and in a written form rather than face-to-face oral interview.

3.6.6 Interview Results

1. How did you use time and attempts in learning with this class compared to other lecture-based classes?

Although some students reported that they used the same time as other classes, most of them said that they spent more time and attempts in this class.

2. How did the instructional methods of this course affect your learning?

The methods affected reading skills the most. Students understood the lessons better, gained reading skills, reading speed, and vocabulary.

3. How did the instructional methods of this course affect your self-study?

Students felt that the course did affect their self-study:

- This course helped students do more self-study learning in order to be able to talk to other students. Study also enjoyed leaning and help gain more knowledge.
- The course also encouraged students to read more.
- It helped students in analyzing texts which are differs for each person.
- In this course students need to find knowledge by themselves more than other courses.

4. How did the instructional methods of this course help promote your learning preferences?

Students improved their learning preferences in many ways.

- The course helped students understand self-preference better.
- The course helped students to find their learning styles and preferences.
- The course improved better reading strategies.
- It improved analytical thinking skills.
- It improved reading speed.
- Improved presentation skills.
- The course enhanced learning such as listening, reading, and presentation skills. Working through the Internet helped students feel enthusiastic to learn.

5. Did you like using Moodle tools for communicating and learning reading strategies? Why?

Students both agreed and disagreed with the use of Moodle.

Answer ‘Yes’

Reasons: convenient, fast, low pressure, helped understanding of the learning, concepts, interesting contents, easy access, learning any time

Answer ‘No’

Reason: difficult to understand, complicated, no Internet sometimes, prefer submitting assignment in class than online.

6. How should this learning method be improved, i.e. learning media, instructional methods, video contents, communication tools, learning activities (both in Moodle and in classroom)?

While some students suggested some changes to Moodle, others felt that there is no need to make any change.

Need changes:

- Explain contents concisely.
- Change the order of contents.
- Thai language should be also used for better understanding.
- Video contents should be improved.
- Video should also be used in the classroom so that the class can be

more interesting.

- Understanding is made by teacher’s explanation.
- There should be more explanations on the instructional methods.
- Students prefer submitting assignment in class rather than via Moodle

because sometime it is too complicated.

- Moodle system should be improved.
- Moodle app only has some parts that are difficult to use.

Need no changes:

- No need to change.
- No need to improve because media are adequate and the app is easy to use, convenient, and fast.
- I feel quite satisfied with the instructional method and not much to be improved.
- No comments.

3.6.7 Discussions

Having presented the results of the pilot study, the researcher then examined what changes need to be made to the research tools and their implementation processes.

A. Pre-test and Post-test

The processes of the pre-test and the post-test appeared to have no major problems in the implementation. Both tests could be conducted well within the class time on the paper-based format. The time was adequate in both test sessions. However, according to the pilot study results, the post-test scores did not improve significantly from the pre-test scores, despite some small increase. When considering the tests, it can be said that the pre-test and the post-test were highly correlated, having similar difficulty levels and discriminant powers. Consequently, the results may not suggest any changes to be done to the tests, but it may involve the modifications of the instructional processes.

B. The Course Implementation

The process of course implementation deals with the use of lessons including the online and classroom modes of learning. In particular, the online activities

need to be modified. According to the records of online activities in Table 3.3, some changes needed to be made to these activities in order to be more effective.

1) *Video activity must be set as individual task.* The viewing record shows that there were still some students who did not view the videos. This may be due to that some students rely on other group members. It could be possible that there were only some members who did the lesson summaries. Students' responses in the questionnaire and the interviews suggested that video contents need to be readily available and easy to understand.

2) *Exercises and quizzes should be treated as separate activities.* That is, more exercises must be provided for multiple attempts; while only one quiz per unit is to be used as a checking point for student's understanding. The quiz should only allow one attempt.

3) *Chat activity needs to be set as prerequisite to the lesson summary assignment.* Giving marks to students who participated in the group discussion may be another appropriate factor when marking the summary assignment. This means that only members who contributed to the creation of the summary will get the marks for the particular week.

4) *There need to be more and clearer explanations on the instructions of each online activity.* According to the interview results, there were some students who reported that using online lessons through Moodle is complicated and some more explanations are needed. One student mentioned about including a Thai version of instructions in the lessons. Therefore, the researcher considered adding explanations and descriptions to each activity, as well as the outlines of the steps of doing the online

activities at the beginning of each lesson. This will help remind students of how to proceed with each lesson right at the beginning of the section.

These are only some major problems that have been identified from the study. However, there may be some other smaller points which needs to be improved in the process of instructional implementation.

C. Questionnaire

The questionnaire results have revealed some differences in the students' responses. Namely, there are clear distinction between the students' agreement levels in Section 1 and Section 2. For Section 1, only 0.4 percent of students disagreed with the use of the flipped cooperative classroom, with 27.7 percent unsure, and 41.7 percent and 30.1 percent agreeing and strongly agree, respectively. On the other hand, with regards to the use of Moodle as a learning platform, students' opinions varies. Although the majority of the students agreed with using Moodle, up to 11.1 percent of them disagreed (of this, 4.6 percent strongly disagreed). These figures clearly indicate that students actually answered the questionnaire largely based on their understanding of the items being presented. These figures are supported with the interview results showing that some students did not like using Moodle because it was complicated and some other factors such as Internet access and unfamiliarity with this type of learning method.

In terms of the implementation process and the modification, the questionnaire may not require a great deal of change or adjustment. However, the results of the questionnaire are good indication of the need for improvement in other research tools and instructional process.

D. Interviews

As mention in the result section, there was a major problem in implementing the interviews: time restriction. During the semester, the interviews were changed to the form of written interview because the students had to participate in some other activities, making the oral interviews impossible. Rearranging the interview schedules were difficult, resulting in completely different format of interviews. This means that the time for interviews in the actual study must be set to ensure that students will be always available. Interview schedule must be set at a fixed time period and students must be informed of the time early in the semester. In other words, the interview activity has to be set as a part of the course, which will make the implementation of the research tool produce the best results possible.

Another change that needs to be made to the interview is the review of the interview questions. From the written responses made in the interview form, some questions were left unanswered, and some answers were not directly related to the questions. Some answers were relatively short. This may be due to the ambiguity of some questions. For example, the use of the term 'attempt' in English has positive meaning. When this word is translated into Thai, it can be interpreted in the negative way. When being asked about attempts used in the study, students responded in the way that they 'work too hard' in learning, not that they 'put the best attempts'. The other word is 'time' used for learning. Using more time in learning means 'using too much time' or 'too tiring' for the students, not that they enjoy learning. Consequently, apart from making set interview schedules, the interview questions also need to be rewritten so that correct responses are obtained.

E. Summary of the pilot study

The results of the pilot study suggest that some adjustments are needed to the research tools. Firstly, the lesson plans can be used in the actual study. Secondly, the FCC lessons (online) need to be improved: 1) Video activity must be set as individual task. 2) There should be both the exercises and quizzes. 3) Chat activity needs to be set as a prerequisite to the lesson summary assignment. The pre-test and post-test need not be changed as shown by the satisfied results and the test implementation process. Likewise, questionnaire results showed a consistency of the responses, suggesting no changes are needed in the questionnaire item. Finally, several adjustments need to be made to the questions of the interview in order to eliminate misunderstanding, as well as to the interview schedule so as to ensure a successful completion.

3.7 Research Conceptual Framework

As the FCC model was used as the main instructional approach to solve the problem of improving students' reading comprehension, the following discussion will illustrate how each element of the model is related to improving students' reading comprehension.

There are two main parts in the research conceptual framework: the independent and the dependent variables. The flipped cooperative classroom, as the independent variable, consists of four major components. The first component is Pre-class online learning, which provides an opportunity for students to gain first exposure to the content prior to coming to class through learning management system (LMS). The second component, In-class face-to-face learning, provides activities that focus on higher-level

cognitive activities. The third component is the cooperative learning. It provides cooperative learning activities and project-based activities. Reading strategies make up the last component and consists of predicting, generating questions, identifying main idea, identifying text structures, visualizing, inferring, and summarizing. All the four components collectively make up the independent variable which aim to improve students' reading comprehension ability.

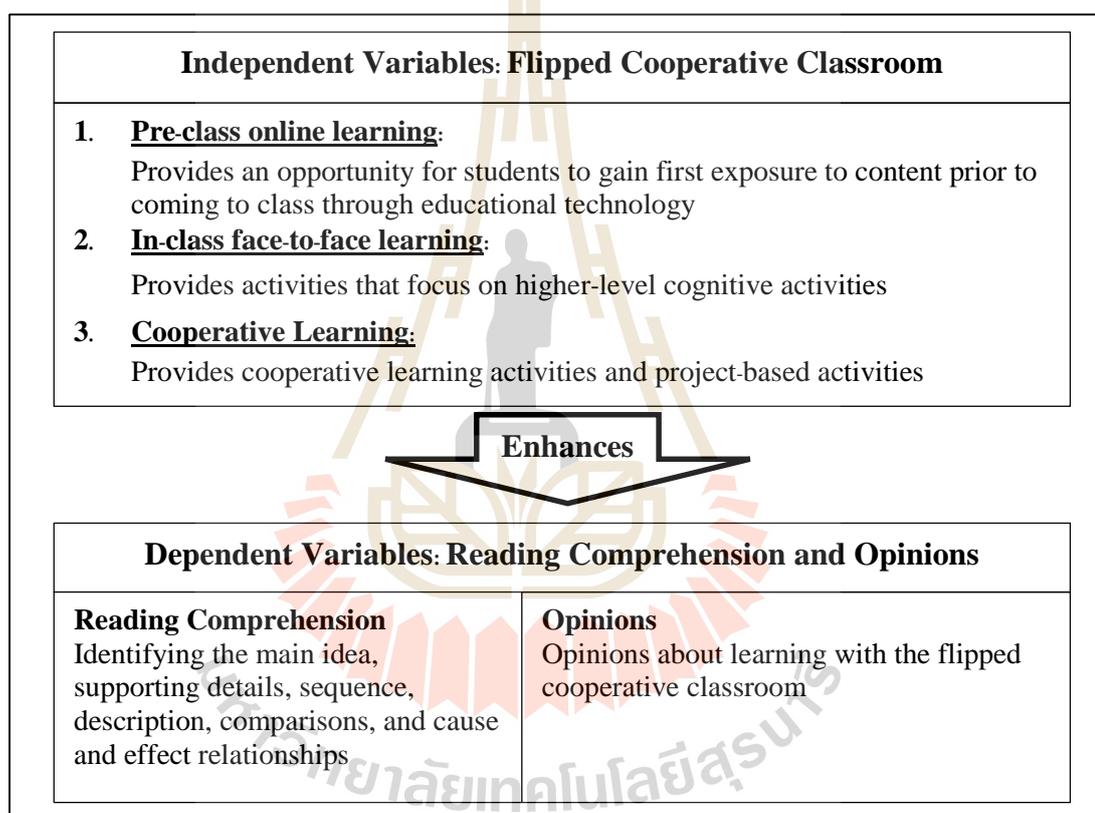


Figure 3.4 Research Conceptual Framework

The dependent variable consists of the reading comprehension and the student's opinions. Reading comprehension is measured by a pre-test and post-test. The opinions of the students who studied in the flipped cooperative classroom include their opinions about learning experiences and flipped cooperative learning as reported in the

questionnaire and their responses to the interview. The complete picture of the research conceptual framework is shown in Figure 3.4.

In summary, this chapter has provided details on the research methodology. It covered the research design, population and samples, and research instruments. Detailed description of the research instruments and their construction procedures were given. The main research instruments include pre-test, post-test, questionnaire, interview, conventional classroom lesson plans, flipped cooperative classroom lesson plans, and flipped cooperative classroom lessons (online). This section also focused particularly on how technology, e.g. LMS and mobile learning, can be implemented in the flipped classroom model. The data collection and data analysis were also presented and analyzed. The pilot study section presented the results of the pilot study, and the last section presented the research conceptual framework. In the next chapter, the results of the study will be presented.

CHAPTER 4

RESULTS

This chapter presents the results of the study. The results are presented in order to answer the research questions. It begins with the results on reading comprehension using the quantitative data from the reading tests. This consists of effects of FCC on the experimental group as well as in relation to the control group. After that, the section will present the students' opinions about FCC from quantitative and qualitative data analysis of the questionnaire and the interviews.

4.1 Results on Reading Comprehension

FCC was an instructional method designed for a reading comprehension course, where students learned reading comprehension strategies through online technology and cooperative learning in a flipped classroom method. Whether FCC enhances students' reading comprehension will be reflected by improvement of students' comprehension after learning. Likewise, whether FCC is more effective than conventional instructional method is illustrated by comparing after-learning comprehension of the FCC students with non-FCC students. This section presents results of data analysis to serve as a quantitative mean of investigating influences that FCC may have on students' reading comprehension. First, dependent t-test analysis results of FCC students' pre-test and post-test scores will be presented. Then,

independent t-test analysis results will be reported for the comparison between two groups of students.

4.1.1 Reading comprehension of FCC students

The following results are in relation to Research Question 1:

What effects does FCC have on reading comprehension of Thai EFL university students?

Results from the study showed that *students improved their reading comprehension after learning with FCC*. Students' reading comprehension was measured in the form of scores in the pre-test and post-test. The results are shown in Table 4.1

Table 4.1 Paired t-Test of pre-test and post-test scores of the Experimental Group

Variables	Mean	S.D.	t value	p-value
Pre-test (N=34)	18.03	5.47	6.259	< 0.01
Post-test (N=34)	26.29	6.09		

As can be seen in Table 4.1, t-test analysis indicates that the experimental group score higher in the post-test than in the pre-test. Post-test score ($X = 26.29$, S.D. = 6.09) was higher than the pre-test score ($X = 18.03$, S.D. = 5.47) at the .01 significance level. The Cohen's effect size was 'very large' ($d = 1.43$), suggested a very high practical significance (Ellis, 2009). This can illustrate that the experimental group improved their reading comprehension after learning through the FCC lessons.

4.1.2 Comparison of reading comprehension of students learning with FCC and with the conventional classroom

To investigate how the group learning with FCC performed in relation to the other group who did not learn with FCC but the conventional classroom, the analyses of pre-test and post-test scores were performed, comparing between the two groups. Firstly, pre-test scores of the control group and the experimental group were compared to identify whether their reading comprehension was the same or different at the beginning of the course. Secondly, post-test scores of the two groups were compared. Both comparisons were done using Independent t-test analysis statistics.

Results in this section address the following Research Question 2:

What are the differences in reading comprehension between Thai EFL university students who learned with FCC and those who learned with the conventional classroom?

A. Comparison of students' reading comprehension before learning

The aim of this section is to show that reading comprehension of the two comparing groups was at the same level at before learning. That is, it attempts to test the hypothesis that “both the control group and the experimental group were equal in terms of their reading comprehension prior to their learning”. Pre-test scores were compared between the control group and the experimental group as to investigate whether reading comprehension of the two groups was similar or different.

Table 4.2 Independent sample t-Test of pre-test scores between the control group and experimental group

Variables	Mean	S.D.	t value	p-value
Control Group (N=317)	18.70	4.89	0.545	> 0.05
Experimental Group (N=34)	18.03	5.53		

Table 4.2 shows that the score of the control group ($X = 18.70$, $S.D. = 4.89$) and the experimental group ($X = 18.03$, $S.D. = 5.53$). It can be seen that the mean score of the control group is slightly higher than that of the experimental group. However, these scores were found not to be significantly different at the .05 level, showing by the p-value of greater than .05. This supports the hypothesis that the two groups were not different in terms of their reading comprehension.

B. Comparison of students' reading comprehension after learning

After the learning through the lessons of each group, post-test scores were compared. Results are illustrated in the following table.

Table 4.3 Independent sample t-Test of post-test scores between the control group and experimental group

Variables	Mean	S.D.	t value	p-value
Control Group (N=37)	20.43	3.72	4.933	< 0.01
Experimental Group (N=34)	26.29	6.10		

With the mean of 26.29 ($S.D. = 6.10$), statistics shows that the post-test score of the experimental group was statistically higher than the mean score of 20.43 ($S.D. = 3.72$) of the control group, at the .01 significance level. The Cohen's effect size

was 'large' ($d = 1.19$), suggested a high practical significance (Ellis, 2009). This indicates that the experimental group had better reading comprehension than the control group after learning through the FCC lessons.

In summary, results from t-test analysis have shown improvement in the reading comprehension of the experimental group before and after learning with FCC. Their reading comprehension was also higher than that of the comparison group. Results indicated that the experimental group scored higher in the post-test than in the pre-test.

4.2 Results on Students' Opinions about Flipped Cooperative Classroom

This section presents the results in relation to the Research Question 3:

What are the students' opinions about learning with FCC?

The results on students' opinion about FCC were drawn from both quantitative and qualitative data. Quantitative results were analyzed from responses of the questionnaire. The first part of the questionnaire covers students' opinions about the overall FCC and the second part shows opinions about FCC online learning system. Qualitative results were drawn from semi-structured interviews.

4.2.1 Quantitative results of students' opinions about FCC

This section presents two parts of quantitative results of students' opinions: overall opinions and opinions on the FCC learning system.

A. Overall opinions about FCC

Data analysis shows that students responded positively to most issues related to FCC. Out of 14 items, students agreed with 10 of them, while there were four items that they were unsure about. Details figures are illustrated in Table 4.4.

Table 4.4 Students' opinions about the FCC

No.	Items	Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
1	Using learning methods in this course is a good way of learning.	0.0	3.8	26.9	57.7	11.5
2	I enjoyed the teaching approach used in this course.	3.8	0.0	26.9	50.0	19.2
3	I think the learning method used in this course is an effective way to learn.	0.0	0.0	42.3	50.0	7.7
4	I feel motivated in the classroom.	0.0	0.0	53.8	42.3	3.8
5	I participated and engaged myself in learning in the course.	0.0	0.0	46.2	53.8	0.0
6	I became an active learner in this course.	3.8	3.8	50.0	38.5	3.8
7	I thought the time and effort I spent in the learning method of this course was worthwhile.	0.0	3.8	46.2	50.0	0.0
8	I learned more in the course.	0.0	0.0	57.7	30.8	11.5
9	I like learning with the method used in this course compared to other lecture-based course.	3.8	0.0	23.1	38.5	34.6
10	I think this classroom learning method guided me toward better understanding of the course topics.	0.0	0.0	38.5	42.3	19.2

Table 4.4 Students' opinions about the FCC (Continued)

No.	Items	Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
11	I experienced pleasure in the classroom.	0.0	0.0	34.6	34.6	30.8
12	I devoted myself more to the instructional/class activities in the classroom.	0.0	0.0	53.8	42.3	3.8
13	I spent more time and effort than usual on my classroom learning activities.	3.8	0.0	38.5	50.0	7.7
14	Generally, I'm happy and satisfied with this learning experience.	0.0	0.0	30.8	50.0	19.2
	Total	1.1	0.8	40.7	45.1	12.4

Table 4.4 shows that on the overall basis, the majority of the students (45.1 percent) agree with positive statements about the FCC. The majority of the students (34.6-57.7 percent) respond to most statements at the 'agree' level. The highest percentage of students (57.7 percent) agreed to Item 1, "Using learning methods in this course is a good way of learning". Additionally, this item was also highly agreed by 11.5 percent of the students, making the agreement percentage of 69.2. The item which received the second highest percentage of agreement at the 'agree' level is Item 5 "I participated and engaged myself in learning in the course", (53.8 percent). There are five items each of which was rated by 50 percent for the third highest agreement at the 'agree' level (50.0 percent). However, when considered Item 2 (I enjoyed the teaching approach used in this course.) and Item 14 (Generally, I'm happy and satisfied with this learning experience.), it can be noticed that they were rated 'strongly agree' by 19.2 percent, making the total agreement of 69.2 percent of the students. Similarly, Item 3 "I think the learning method used in this course is an effective way to learn." and Item 13 "I spent more time and effort than usual on my classroom learning activities." Received 7.7 percent each for the 'strongly agree' level. Finally, Item 7 (I thought the

time and effort I spent in the learning method of this course was worthwhile.) was ‘agreed’ by 50.0 percent of students.

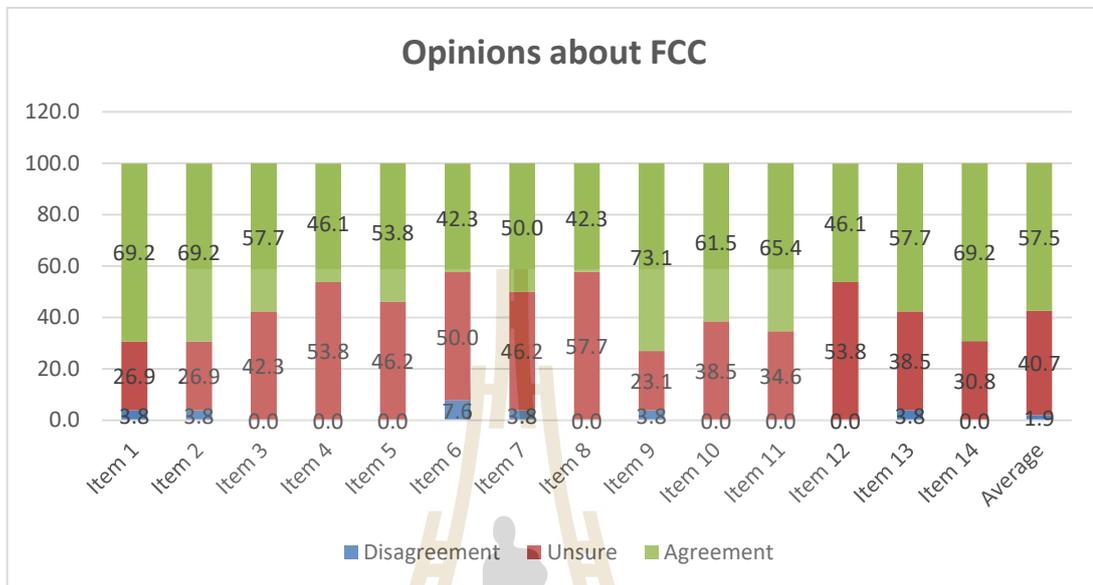


Figure 4.1 Percentage of agreement of opinions about FCC

With regard to the percentage of agreement, Figure 4.1 shows that most students (57.5 percent) have positive opinions about FCC as responded on the overall agreement. The figure also shows that the percentages of agreements are relatively high on all the items when compared to the disagreement. The highest percentage of agreement (73.1) is on Item 9, where students agree with that “they like learning with the method used in this course compared to other lecture-based course”. There are three items with the second highest percentage of agreement (69.2), where they have positive agreement on the statements: “Using learning methods in this course is a good way of learning” (Item 1), “I enjoyed the teaching approach used in this course” (Item 2), and “Generally, I’m happy and satisfied with this learning experience” (Item 14). The third highest percentage of agreement is on Item 11 (I experienced pleasure in the classroom).

B. Opinions about FCC online learning system

Students agreed with most features of online learning system, namely system characteristics, material characteristics, ease of use, and usefulness. Although some of them were unsure about use and intension for further use, the total agreement percentage (agree and strongly agree) are all higher. Table 4.5 and Figure 4.2 illustrate these results.

Table 4.5 Results of the overall opinions about FCC learning system

Issues	Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
A. System characteristics	2.3	1.5	33.8	49.2	13.1
B. Material characteristics	0.0	3.1	31.5	47.7	17.7
C. Perceived ease of use	3.8	1.0	17.3	55.8	22.1
D. Perceived usefulness	1.5	3.1	31.5	56.2	7.7
E. Attitude about use	1.0	3.8	45.2	39.4	10.6
F. Behavioral intension	1.0	5.8	40.4	32.7	20.2
Total	1.6	3.0	33.2	47.3	15.0

Table 4.5 summarizes results of students' opinions on the FCC online learning system. On the overall, most students (47.3 percent) 'agree' with using FCC online learning system Together with 15.0 percent of students who 'strongly agree', Moodle platform was accepted by 62.3 percent of students.

Of the six issues being investigated, students agreed with four issues. The highest rated issue at the 'agree' level is on Perceived usefulness (56.2 percent), followed by Perceived ease of use (55.8 percent), System characteristics (49.2 percent) and Material characteristics (47.7 percent). The other two issues are rated at the

‘Unsure’ level. Nevertheless, the percentage of unsure students were below those who agreed and highly agree. Namely, with the Attitude of use, there were 45.2 percent of unsure students compared to 50.0 percent of students who agree and strongly agree together. In the same way, while 40.4 percent of students was unsure, the other 52.9 percent together agreed and strongly agreed with Behavioral intension. On the overall, despite some unsure students, all the issues regarded the use of online learning system (Moodle) were well agreed by over half of the students.

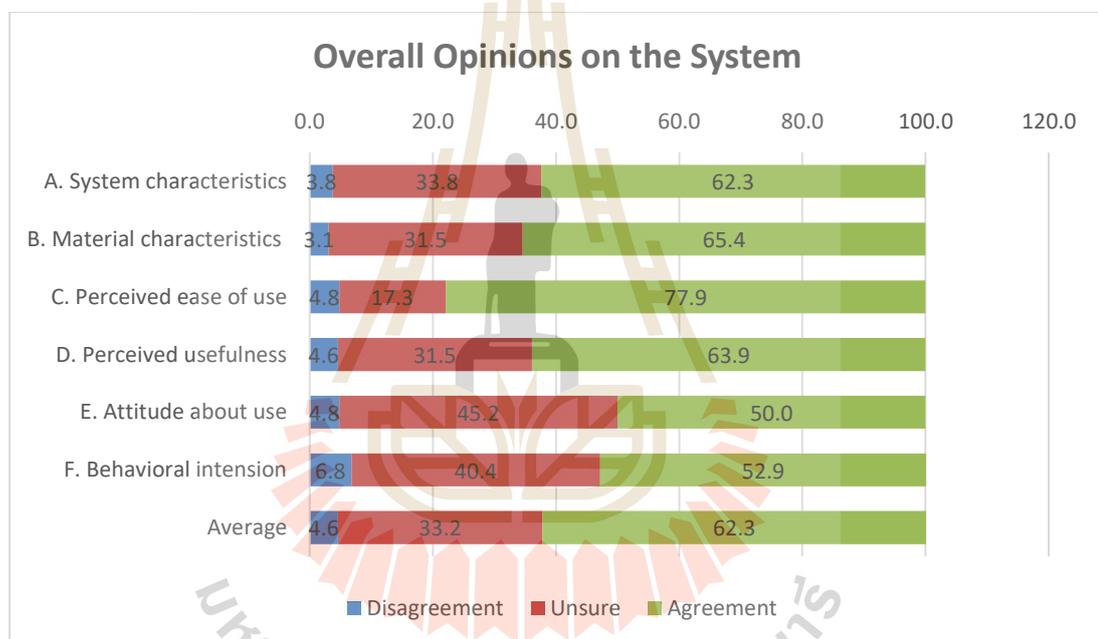


Figure 4.2 Overall agreement levels on the system

In relation with the degree of agreement, Figure 4.2 shows relatively high percentages of positive agreement at all the six issues, ranges from 50.0 to 77.9 percent. The issue with the highest percentage of positive agreement is on perceived ease of use (77.9 percent). On the overall, students have positive opinions on the system in all issues.

A. System characteristics

Five items related to system characteristics of Moodle were asked in the questionnaire. The results revealed that over half of the students have positive agreement.

On the overall, the majority of students (49.2 percent) agreed and 13.1 percent strongly agreed with the system characteristics, making the percentage of agreement of 62.3 percent.

The issue with highest percentage of students who rated ‘agree’ (65.4 percent) was Item 5 “I was able to use online lessons to sharpen my reading proficiency based on the comments and suggestions made by the instructor and my peers”. The second highest rated item at the ‘agree’ level (53.8 percent) was Item 1 (Using online lessons provided English learning activities in a realistic environment). The rest three items were rated equal percentage at the ‘agree’ level by 42.3 percent: Item 2 (Using online lessons provided a stimulating English learning environment), Item 3 (I was able to use online lessons effectively to interact with the instructors and my peers to learn English.), and Item 4 (I felt more comfortable in using online lessons to make comments on the output produced by my peers, compared to a face-to-face comment).

Table 4.6 Opinions about system characteristics

No.	Items	Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
1	Using online lessons provided English learning activities in a realistic environment.	3.8	0.0	26.9	53.8	15.4

Table 4.6 Opinions about system characteristics (Continued)

No.	Items	Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
2	Using online lessons provided a stimulating English learning environment.	0.0	3.8	38.5	42.3	15.4
3	I was able to use online lessons effectively to interact with the instructors and my peers to learn English.	7.7	3.8	30.8	42.3	15.4
4	I felt more comfortable in using online lessons to make comments on the output produced by my peers, compared to a face-to-face comment.	0.0	0.0	42.3	42.3	15.4
5	I was able to use online lessons to sharpen my reading proficiency based on the comments and suggestions made by the instructor and my peers.	0.0	0.0	30.8	65.4	3.8
Total A		2.3	1.5	33.8	49.2	13.1

When considering the percentage of agreement, Figure 4.3 obviously indicates that students have positive opinions on all the six items being surveyed. The percentages range from 57.7 to 69.2. The highest percentage of agreement (69.2) is on two items, Item 1 “Using online lessons provided English learning activities in a realistic environment” and Item 5 “was able to use online lessons to sharpen my reading proficiency based on the comments and suggestions made by the instructor and my peers”. Therefore, it can be concluded from Table 4.6 and Figure 4.3 that students have positive opinions about the system characteristics.

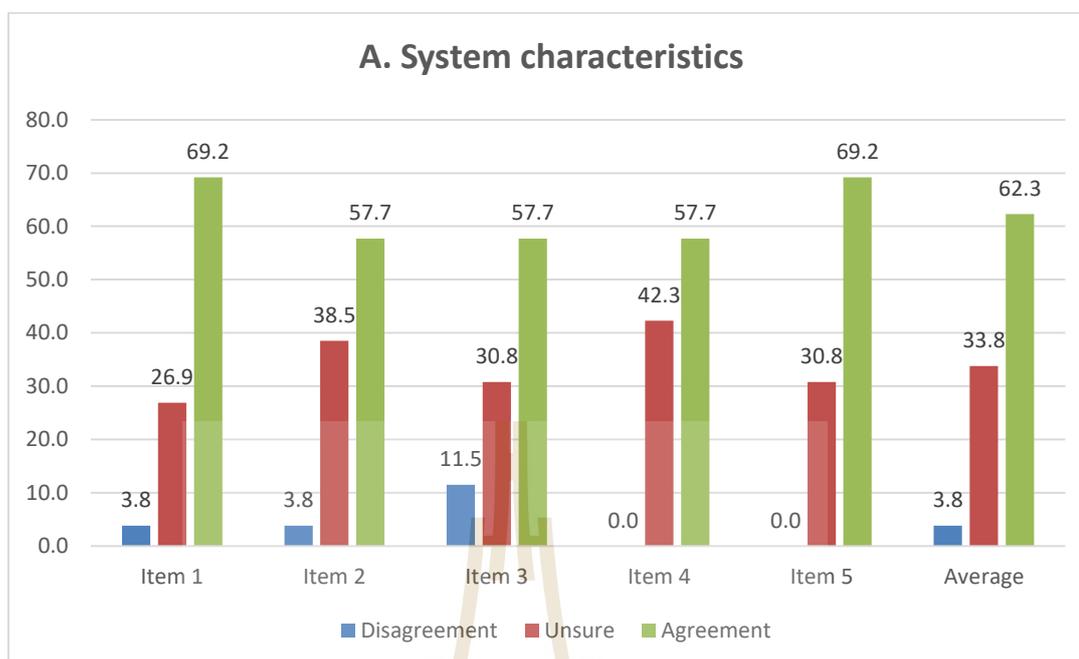


Figure 4.3 Agreement levels for system characteristics

B. Material characteristics

Material characteristics used in the system was covered five questionnaire items. Results from the analysis show some positive agreement on the overall and the five items. Details are illustrated in Table 4.7.

Table 4.7 Opinions about material characteristics

No.	Items	Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
1	The video materials made by the instructors led to a better understanding of English reading strategies.	0.0	0.0	42.3	42.3	15.4

Table 4.7 Opinions about material characteristics (Continued)

No.	Items	Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
2	The video materials made by the instructors helped me immerse myself in the learning atmosphere of the class.	0.0	0.0	38.5	42.3	19.2
3	The video materials made by the instructors were useful for learning English reading strategies.	0.0	7.7	23.1	46.2	23.1
4	The video materials made by the instructors helped me understand the important points included in the units.	0.0	3.8	30.8	53.8	11.5
5	I think that the video materials made by instructors were useful for improving my reading comprehension.	0.0	3.8	23.1	53.8	19.2
Total B		0.0	3.1	31.5	47.7	17.7

Considering Table 4.7 and Figure 4.4, the majority of the students responded 'agree' with material characteristics (47.7 percent). Together with those who rated 'strongly agree' (17.7 percent), material characteristics received positive agreement from the students (65.4 percent).

Data in Table 4.7 also show that most students have positive agreement on material characteristics on all the items being asked. Two items which were rated 'agree' by 53.8 percent of students are Item 5 (I think that the video materials made by instructors were useful for improving my reading comprehension) and Item 4 (The video materials made by the instructors were useful for learning English reading

strategies). The second most rated at the 'agree' level (46.2 percent) is Item 3 (The video materials made by the instructors were useful for learning English reading strategies). The last two Items received the 'agree' response by 42.3 percent on each item include Item 2 (The video materials made by the instructors helped me immerse myself in the learning atmosphere of the class) and Item 1 (The video materials made by the instructors led to a better understanding of English reading strategies).

Although 42.3 percent of students rated 'unsure', which is equal those who rated 'agree' on Item 1, there were students (15.4 percent) who rated 'strongly agree, making the total agreement of 57.7 percent. In fact, agreement on material characteristic is higher than 60 percent on all questionnaire items.

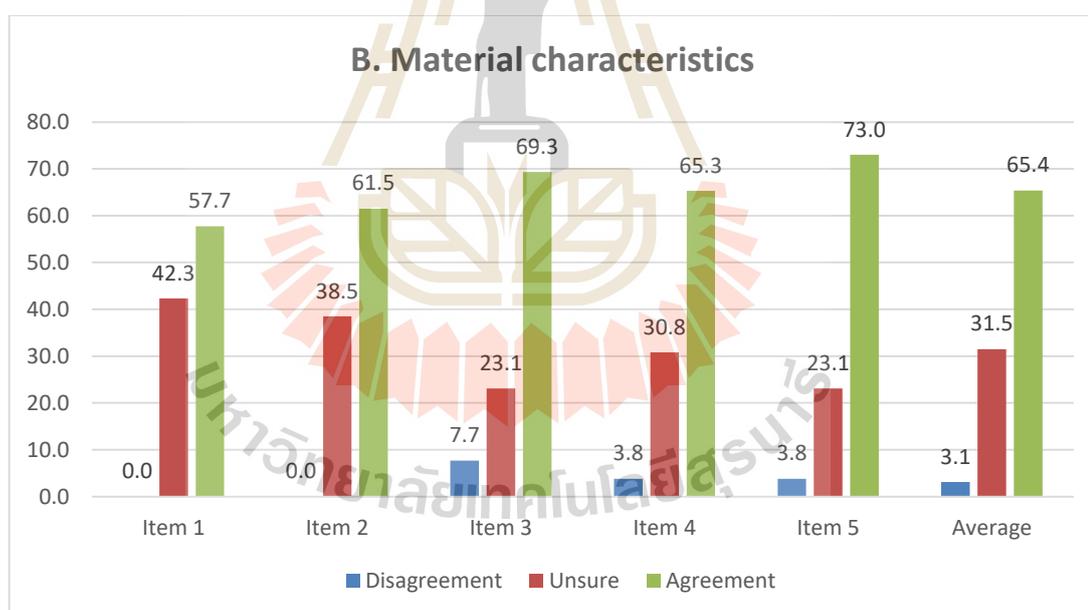


Figure 4.4 Agreement levels for material characteristics

Figure 4.4 indicates that all the five items about material characteristics are perceived by most students as positive. That is, the agreement percentages ranges from 55.7 to 73.0. The highest percentage (73.0) was on Item 5 (I think that the video materials made by instructors were useful for improving my reading comprehension).

This can be concluded that most students have positive opinions about material characteristics.

C. Perceived ease of use

Students reported their opinions on the ease of use of the online system through four questionnaire items. The majority of them perceived the system as easy to use.

Table 4.8 Opinions about perceived ease of use

No.	Items	Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
1	I received clear guidance about my school work via online lessons.	3.8	0.0	23.1	42.3	30.8
2	Using online lessons did not require too much time.	7.7	0.0	15.4	61.5	15.4
3	Learning to use online lessons for my class activities was easy.	0.0	3.8	19.2	65.4	11.5
4	Interacting with my instructors and peers via online lessons was convenient and not stressful.	3.8	0.0	11.5	53.8	30.8
Total C		3.8	1.0	17.3	55.8	22.1

Over half of the students (55.8 percent) expressed their positive opinions by rated 'agree' on the ease of use of Moodle. Together with students who rated

‘strongly agree’ (22.1 percent), the total percentage of students who had positive agreement on the ease of use is 77.9 percent.

For the ease of use, most students rated ‘agree’ on all four items. The highest percentage of students rated ‘agree’ (65.4 percent) was Item 3 (Learning to use online lessons for my class activities was easy), followed by 61.5 percent on Item 2 (Using online lessons did not require too much time), 53.8 percent on Item 4 (Interacting with my instructors and peers via online lessons was convenient and not stressful), and 42.3 percent on Item 1 (I received clear guidance about my school work via online lessons).

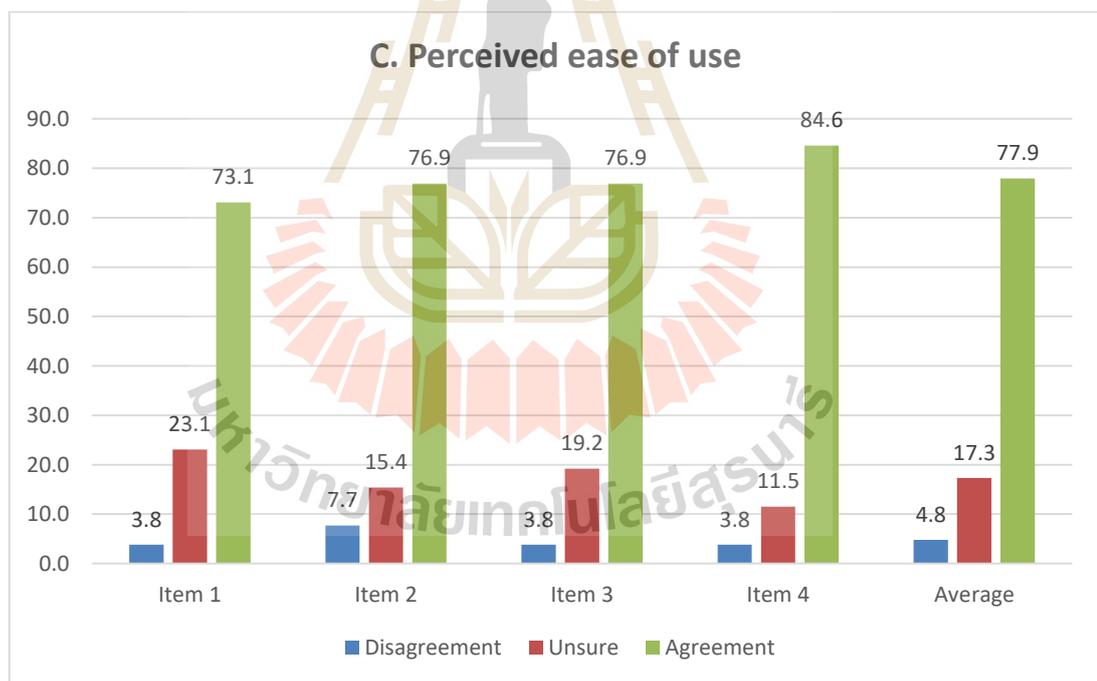


Figure 4.5 Agreement levels for perceived ease of use

When considering Figure 4.5, the percentages of agreement on all the items and the overall percentage are around three times as high as the disagreement and the unsure percentages, ranging from 73.1 to 84.6. The highest agreement percentage was

on Item 4 (Interacting with my instructors and peers via online lessons was convenient and not stressful.)

D. Perceived usefulness

The system was perceived as useful on the overall results and on all the five statements of the questionnaire items. That is, high percentage of students responded on positive agreement; agree and strongly agree. Details figures are shown in Table 4.9.

Table 4.9 Opinions about perceived usefulness

No.	Items	Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
1	Learning through online lessons improved my English reading comprehension.	3.8	3.8	38.5	50.0	3.8
2	Learning through online lessons enhanced my desire to use English reading strategies.	0.0	3.8	42.3	42.3	11.5
3	Learning through online lessons provided a beneficial outcome to this class.	0.0	0.0	23.1	69.2	7.7
4	The comments and suggestions made by the instructors and my peers through online lessons were useful for improving my work.	0.0	0.0	23.1	69.2	7.7
5	Learning through online lessons strengthened my critical thinking as I considered the work of my peers.	3.8	7.7	30.8	50.0	7.7
Total D		1.5	3.1	31.5	56.2	7.7

On average, the majority of students perceived the online learning as useful by which 56.2 percent responded ‘agree’ and 7.7 percent ‘strongly agree’, making the total of 63.9 percent of the agreement.

The highest percentage of students rated ‘agree’ (69.2 percent) was on Item 3 (Learning through online lessons provided a beneficial outcome to this class) and Item 4 (The comments and suggestions made by the instructors and my peers through online lessons were useful for improving my work). The second highest percentage on the ‘agree’ response was 50.0, which was on Item 1 (Learning through online lessons improved my English reading comprehension) and Item 5 (Learning through online lessons strengthened my critical thinking as I considered the work of my peers). The third highest percentage on the ‘agree’ response was on Item 2 (Learning through online lessons enhanced my desire to use English reading strategies). This item was also rated ‘unsure’ with the same percentage as the ‘agree’ response (42.3 percent). As the overall, the students’ perceived usefulness of the system was mostly at the ‘agree’ level.

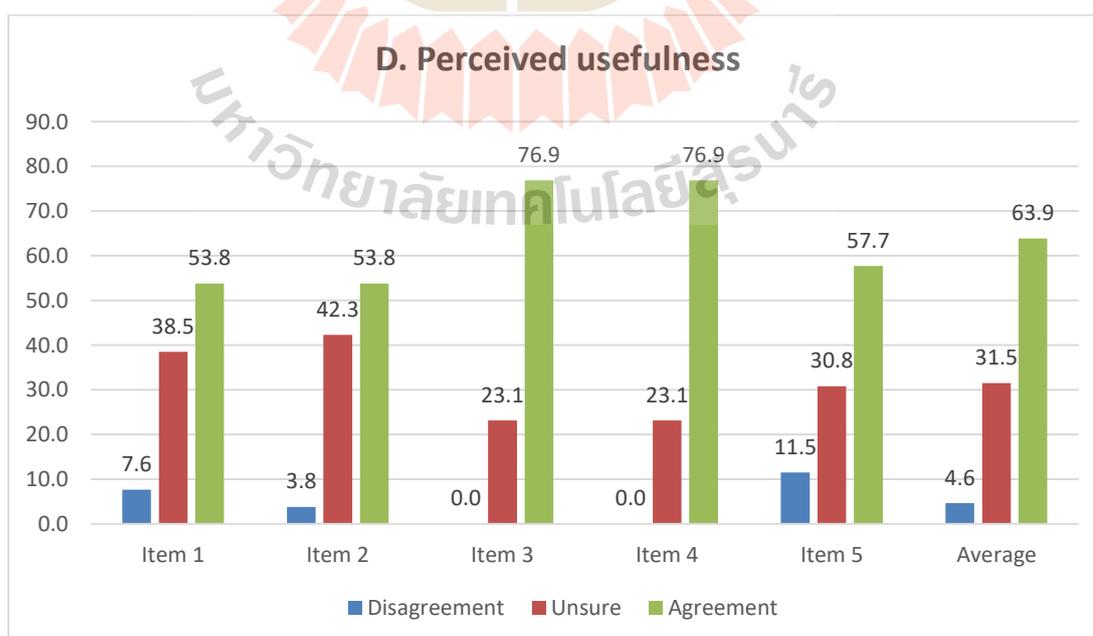


Figure 4.6 Agreement levels for perceived usefulness

Figure 4.6 shows all the items in the perceived usefulness received relatively high percentage in relation to the unsure and the disagreement. The agreement level is particularly high with Item 3 and Item 4, where students reported that learning through online lessons provided a beneficial outcome to this class, and the comments and suggestions made by the instructors and my peers through online lessons were useful for improving my work (76.9 percent for each). Percentages of agreement of all other items range from 53.8 to 57.5, and the average agreement of 63.9. This can be inferred that most students agreed that the system is useful.

E. Attitude about use

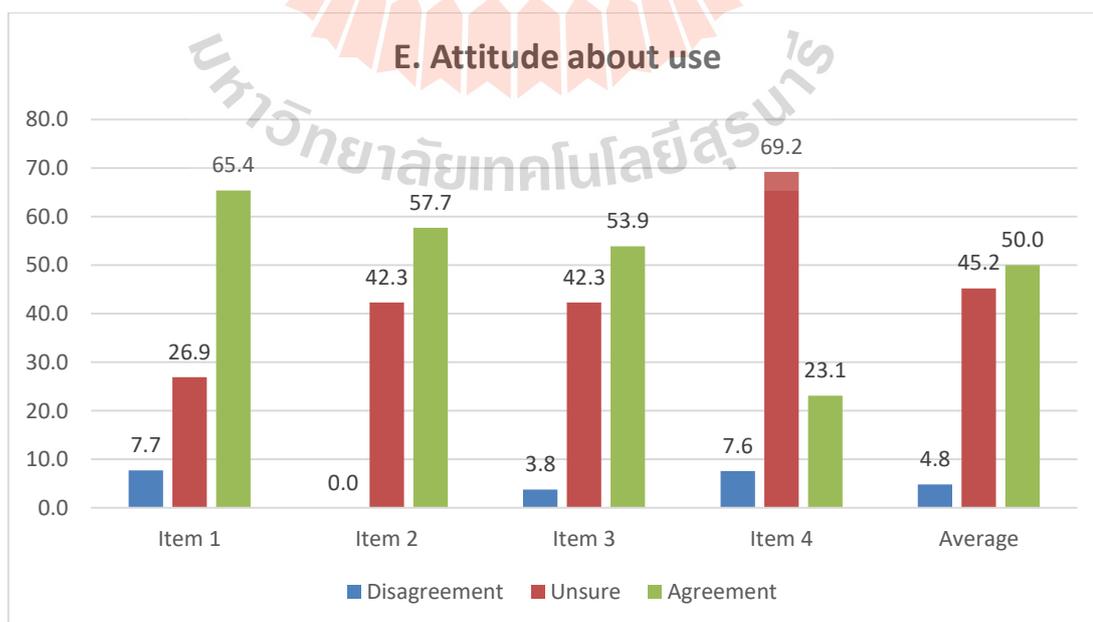
With the attitude about use, 45.2 percent of students were unsure. Although students agree that “they liked using online lessons to learn English” (57.7 percent) and “they have a positive attitude about using online lessons in this class” (46.2 percent), some other were unsure where they “looked forward to using online lessons in this class” (69.2 percent) or that they “feel that using online lessons to learn English is a good idea.” (42.3 percent).

Data in Figure 4.7 illustrate the degree of agreement of students’ attitude about use. The data show that the students have high agreement on the first three items, ranging between 53.9 and 63.4 percent. This means that, if they have access to online lessons, they will continue to write in English, in addition to my own language, they will continue to use it to improve other English skills, and they will be happy to use the reading strategies I have learned. On the other hand, most of them rated unsure on Item 4, which indicated that where were not sure whether they looked forward to using online lessons in this class.

Table 4.10 Opinions about attitude about use

No.	Items	Strongly	Disagree	Unsure	Agree	Strongly
		Disagree				Agree
1	I liked using online lessons to learn English.	0.0	7.7	26.9	57.7	7.7
2	I have a positive attitude about using online lessons in this class.	0.0	0.0	42.3	46.2	11.5
3	I feel that using online lessons to learn English is a good idea.	0.0	3.8	42.3	38.5	15.4
4	I looked forward to using online lessons in this class.	3.8	3.8	69.2	15.4	7.7
Total E		1.0	3.8	45.2	39.4	10.6

The reason for this may be found in the interview results. However, considering the attitude about use of the system received positive agreement from the students, reflected by 50.0 on average. This figure is relatively high compared to the disagreement.

**Figure 4.7** Agreement levels for attitude about use

F. Behavioral intension

Table 4.11 Opinions about behavioral intension

No.	Items	Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
1	If I have access to online lessons, I will continue to write in English, in addition to my own language.	0.0	0.0	50.0	26.9	23.1
2	If I have access to online lessons, I will continue to use it to improve other English skills.	0.0	3.8	30.8	46.2	19.2
3	If I have access to online lessons, I will be happy to use the reading strategies I have learned.	0.0	7.7	50.0	23.1	19.2
4	When I use online lessons, I will have confidence when I participate in conversations in English.	3.8	11.5	30.8	34.6	19.2
Total F		1.0	5.8	40.4	32.7	20.2

With regard to behavioral intension, on average, 40.4 percent of students were unsure. Two item which students rated 'agree' the most include Item 2 (If I have access to online lessons, I will continue to use it to improve other English skills) by 46.2 percent and Item 4 (When I use online lessons, I will have confidence when I participate in conversations in English) by 34.6 percent. On the other hand, 50.0 percent of them responded 'unsure' on Item 1 (If I have access to online lessons, I will continue to write in English, in addition to my own language) and Item 3 (If I have access to online lessons, I will be happy to use the reading strategies I have learned). Form the

figures in Table 4.11, it seems that, students have intension to use the system for improving their general English skills and for conversation, although some of them are not sure whether they want to use the system to improve writing (in English) and reading skills. However, when considering Figure 4.8, it can be seen that the percentages of agreement are all around 50.0 and above, except for Item 3 (42.3 percent). Therefore, students' behavioral intension about the system is generally positive.

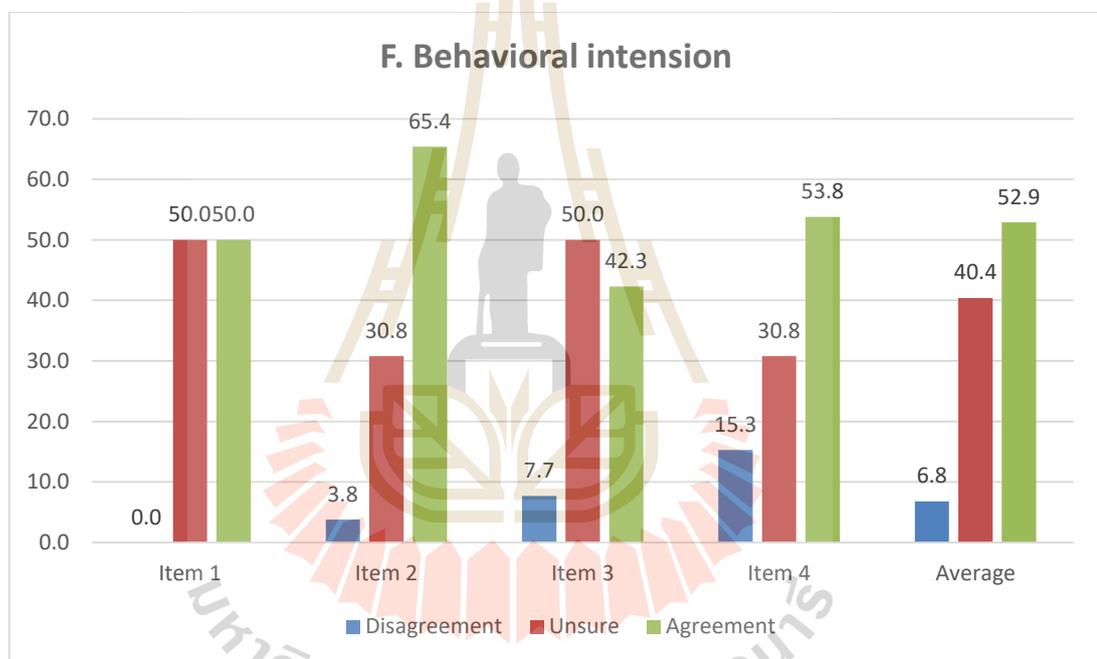


Figure 4.8 Agreement levels for behavioral intension

Up to this point, quantitative results from the questionnaire have revealed students' opinions about FCC with the online learning system. High percentages of students responded positive agreement on both parts. In general, students rated at the 'agree' level on most statements of the questionnaire.

4.2.2 Qualitative results on opinions about FCC

There were seven major themes of students' opinions about FCC. The themes were about advantages of FCC over conventional instructional method, FCC online learning system, the learning outcomes, flexible learning environment, learning culture, negative opinions, and recommendations for improvement.

1) Advantages of FCC. For this theme, students gave reasons in five areas. Among the five reasons, four respondents addressed the advantage of FCC helping them *prepare before class*. Other reasons included the use of online learning through mobile devices, students becoming more responsible and unity, and the easy way for translation.

Preparing before class was the most mentioned reason which reflected students' positive opinions about FCC. One student stated that "...*That is, we can learn online before learning with the teacher. Something like that. The teacher explains more and we understand better (G9, S2).*"

Table 4.12 Advantages of FCC

Themes	Responses	N
1. Advantage of FCC	1. FCC helps students to prepare before class.	4
	2. Learning with FCC on mobile phone is better.	1
	3. FCC makes students become responsible.	1
	4. Translation can be done easily with FCC.	1
	5. FCC helps student to become unity.	1

Other reasons, although mentioned by one student each, were worth addressing as students made confident claim about the advantages of FCC over conventional classroom. A student expressed preference on using mobile phone to learn with FCC and over learning with books: *“I think, if we learn with books as usual, I can say that 90% of the students will not open the books because nowadays they are stick to mobile phones, yes, and if there is an app [for learning], they would go in [and learn] ” (G4, S2)*. Another student regarded FCC as making student become responsibility. She stated that *“FCC Makes we become responsible” (G4, S1)*. Due to the cooperative activities provided by FCC, students admitted that they became unity in learning. One student said *“For me, it’s OK to learn with FCC. We did group work. It makes us become unity” (G3, S1)*.

One interesting comment from a student was about how FCC made translation (while reading online) an easy task. She responded *“If there if anything I don’t know, I will keep it, and translate with Google, see what the words mean. I think this method is OK. Better than just a teacher talking” (G4, S2)*.

On the overall, positive opinions concerning the advantage of FCC in helping students prepare before class. This seems to mark the main purpose of a flipped classroom as opposed to conventional instructional method.

2) Convenient online learning system. With regard to the learning platform, **convenience** received the highest positive responses from students. Two second highest were related to online exercises and online learning materials. In general, learning with Moodle was convenient in terms of assignment submission, instant marking, easy carrying mobile phone, and not having to come to class. In particular, online exercises were convenient in terms of their ease of use, multiple

attempting, and self-checking. Online learning materials provided convenient learning resource which were available right on the mobile phone, as in contrast to using books. The term convenience here was related to the use of Moodle as a learning platform provided by the FCC model.

Table 4.13 Positive opinions about FCC learning platform

Categories	Issues	Responses
1. Convenient	Convenient assignment submission, instant marking, carry mobile phone, not having to come to class	10
2. Online exercises	Easy, multiple attempts, self-check	4
3. Online learning materials	Always available on phone, not having to buy or carry books	4

Here are some example illustrating students' positive opinions about online learning platform in term of *convenience*:

"It's good in some way. One is that we don't have to buy books. We don't have to spend on that. Everybody is already using the Internet." (G4, S3).

"OK. It [the system] is OK. It's convenient when we learn through mobile phone. We use it through anything. I think it is good, really." (G5, S1).

"It's like everything is in the Internet, but we don't have to come to class." (G4, S3).

Convenience due to the online exercises can be seen in this response: *"I think exercises are OK because I can practice for myself."* (G9, S2), and *"Exercises are also OK. Can be done many times."* (G8, S1). The following was stated by another student:

“I like when I do exercises. It’s good that there are answer keys [instant marking]. I know which is correct and which is wrong. I like that.” (G2, S1).

3) FCC learning outcomes. The theme learning outcomes derived from the investigation of the relationship between how learning experiences led to students’ learning outcome. Their opinions were positive and various responses were received as supports. Four main categories were discovered in relation to how FCC helped improve their learning outcomes. Based on their responses, FCC improved their learning outcomes by: *group discussion and sharing, repeated learning, translation, and preparing before class.* The first two were the most frequently reported responses. Group discussion and sharing improved their learning outcome by discussing with group members, sharing knowledge, summaries, information, vocabularies, and comments. Moreover, repeated learning was seen as helping them improve learning outcome by mean of repeated reading, watching videos, and doing multiple attempt exercises. Translation (online) was another category claimed to help improve learning outcomes apart from being prepared before class.

The following statements illustrate how students viewed FCC as positively enhanced their learning outcomes:

Sharing vocabulary: *“It’s like we share vocabularies together. It does help. It helps me to understand because we can see the vocabulary.” (G5, S1)*

Receiving comments from friends: *“One person makes a summary, and then shares to the group. After that, all the friends make comments.” (G5, S1)*

Table 4.14 Positive opinions about learning outcomes

Categories	Issues	Responses
1. Group discussion and sharing	Group discussion/Sharing knowledge, summary, information, vocabulary, comments	5
2. Repeated learning	Repeating reading, watching video, doing exercise.	5
3. Translation	Translation	4
4. Preparing before class	Preparing before class	2

Attending group discussions: *“My reading get better. Better than before. Yes, because we give one lesson to one of use to do the summary. Then we discuss whether it’s OK.” (G8, S1)*

Repeated learning: *“Because there are both texts to read and the videos to watch, if we don’t understand any of this, we can go back and make a second study. (G8, S1)*

Using copy and paste method for translation: *“For me, it did improve. In the lesson, they are all in English. Then when I don’t know the meaning of some words, I will copy them to translate, and read along.” (G4, S2)*

4) Flexible learning environment. This theme emerged from the interviews when students reported many ways that FCC provided flexible learning environment. The positive opinions reflected that students were supported by FCC instructional method, including the followings: *providing environment for learning anywhere; providing online learning which is better than learning from books; providing instant learning with mobile phones; being able to translate while doing exercises; providing*

students with freedom in learning; making multiple viewing of videos; and providing non-pressure learning environment.

Table 4.15 Positive opinions about flexible environment

Categories	Issues	Responses
1. Anywhere/any time learning	1 By providing environment for learning anywhere	2
2. Learning materials	2 By providing online learning which is better than learning from books	1
3. Translation	4 By being able to translate while doing exercises	1
4. Learning freedom	5 Students have freedom of learning	1
5. Learning with video	6 By making multiple viewings of videos	1
6. Non-pressure environment	7 By providing non-pressure learning environment	1

Two students directly mentioned that FCC provided them with environment for learning anywhere/ any time. For example, “*Because it [the course] is already in the phone. The app can go anywhere. We don’t have to carry books everywhere.*” (G4, S3). Although the rest of the responses may also found in other themes, they were included here because they were answered in response to the flexible learning environment context. How FCC was perceived as providing flexible learning environment can also be illustrated as in the following examples: “*Yes, learning online is better than books.*” (G4, S2), “*Play with the phone, and translate in the computer, and then do the exercises.*” (G3, S1), “*We have more freedom in learning. We don’t have to sit down and have to do this, do that, something like that.*” (G4, S3), “*If I don’t*

understand, I watch again. Contents can be watched again if it's a video.” (G4, S3), and *“It's like it's not quite serious. The teacher doesn't put pressure on us.”* (G4, S3).

5) FCC enhanced students' learning culture. Students pointed out that FCC affected their learning culture in many ways. Individual reading and making individual summary present the two most mentioned responses which mark their positive opinions. Individual learning was also regarded as positive opinion which resulted from learning with FCC in general. The other two included searching on *information on websites and watching video* individually. These responses reflected that students viewed FCC as supporting their learning culture. All individual learning activities resulted from the fact that *students study by themselves in order to make some contribution to the group assignment.*

An example of how students were positive to FCC in the way they it improved their learning culture is *“This [learning with FCC] helps improve our independent learning”* (G8, S1). Other students reported how they independently read more on websites, watched videos, and made lesson summaries:

“We read more in other websites very often. But we didn't go to just only one website. I don't believe that everything in the web is all correct. We read many webs and come together to see whether the web contents were in the same direction. Then, we made a summary.” (G2, S1)

“When we watch the videos, there are data which is OK. We then summarize the data again.” (G9, S2)

“Like I told you before, it help me search for more in Google. It does help.” (G2, S1)

“We read all, and everyone makes their own summary.” (G7, S1)

Table 4.16 Positive opinions about learning culture

Categories	Issues	Responses
1. Reading	Reading individually	5
2. Summarizing	Making individual summary	5
3. Individual learning	Learning individually	4
4. Searching for more information	Independent work with information searching	2
5. Watching	Watching video individually	1

These samples obviously show that students viewed FCC as supportive to their learning culture. When they had to do group work, each of them need to study individually and got together to share and complete the group assignments.

6) Negative opinions about learning with FCC. Students stated that using a mobile phone for learning did not give the feeling of learning but playing, and that they were used to using books than online resources. For the use of online learning system, students claimed about problems with using the group chat function and taking too many steps to get into the online lessons.

Table 4.17 Negative opinions about learning with FCC

Categories	Issues	Responses
1. Learning materials	Prefer learning from book because notes can be written on.	5
2. Online/Mobile learning	Learning from mobile, I don't quite understand because it doesn't seem like learning	2
3. Chat function	Limitation in use and unfriendly interface	2
4. Learning platform	Complex	1

Examples of negative opinions about FCC in relation to students' learning preferences are: “[*Learning with mobile phone*] doesn't seem like learning.” (G1, S1) and “*Learning with mobile phone, I don't quite understand. With books, we can take some notes.*” (G7, S1). The negative opinions were revealed by students who were used to learning with books, while mobile phones were rather seen as devices for pleasure, not studying.

With regard to the group chat function, students reported some problems: “*There are problems when using the group chat. We cannot sent pictures. For example, when we make a summary and want the friends to see it, we have to type instead.*” (G8, S1). Likewise, a student mentioned that there were too many steps to get in to the lesson, “*Yes. It takes too long to get into each lesson. It's too complex.*” (G4, S2). Despite the fact that many students reported no problems getting into the lessons via mobile phones, a negative response is worth mentioning as it was from students' experience.

7) Recommendations. There were four areas students made suggestions for further improvement. These included improving chat function, including Thai language into lessons, rearranging exercises from easy to difficult, and considering shorten the length of reading passages.

These examples illustrate recommendations in the four categories as reported by the students.

Chat function needs to be improved: “*Only improve the Chat function. Sometimes we forgot where we were up to since the last time we talked.*” (G9, S1)

Thai language should also be used in the lessons: “*I think if the lessons are also in Thai, it would be OK.*” (G9, S1)

Table 4.18 Recommendations for FCC improvement

Categories	Issues	Responses
1. Chat function	Chat function should be improved.	4
2. Lesson language	Thai language in lessons should be included.	2
3. Exercise	Exercises should be arranged from easy to difficult.	1
4. Reading passages	Reading passage should be shorter.	1

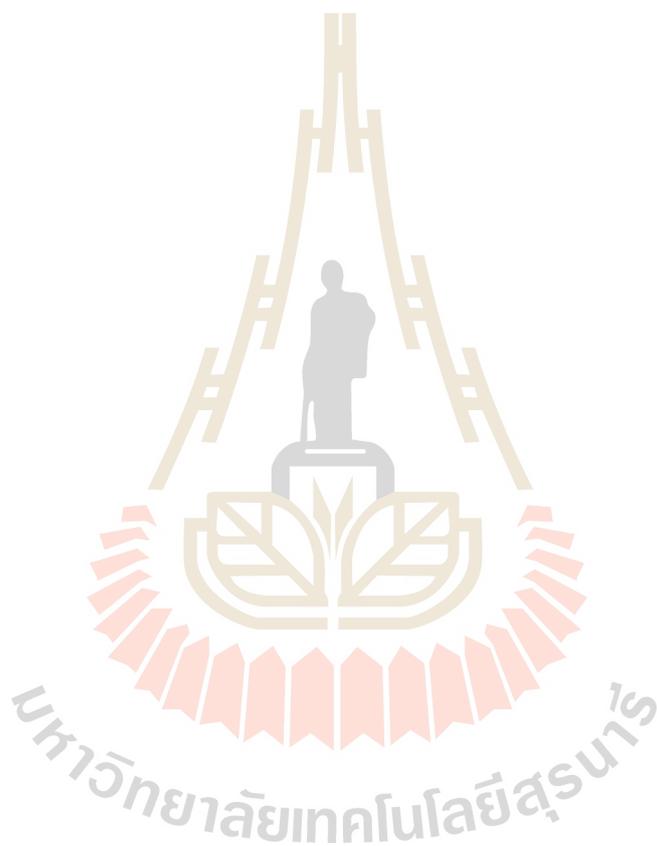
Exercises may be arranged from easy to difficult: *“I want them [exercises] to have levels from easy to difficult.” (G4, S1)*

Reading pages should be shorter: *“The articles are too long.” (G7, S1)*

In summary, students’ opinions about FCC were mostly positive. Quantitative results showed that students responded to the questionnaires with the overall positive opinions that they preferred learning with FCC to conventional lecture-based courses. They also have positive opinions about the online learning system, especially with the system’s ease of use. Qualitative results revealed positive opinions regarding advantages of FCC, online learning system, learning outcomes, flexible learning environment, and learning culture. Results also reported some negative opinions about learning with FCC, with recommendations for improvement.

This chapter has presented quantitative and qualitative results of the study. The results illustrate how FCC affects reading comprehension of students, within the group and in comparison with the other group learning with the conventional classroom. Opinions of students in the FCC classroom were illustrated as the results of the data

analysis from the questionnaire and the interviews. In the next chapter, results from the data analysis will be discussed in accordance with the three research questions.



CHAPTER 5

DISCUSSION AND CONCLUSION

This chapter presents the discussions of the research findings as well as implications and limitations of the study. To recapture, major findings according to the research questions are: 1) students learning with FCC improved their reading comprehension; 2) students learning with FCC improved higher reading comprehension than the group learning with conventional classroom; and 3) students had positive opinions about FCC and learning experiences with online learning system. In short, FCC helped students improve reading comprehension, and the students had positive opinions on FCC. In this chapter, results will be discussed in accordance with the students' improved reading comprehension and students' opinions.

5.1. Discussion on Students' Improved Reading Comprehension

With the learning outcomes, the FCC students performed better in the reading comprehension post-test, both when compared with their pre-test and with the conventional classroom students' post-test. The findings of this study were in line with some previous studies. Adding to previous results, this study was able to indicate that the online learning part of the FCC model plays important roles in improving reading comprehension. The reasons for the improvement of students' reading comprehension lie in the model of FCC. That is, the FCC helped students prepare before class and

FCC's cooperative learning enhances students in both pre-class and in-class learning modes.

5.1.1 FCC helped students prepare before class

By its design, a flipped classroom consists of both in-class and out-of-class modules (Karlsson and Janson, 2015). While the in-class learning module focuses on clarification, in-depth, and outlook, the preparation module, which is the out-of-class part, consists of learning videos, reading. In this study, the FCC has been developed to specifically improve the out-of-class or pre-class mode of learning. What makes FCC different from other flipped classroom model is that it emphasizes on maximizing the effectiveness of students' learning by utilizing two main features: online learning system and cooperative learning. This two features are integrated to the FCC model to enhance and enrich the four key elements of the flipped classroom: Professional educator, Intentional contents, Flexible environment, and Learning culture (Flipped Learning Network, 2014). Therefore, how FCC improved reading comprehension will be discussed for how these elements were improved and enriched.

1) *FCC provided intentional contents through online learning.* For the current study, each unit of the online (out-of-class) lessons provided contents on reading strategies in the forms of videos and web pages. These materials were intended to serve individual learning opportunity, where each student learned through any device such as computer, tablet, or mobile phone, at his/her own time, pace, and place (Flipped Learning Network, 2014).

In this study, seven strategies were intentionally provided for students, and the way they learned how to use these strategies was enhanced by the specially designed flipped classroom instructional model of FCC. Phakiti (2006) argues that giving

strategic instruction can be highly beneficial to L2 readers because it involves strategic processing which is conscious, deliberate, intentional and goal-directed processing individuals employ when using the target language. In other words, reading strategies enable students to move from skillful readers (employing automatic reading process) to more strategic readers (employing strategic reading process). Being a strategic readers, students treat text inputs via immediate memory trying to update mental representation using various processes including comprehension. With available reading strategies, students employ metacognitive control to interact with long-term memory where different types of stored knowledge are metacognitively monitored, trying to make sense or create meanings out of the newly input texts. It can be said that giving reading strategic instruction, as in the FCC model, may contribute to the improved reading comprehension by enabling students to become more efficient strategic readers with efficient metacognitive control as described in the human information-processing model (Phakiti, 2006).

2) *FCC supported learning culture*. In a conventional classroom, students may be active or passive depending on instructional activities; however, in a flipped classroom, learning culture changed markedly in the way that students become active learners preparing before class time. In other words, learning culture of a flipped classroom means that students are active learners. They need to be responsible for their learning both before and during classroom time. With FCC, learning culture received supports from both the online learning. Students first learned to prepare before class instead of inside classroom. By so doing, students prepared before classroom instead of coming to class unprepared. They were responsible for their own learning: watching, reading, and doing exercises. With online learning, students watched and re-watched

videos, read lessons passages, translated with online translation, read more on other websites to get better understanding. They evaluated their understanding by doing and re-doing exercises. Moreover, they did these not only for their own learning, but also for their group members' learning (Hamdan and McKnight, 2013).

3) *FCC provided flexible learning environment for pre-class preparation.*

Mobile learning in the FCC model created flexible learning environments. Mobile phone/device is highly useful in flipped classroom because it can serve as an important feature that students can use to capture key content for accessing at their own convenient time and pace of learning, as well as to learn materials in many formats that suit their learning styles, such as text, videos, audio, and multimedia. Oberer (2016) found that the combination of the flipped classroom model and mobile learning modules in course design could encourage students' participation in learning, which could further lead to better learning results. The main reason mobile learning was chosen to be an element of FCC was to support students with flexible learning environment. Convenient is one of the key features provided by mobile learning. Learning anywhere, any time is an example of convenient learning environment. Students could view lesson content through watching online videos and readings in their convenient time, at their own pace. Doing exercises and taking quizzes was convenient with self-marking and multiple-attempt feature. Moreover, submitting assignments was done conveniently through online, without having to make the hard copies and submitting in class. Convenience can also mean not having to buy and carry heavy books and still learn the class lessons. At this point, students could make self-practice by doing exercises and taking quizzes. Exercises were created in the way that

the students can make as many attempts as they wish, depending on their satisfaction of the progress.

The data extracted from the student's participation of the online course materials showed that students made several viewings on videos, lesson pages, and exercises. This indicates that students actually made use of the online learning materials and activities, which would contribute to their better understanding of the lesson.

4) *FCC assisted instructor to facilitate students' pre-class preparation with learning management system.* In a flipped classroom, professional educator takes the roles of facilitate students' learning by observing students learning and giving feedbacks. In classroom, instructor can do these tasks directly. On the other hand, instructors can also observe students learning through the LMS. Instructor can even give feedbacks to students directly via online communication. Moreover, in some activities especially exercises, the LMS can facilitate instructor on giving feedbacks using the automatic scoring feature of the online exercises or quizzes. The use of an LMS in a flipped classroom, therefore, enhances professional educator.

With the support online educational technology, the FCC can improve learning environment in each element of a flipped classroom, which further enhances learning outcome, as found in some previous studies. For example, Jing (2016) found that students viewed online-based platform as providing rich learning materials, presenting learning resources such as videos, audios, pictures and texts that attract learners' attention. It also provides chances for learners to practice language skills, helps support interaction and communication between peers, and improve their autonomous learning ability. Gulbinskienė, et al (2017). Also found that, apart from fostering students' metacognitive awareness, an LMS can be and online learning

environment that promotes a sense of autonomy by learning how to learn, making choices indecisions, and evaluating students' own learning.

5.1.2 FCC's cooperative learning enhanced students in both pre-class and in-class learning modes.

In this study, students learned cooperatively both outside and inside classroom. In the pre-class session, after having studied lesson materials such as watching videos and reading lesson pages as well as doing exercises, students worked collaboratively to do their group assignment, making the lesson summary on a weekly basis as well as the semester reading project. According to the surveys and the interviews, students used various methods to get the weekly assignments and the group reading project done, ranging from getting together at the university, discussing over the class chat on the online system, or using some social media application. Regardless of the discussion method used, every member made some contribute to the group assignments.

Students reported from the interviews that these group activities helped them learn better and improved their reading comprehension. Two main reasons given by the students are: group work forced them to learn and prepare before class, and they learned from each other by contributing what each one has learnt during group discussions. Under the cooperative work where group goals are based on learning of all group members, the group becomes socially coherence and students are motivated to learn, to engage group members to learn, and to help group member learn. This creates environments where students learn from peer tutoring, modeling, practice, assessment and correction, as well as cognitive elaboration, which finally enhance students' learning (Slavin, 2015). In other words, students perceived cooperative work in the

FCC learning activities as useful for the reasons that it forces them to be prepared and to learn from each other.

Learning through cooperative learning has been found to be an effective method. Ally (2008) claimed that “working with other learners gives learners real-life experiences of working in a group and allows them to use their metacognitive skills” (p. 31). Moreover, students can use other learners’ strength, and learn from others. By assigning group work based on the expertise level and learning style of individual group members, individual team members can benefit from one another’s strengths. This form of cooperative learning helps facilitate constructivist learning of the learners according to many constructivists such as Hooper & Hannafin (1991), Johnson & Johnson (1996), and Palloff & Pratt (1999).

With regard to reading, Jacob et al. (1996), reported in their study that second language learners had opportunities to improve their academic skills when they are cooperatively studying on reading texts. Bolukbas, et al (2011) found that there were differences in reading comprehension between students learning with cooperative method and those learning through traditional method. Additionally, cooperative learning encourages students to interact, ask and answer questions, solve problems, and make decisions (Stahl, 1995). Cooperative learning activities may also be useful in teaching reading because it improves academic skills of students in language arts such as synthesizing, generalizing, summarizing, drawing conclusions, and determining relevant and irrelevant ideas.

Some previous studies have revealed significant improvement in students’ reading comprehension. For example, Karimi and Hamzavi (2017) and Huang and Hong (2016) found that EFL learners improved their reading comprehension after

learning with a flipped model of instruction. The improvement of students' reading comprehension from these studies was claimed to be the result of students' learning through pre-class video material and the classroom reflection, discussions, and practice. These study focused on the use of classroom time to improve reading skills such as systematically organized collaborate reading tasks, emphasizing on learning and practicing reading strategies. Hence, the effectiveness of the flipped classroom instructions claimed by these studies was largely due to the well-structured pre-class and in-class instructions together with collaborative reading activities.

In addition to the in-class active learning, the results of this study suggest that the improved reading comprehension was primarily due to the out-of-class online learning specifically designed to facilitate students with learning self-learning materials and supportive cooperative group activities, within convenient online learning environment based on mobile learning with a Moodle learning management system.

Major findings in this study have been discussed in terms of how FCC related to the improved reading comprehension. The next section provides discussions on students' opinions about FCC.

5.2. Students' Opinions about Learning with FCC

Section 5.1 has discussed how FCC enhanced academic achievement. In terms of learning achievement, FCC has been found to improve students' reading comprehension. In terms of learning affective, FCC has been viewed by students in relatively positive ways. Results from the study reveals various reasons for these positive opinions, as well as some negative ones.

5.2.1 Positive opinions

Students had positive opinions about the FCC, especially for the online learning system. Positive opinions were related to the advantages of FCC in learning in helping them prepare for class, the online learning system which provided convenient learning, FCC improved their learning outcomes, FCC provided flexible learning environment, and FCC enhanced students' learning culture. Out of these opinion, some key words findings have been identified. Firstly, students were positive to the convenient learning provided by the FCC online learning system, and students received positive learning experiences cooperative activities.

A. Convenient learning

Convenient learning appeared to receive the most positive feedbacks from students learning with FCC. Convenience has been identified especially on the use of online learning tools and systems, including online activities and mobile learning. Convenience in the students' points of view referred to different things, as in the following discussion.

1) *Convenience in accessing the lesson through mobile devices*

Using the FCC online learning system was convenient because students could get access to the lessons on their mobile devices, at anytime and anywhere. In fact, this may be due to the fact that the FCC model was intentionally designed to include the Moodle Mobile as the main learning tool for the students to access the online classroom. The use of mobile-based learning has been found not only to motivate students, but improve students' learning achievement (Chaiprasurt & Esichaikul, 2013). Learning through mobile devices is different from learning with books. For example,

students responded in the interview that not having to carry heavy books to class everyday was convenient for them to study.

2) Convenience due to the use of mobile application

Accessing online lessons through an app, in addition to using a web browser, was also considered convenient. To be specific, accessing online contents using an app on a smart phone was more convenient than web browser on the same device. The reason is that an app enables students to use many functions available on a smart phone in a better look and feel. Together, these provide convenient use to students.

3) Convenience due to system stability

Provided with Internet signal, using Moodle was convenient because the system was relatively stable. In other words, students could press on the app icon and got instant access in the lesson without any major technical problems due to the malfunctions of the system. As a result, viewing videos, reading pages, doing exercises, taking quizzes, or submitting assignments could be done easily. These results were supported by the study of Lewandowski & Arochena (2011), who found that students using a Moodle-based mobile learning system generally saw the system as very useful, especially the appropriate functionality of the system. For these three main reasons, convenience in the use of the online learning platform can be said to be one of the key features that makes the FCC effective.

These convenience has been the results of the use of an LMS to facilitate online learning. In this case, Moodle has been used. In some studies, using Moodle as an LMS found to yield positive results in learning. The results from this study were in line with previous studies. For example, the study of Al-Harbi and Alshumaimeri

(2016) also showed that students' attitudes towards using the flipped classroom strategy in the EFL class were positive based on students' responses to a questionnaire and semi-structured interviews. The results were similar to Enfield (2013) which found that students expressed most of the comments about the flipped course in very positive. Several students stated that they learned much better, and it appeared that students benefitted from the flipped.

B. Online translation

One of the major advantages of learning with FCC over conventional classroom in which students showed positive opinions was the ability to use *online translation* while reading and learning. Students mentioned that because the lesson contents were available in a text format, they could copy lesson texts and paste into an online translation website. By this way, they could gain basic understanding of what the lesson was generally about at certain levels. With textbooks, copying and pasting actions may not be possible. Being able to get quick translation of what are being read is important to EFL students because it helps them overcome restrictions of having to remember vocabularies and looking up words in the dictionaries, which not only interrupts the reading process and slows down their reading speed, but and reduces reading comprehension (Liamsakul, 1998). As Thai L2 readers have been found generally reluctant to read English because of their negative early reading experiences (Strauss, 2008), quicker translation becomes their new positive experiences on L2 reading.

C. Realistic learning environment

Another reason was that *FCC provided realistic learning environment*. Students mentioned that instead of having to come to class to study, learning through

the online part could be the same. That is, students could watch videos and read content pages in order to understand the lessons. They could do exercises to check their understanding with instant scoring and feedbacks, just like having a teacher to check the exercises for them. On this view point, realistic learning environment is the ability to learn online in the same way as learning in class, which is also beneficial for students.

D. Pre-class preparation

Being able to *make pre-class preparation* not only helped student improve their learning outcomes, but also enhanced learning experiences. As mentioned earlier, FCC provided students with realistic learning environment where students could learn the lessons in order to prepare themselves for necessary knowledge and understanding before coming to class. Actually, with learning online materials, self-practice exercises, and all other group activities, students may have achieved some of the lesson objectives, and were ready for doing more practice at higher language skills. Having prepared before class the way students do in a flipped learning helps promote creativity and opportunities for higher order learning in the classroom (Doman & Pusey, 2014). In fact, providing learning facilities for students to study before class is one of the four most important elements of a flipped classroom (Brame, 2013), and the results from this study have provided evidence of successful use this instructional method.

5.2.2 Negative Opinions

Despite the positive opinions, some students reported negative learning experiences with FCC. Firstly, students mentioned that they preferred learning with books to learning from mobile phone. This was considered the opinions on negative learning preferences. The main reason given by the students was that, with books, they can write some notes on pages while reading. With a mobile phone, or a computer,

mostly they needed to write on separate pieces of paper, making it difficult to read, unlike the way they used to do. With this issue, the researcher suggests instruct students of making hard copy of the lesson reading materials. Alternatively, printed versions of the whole learning materials may be provided for those who may require, in addition to having them available online in a digital format.

With the negative opinions about the chat function provided by Moodle, students indicated that the reasons were related to the functionality of the Chat module itself as well as the concerns about their ways of communication and the feeling of monitored by the admin or the instructors while making group discussions. However, students did not mention these negative opinions as problems to their learning because they could use other means of online communication or ways to discuss their group work. In response to this problem, the researcher would consider allowing students to use other communication platforms which are completely independent of the control of the instructor and the system admin. This is to provide sole freedom of conducting group discussion. However, other measurements need to be introduced in place of using the system's chat function to monitor group discussion. In fact, using the chat module in Moodle was originally designed to ensure that group assignments were the results of group contribution, not from only one or two students in the group. Therefore, students may provide some other forms of evidence that reflect contribution from all group members.

With all the suggestions to these negative responses, the researcher believes that the FCC model would provide better learning environments to students and continue to improve students' reading comprehension. After all, the model can be adjusted to suit different learning preferences and needs, while maintaining the

important feature of the FCC model, which is learning with a flipped classroom through cooperative learning via the use of online learning management system.

5.3 Limitations of the Study

Limitations of this study include the following.

1. The sample size which is relatively small (2 classes), and the samples' field of study (English major) may not be readily generalized into the whole population of the EFL learners.

2. The study level of the samples (first year) may differ from other years of study. Being in the first year, students were new to the university learning environment. They had not been exposed to the teaching and learning methods at the university level. Furthermore, they had not exposed as many courses as the higher year. As the results, the study results might be different if the course was implemented with students of other years.

3. The study duration of 12 weeks might only contribute to the short-term investigation. With this duration of time, improving students' content knowledge might be practical. However, to have the students improve skills in reading, the time of 12 weeks may be considered relatively short.

5.4 Implications of the Study

This study has the following implications.

1. *Pedagogical implications.* As the FCC has been found to be a good instructional method in teaching a reading comprehension course, instructors of English

language teaching may consider FCC as an alternative method for teaching similar subjects. The study has shown that preparation before class plays important roles in improving students' reading comprehension; therefore, FCC should be applied in the instructional process as a mean to help students master essential knowledge and understanding of particular lesson contents prior to the classroom time. This should be done through supports and monitoring of online technology, especially LMS. Moreover, to get the students effectively prepared, group-monitoring are needed through cooperative work. Essentially, instructors need to create pre-class learning tasks or activities to ensure individual learning and group learning. In this study, a group summary of the lesson was used as the mean to get students learn individually and share their learning to the group before making the submission. Moreover, exercises and quizzes were all used as the means for ensuring that learning did occur properly before classroom time.

Additionally, instructors may adapt the concepts and tools based on the FCC model to apply with other subjects where applicable. For example, they may make use of the available learning management systems and other online learning tools which can support effective online learning environment, given that the tools facilitate cooperative learning among learners. After all, the FCC can be a useful model for teachers in the areas of reading, language-related subjects, or other subjects that aim at improving students' academic achievement and learning experiences through online technology and cooperative learning.

Nevertheless, with regard to the negative responses on the use of some LMS function such as chat, instructors may consider using alternative online communication tools to make the cooperative work more efficient. Consideration should be made to

make sure that the group communication tools are well accepted the students, and that less control and monitoring may help reduce students' feeling of being monitored and controlled by the instructor through the system.

2. *Implications for course developers.* The FCC model has been developed based on previous models of flipped learning. It is developed based on the concepts of reverse direction of instructional method as contrast to other conventional methods. There are various points for curriculum developers to utilize the FCC. For example, they may consider developing a course using different types of online technology and learning platforms. This study utilized the features of the Moodle LMS to manage instructional activities, especially the online parts. There are a number of good LMSs available; there must be one that best suits the course context. Nevertheless, the purpose of considering an online learning platform should aim at what best facilitates online individual and group learning as well as instructor's class management.

They may also consider using different types of online learning materials and activities, based on the currently available ones. Although videos are usually the main learning material of flipped classroom, non-video materials are always possible as long as they effectively improve students' understanding of the lesson upon self-study prior to the class time. Additionally, cooperative activities can used both inside and outside classroom. Developers may also consider using FCC as the main approach from various course in the curriculum.

With regard to the issue raised by the use of Chat module in Moodle, course developers may consider using other online communication programs such as Facebook or Line application. The design principle is based on helping students to learn in group cooperatively, and the communication software or app should provide sufficient

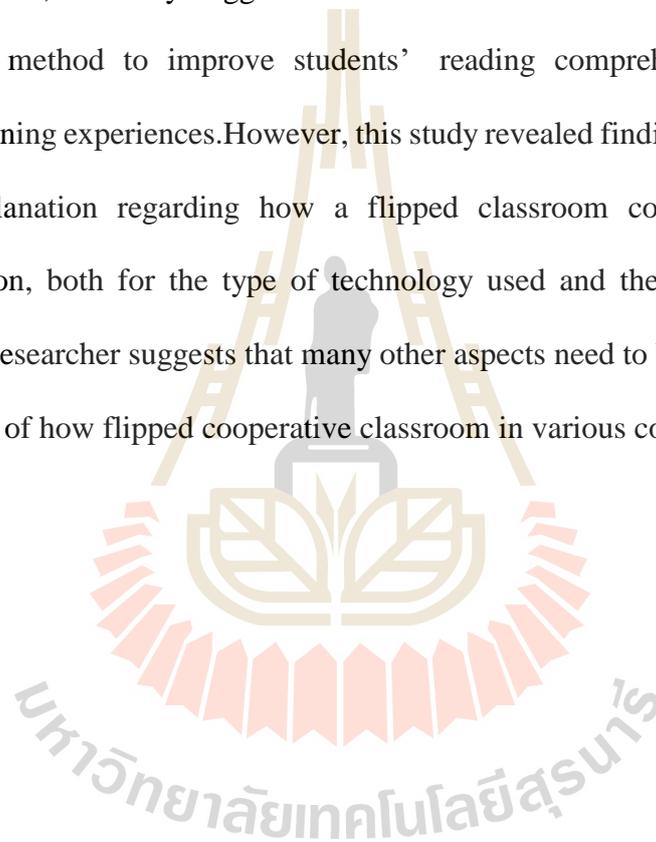
convenience to their use. By this way, FCC can be modified to provide better learning environment.

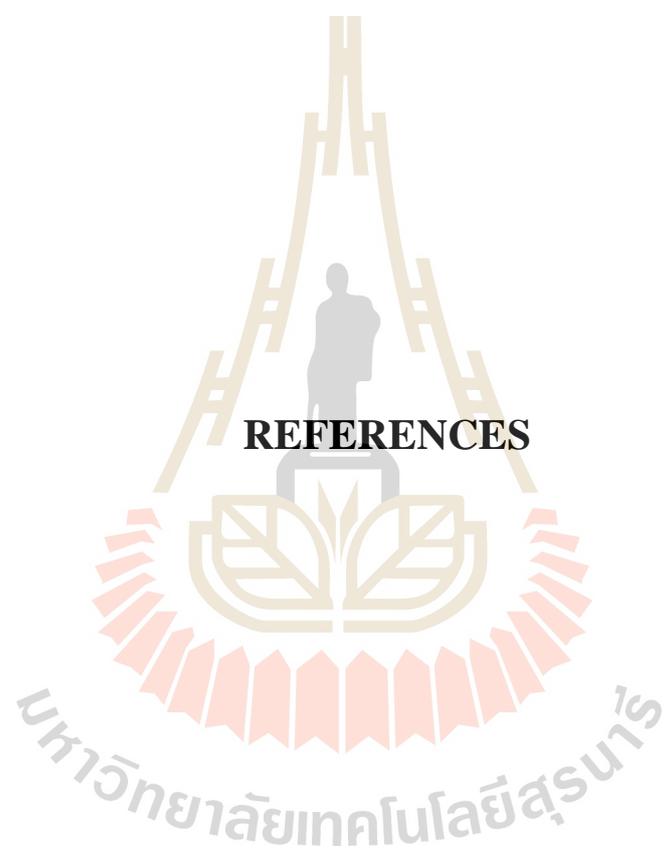
3. *Implications for future studies.* Results of this study revealed improvement in students' reading comprehension and positive opinions about FCC and learning experiences. However, some suggestions are also made from students regarding points to be improved if the FCC is used in the future. Therefore, there are some rooms for researchers to further investigate the effectiveness of the FCC. For instance, researchers may use different tools or methods for supporting students' communication in the online group work. That is, future study may investigate the effectiveness of using different online learning tools, materials, or activities, etc. For example, researchers may compare the use of this model with different communication software or methods group cooperation. This may reveal the most appropriate combination between Moodle platform and other communication tools. Moreover, researcher may consider investigating the use of FCC in different subject areas, students' levels of study, or students' ability, etc.

5.5 Conclusion

This study was conducted to investigate the effectiveness of using a flipped cooperative classroom to enhance reading comprehension of Thai EFL university students. The study tools included conventional classroom and FCC lesson plans, FCC online lessons, pre-test and post-test, and questionnaire, and semi-structure interview. The results showed there was significant improvement of the reading comprehension of the FCC students as shown by the reading comprehension pre-post test scores. The reading comprehension of the FCC students was also found to be significantly higher

when compared with the control group learning through the conventional classroom. The questionnaire results indicated that students showed positive responses on learning with the flipped cooperative classroom. Additionally, students had positive perceptions on using online learning system in terms of system characteristics, material characteristics, ease of use, and usefulness. These findings were consistent with other previous studies, and they suggest that the FCC model can be considered a good instructional method to improve students' reading comprehension and promote students' learning experiences. However, this study revealed findings which allow more specific explanation regarding how a flipped classroom could improve reading comprehension, both for the type of technology used and the cooperative learning employed. Researcher suggests that many other aspects need to be investigated for the effectiveness of how flipped cooperative classroom in various contexts.





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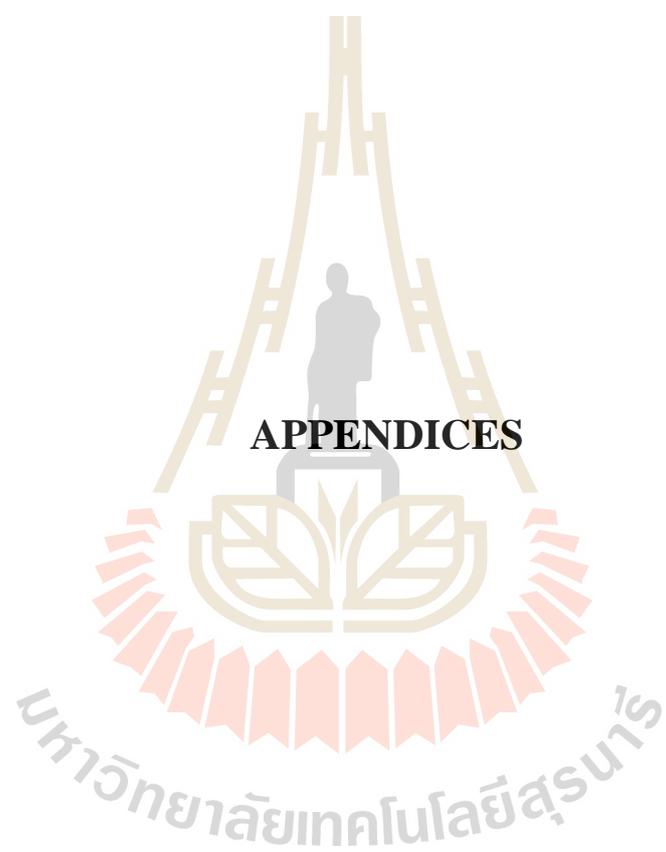
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APPENDICES

APPENDIX A

CONVENTIONAL LESSON PLANS

Lesson Plan 1 (Conventional Classroom)

Lesson Name: Course Introduction

Course: Reading Comprehension

Time: 2:30 h.

Concept:

The first lesson introduces students to the course. This lesson provides the overview of the course content, and the course evaluation. Students also need to be informed about how they will be assessed throughout the course, and from which learning and testing activities.

Learning Objectives:

The students will be able to:

1. Identify topics to be covered in the course.
2. Indicate which activities are to be assessed for the course evaluation.
3. Complete the course pretest.

1. Class Greeting and Course Details

- 1) Teacher greets students and check their class attendance from the class list.
- 2) Teacher distributes and explains the course outline which contains details about the course content, instructional activities, learning approach, and course evaluation.

2. Course Assessment and Evaluation

Teacher indicates which activities are to be assessed and how students will be evaluated in the course. Therefore, students need to complete the required tasks in order to get marks for the course evaluation. Graded activities include the following.

- 1) Submitting lesson worksheets in the face-to-face class.
- 2) Taking individual quiz in the face-to-face class.
- 3) Taking midterm test.
- 4) Taking final exam.

3. Course Pretest

Teacher explains that students need to take a course pretest in order to identify their level of reading comprehension. Teacher administers the test, which contains 40 multiple-choice questions on reading passages. After all the students have finished the test, teacher reports their scores.

4. Class Summary

Teacher gives a brief review of the lesson, emphasizing on key features of the course. Teacher allows students to ask questions on issues which they may not be fully clear about. Teacher also checks students' understanding by asking them to explain certain points.

Lesson Plan 2 (Conventional Classroom)

Lesson Name: Reading Comprehension Strategy - Predicting

Course: Reading Comprehension

Time: 2:30 h.

Concept:

Making prediction is a reading strategy which helps readers comprehend text. Prediction refers to an educated guess based on context clues and background knowledge. Good readers usually make predictions before reading, while reading, and after reading. Learning how to predict, readers can improve their reading comprehension ability.

Learning Objectives:

Overall objective: The student will be able to make predictions to aid comprehension of text.

Behavioral objectives:

1. Explain the process and influences of predicting on reading comprehension.
2. Explain how to make prediction using vocabulary technique.
3. Explain how to make prediction using CATS technique
4. Answer questions of given texts correctly.

Predicting

Predicting involves thinking ahead while reading and anticipating information and events in the text. After making predictions, students can read through the text and refine, revise, and verify their predictions. Prediction can be done in many ways. Three most common methods of making predictions are: 1) Anticipation Guide; 2) Vocabulary Prediction; and 3) CATS. By making prediction, student will gain a purpose and motivation to read, and hence improve comprehension.

1. Anticipation Guide

An anticipation guide, also known as a prediction guide, is a useful pre-reading and post-reading activity, best used with topics or themes about which students are likely to have different opinions and attitudes. It activates prior knowledge, prompts students to make predictions, and can be used to set a purpose for reading. It can motivate discussion and interest. After reading, it can also help some students focus on inaccuracies and misconceptions about a topic as they accept, reject, or modify their prior knowledge and predictions.

Steps in using the Anticipation Guide

An anticipation guide consist of some statements about a text (fiction, nonfiction, or poetry). For each statement, students are required to make a prediction by responding to the statement either to ‘agree’ or ‘disagree’, and give reasons for the prediction. After reading the text, students respond to the same statements and make adjustment on their original response. The steps are:

1. Choose to agree or disagree with the statements about the text and give supporting reasons.
2. Read the text.
3. Confirm and revise predictions and give supporting reason based on the text.

Anticipation Guide

Statements	Before Reading Prediction	After Reading Prediction
1.	(<input type="checkbox"/>) Agree (<input type="checkbox"/> Disagree I believe this because...	(<input type="checkbox"/>) Agree (<input type="checkbox"/> Disagree I believe this because...
2.	(<input type="checkbox"/>) Agree (<input type="checkbox"/> Disagree I believe this because...	(<input type="checkbox"/>) Agree (<input type="checkbox"/> Disagree I believe this because...
3.	(<input type="checkbox"/>) Agree (<input type="checkbox"/> Disagree I believe this because...	(<input type="checkbox"/>) Agree (<input type="checkbox"/> Disagree I believe this because...
4.	(<input type="checkbox"/>) Agree (<input type="checkbox"/> Disagree I believe this because...	(<input type="checkbox"/>) Agree (<input type="checkbox"/> Disagree I believe this because...

5.	(___) Agree (___) Disagree I believe this because...	(___) Agree (___) Disagree I believe this because...
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After reading, students can check understanding by asking questions such as those that follow.

- What statements support my original opinions?
- What statements contradict my original opinions?
- Where have you changed my opinion?
- Where I haven't changed my opinion, why do I still agree or disagree with the statements?
- What would help me change your mind?

2. Vocabulary Prediction

A vocabulary prediction sheet consists of 10 to 20 “strong words” that elicit images and are key to comprehending the text selection. Students make predictions on what the story might be about based on the words chosen. Students write the group prediction on the Vocabulary Prediction Sheet. After that, students read the story and revisit the prediction.

Vocabulary	The prediction	The actual story
20 strong words from the text	I think the story will be about ...	Now, the story is about...

By examining the strong words from the text, use what they have already know from the words and make connection between them to create the story. After reading, students make adjustment on the original prediction and learn meaning from the actual story.

3. CATS Prediction

CATS prediction method help student make prediction by examining the text's cover, author, title, and skimming the text. Students try to understand the text in a short time by asking question and making prediction accordingly.

1. Viewing the cover: What do the front and back **covers** tell us about the book?
2. Viewing the author: What do we know about the **author** and other books he or she may have written?
3. Viewing the title: What does the **title** suggest the text may be about?
4. Skimming the text, noticing pictures, charts, drawings, diagrams, and maps: What would the text be about?

4. Student Practice

Teacher provides students with a piece of text for as an assignment to make the prediction using the Anticipation Sheet. The sheet contains six statements which require students to respond by either agree or disagree, with reason before reading. Then students read the text, respond to the statements, and give reason for the response after reading.

Lesson Plan 3 (Conventional Classroom)

Lesson Name: Reading Comprehension Strategy - Questioning

Course: Reading Comprehension

Time: 2:30 h.

Concept:

Students ask questions about the text and the author's intentions and seek information to clarify and extend their thinking before, during and after reading. By generating and answering questions, students can improve on their reading comprehension.

There are several types of questions which students can use for comprehending texts according to the levels of understanding and types of texts. In this unit, five levels of comprehension are presented: 1) Literal, 2) Reorganization, 3) Inference, 4) Evaluation, and 5) Appreciation. The lessons also present sample questions based on three types of texts: 1) Narrative, 2) Expository, and 3) Functional. Questions for each type of texts are either simple, focusing low thinking levels of knowing and understanding the Bloom's taxonomy, where the answers can be found in the text, or thoughtful, which aim for higher thinking levels of applying, analyzing, evaluating, and creating. The lesson provides sample question stems for all the thinking levels in all text types in order for the students to use when learning and practicing the strategy of generating questions to improve their reading comprehension.

Learning Objectives:

Overall objective: The student will be able to generate questions to aid comprehension of text.

Behavior objectives:

1. Explain different levels of comprehension
2. Identify different types of questions based on text types.
3. Answer questions about a given narrative, expository, or functional text.

Comprehension Questions

There are various ways to categorize question types for reading comprehension. One way to understand reading questions is to refer to the five levels of understanding according to Barrett's taxonomy of reading comprehension.

1. Literal - (Lowest) Students identify information directly stated.
2. Reorganization - Students organize or order the information a different way than it was presented.
3. Inference - Students respond to information implied but not directly stated.
4. Evaluation - Students make judgments in light of the material.
5. Appreciation - (Highest) Students give an emotional or image-based response.

1. Literal comprehension (concern with information stated explicitly in the text)

- 1.1 Recognition (locate specific information stated explicitly)
 - Recognition of details (names of characters, places, times)
 - Recognition of main ideas
 - Recognition of a sequence
 - Recognition of comparison (identify similarities among characters, places and names)
 - Recognition of cause and effect relationships
 - Recognition of character traits
- 1.2 Recall (produce from memory ideas stated explicitly)
 - Recall of details
 - Recall of main ideas
 - Recall of a sequence
 - Recall of comparisons
 - Recall of cause and effect relationships

2. Reorganization (analyzing, synthesizing, and organizing information that has been stated explicitly)

- 2.1 Classifying (placing persons, things, and places into groups)
- 2.2 Outlining (organizing a selection in outline form)
- 2.3 Summarizing (paraphrasing or condensing a selection)

2.4 Synthesizing (consolidating information from more than a single source.)

3. Inferential comprehension (using information explicitly stated along with one's own personal experience as a basis for conjecture and hypothesis.

3.1 Inferring supporting details (suggesting additional facts that might have made the selection more informative, interesting or appealing)

3.2 Inferring main ideas (providing the main idea when it is not stated explicitly)

3.3 Inferring sequence (conjecturing about what might have happened or will happen when no explicit statements are included in the text)

3.4 inferring comparisons

3.5 Inferring cause and effect relationships (inferring the author's intentions, motivations, or characters)

3.6 Inferring character traits (hypothesizing characteristics of persons)

3.7 Predicting outcomes (predicting what will happen as a result of reading part of the text.

3.8 Interpreting figurative language (inferring literal meanings from the figurative use of language).

4. Evaluation (judgments and decisions concerning value and worth)

4.1 Judgments of reality or fantasy (judging whether an event is possible)

4.2 Judgments of fact or opinion (distinguishing between supported and unsupported data)

4.3 Judgments of adequacy and validity (judging whether information in a text agrees with other sources of information)

4.4 Judgments of appropriateness (determining relative adequacy of different parts of a selection in answering specific questions).

4.5 Judgments of worth, desirability, and acceptability (decisions of good, bad, right and wrong)

5. Appreciation (psychological and aesthetic impact of the text on the reader)

5.1 Emotional response to content (verbalizing feelings about the selections)

5.2 Identification with characters or incidents (demonstrating sensitivity to or empathy with characters or events)

5.3 Reactions to the author's use of language (responding to the author's ability to create language)

5.4 Imagery (verbalizing feelings produced by the author's selection of words that produce visual, auditory, etc. sensations or images)

6. Narrative Text Questions

1. Knowing

- Who is the main character?
- Where/When does the story take place?
- How many _____?

2. Understanding

- Which of these events happened first/second/last?
- Which of these could not have been the reason ___?
- Read passage. Which part of the story does this tell about?
- In the beginning of the passage, why was the character/setting ___?
- Why did the character ___?
- Read the two sentences. Choose the word that correctly completes both sentences.

3. Applying & Analyzing

- Why did the author or character ___?
- Which of these sentences states an opinion/fact? Why?
- What will ___ do next?
- What does the author mean by the phrase or word ___?
- The author writes about ___ as if it were (simile/analogy).
- Which of these would be the best title/main reason for the story?
- The story is mostly about ___?
- How do you think ___ felt when ___?
- Choose the word that means the same or about the same as ___.
- Which of these details from the story shows that it probably took place ___?

4. Evaluating & Creating

- What kind of genre is this?
- Which of these events will most likely happen after the end of the passage?
- Which of the following sentences will best conclude the story?
- How does the character/story remind you of another? (Compare & Contrast)
- What did ___ mean when she ___?
- From the passage you can conclude:
 - that you learned ___.
 - the main idea was ___.
 - in the future ___ will___.
 - the author's purpose was ___.
 - the character probably felt/knew ___ because ___.

7. Expository Text Questions

1. Knowing

- What happened after ___?
- What did the ___ do?
- How does the ___ work?
- What is one fact you learned?
- Who ___?
- What ___?
- Where/When do the events in the passage take place?

2. Understanding

- What did _____ do first/next/last?
- Give one reason why ___.
- Evidence for reason needs to be stated in the text.
- According to the passage:
 - which ___?
 - what ___?
 - why ___?

3. Applying & Analyzing

- Which of these is the most important when ___?
- Infer and read between the lines:

- Why do ___?
- Another way to ___ would be ___?
- This text was written mainly to ___?
- Give a reason why ___.
- Which of these would be the best title of the passage?
- Make a prediction:
 - Could _____ happen?
 - What will happen next?
 - What do you think will happen if _____?

4. Evaluate & Creating

- How would you _____?
- Is this passage fact or opinion?
- Evaluate how important _____ is.
- How does this information fit in with what you already know about this topic?
- There is enough information in this selection to show that _____.
- Compare this article with another you have read. How are they similar/different?

8. Functional Text Questions

1. Knowing

- What time does the ___? How long do you ___?
- Where does the ___? Who does the ___?

2. Comprehend

- What is the first thing you need to do?
- What do you do before/after ___?
- When do you ___?
- Which of these is found in the ___ section of the map?
- Which direction is the ___ from ___?
- What will ___?

3. Applying & Analyzing

- The word ___ means the same as ___?

- According to the rules/directions/passages ___ is?
- Which of these statements express an opinion/fact?
- Which page will probably have info. about ___?
- Look at the blank in the chart.
- Which of these best fit there?
- According to the schedule/poster, who will/how will/which of these ___?
- Study the dictionary entry. Which definition of the word is used in the

following?

- The word ___ is shown in the dictionary as which part of speech?

4. Evaluating & Creating

- What would happen if you ___?
- Why did ___ go to the ___?
- Why were the directions listed in a certain order?
- This announcement probably appeared in ___?
- If you want to make/go ___, how much ___?
- What would you need to ___?
- What can you learn from the graph about ___?
- Which route would take you more directly to ___?

9. Student Practice

Teacher assigns students to do homework as follows:

1) Select one passage out of the three text types (narrative, expository, functional).

2) Generate two simple questions (at literal level) and two thoughtful questions (at reorganization or inferential levels) out of the text.

Lesson Plan 4 (Conventional Classroom)

Lesson Name: Reading Comprehension Strategy - Identifying Main Idea

Course: Reading Comprehension

Time: 2:30 h.

Concept:

Identifying the main idea will help students recall important information. Knowing where the main idea and significant details are located helps the reader to understand the points the writer is attempting to express. Identifying the relationship between the main idea and significant details will improve comprehension.

In order to identify the main idea, students need to understand the definition of main idea before using this to identify the main idea in sentences and short texts. The ability to identify the main idea in a text, whether it is stated directly or inferred, is crucial for students to gain meaning when they read.

This lesson introduces students to the differences between main idea and supporting details. It also provides four ways to identify the main idea of a passage: 1) identify the topic; 2) summarize the passage; 3) look at the first and last sentences of the passage; and 4) look for repetition of ideas.

Learning Objectives:

Overall objective: The student will be able to identify main idea and supporting details to aid comprehension of text.

Behavioral objective:

1. Distinguish between main idea and details.
2. Explain different ways of finding the main idea.
3. Identifying the main idea of a passage.

Identifying Main Idea

The main idea of a paragraph is the point of the passage, minus all the details. It is the main point or concept that the author wants to communicate to the readers about the topic. Hence, in a paragraph, when the main idea is stated directly, it is expressed in what is called the topic sentence. It gives the overarching idea of what the paragraph is about and is supported by the details in the paragraph. In a multi-paragraph article, the main idea is expressed in the thesis statement.

The main idea is the brief, but all-encompassing summary. It covers everything the paragraph talks about in a general way, but does not include the specifics.

When an author does not state the main idea directly, it should still be implied, and is called an *implied main idea*. This requires that the reader look closely at the content - at specific words, sentences, images that are used and repeated - to deduce what the author is communicating. This may take a little more effort on the part of the reader.

Finding the main idea is critical to understanding what you are reading. It helps the details make sense and have relevance, and provides a framework for remembering the content.

1. Main Idea and Supporting Detail

The main idea of a passage consists of the main ideas of all paragraphs, which acts as the supporting detail of the passage.

The followings are pairs of sentences, one is the main idea, the other is the detail.

- A. Tulips are starting to sprout out of the ground. (detail)
Spring has finally arrived. (main idea)
- B. The North won the Civil War. (main idea)
The North had more soldiers and equipment than the South did. (detail)
- C. The day was not peaceful. (main idea)

The neighbor's dog barked because of the loud hammering across the street. (detail)

D. Aunt Martha and Uncle Bob brought water balloons. (detail)

The family reunion was a huge success. (main idea)

2. Finding the Main Idea

Finding the main idea can be done by many ways: identifying the topic, summarizing the passage, looking at the first and the last sentences of the passage, and looking for the repetition of ideas.

2.1 Identify the Topic

Read the passage through completely, then try to identify the topic. Who or what is the paragraph about?

2.2 Summarize the Passage

After reading the passage through thoroughly, summarize it in your own words in *one sentence* that includes the gist of every idea from the paragraph. A good way to do this is to pretend you have just ten words to tell someone what the passage is about.

2.3 Look at the First and Last Sentences of the Passage

Authors often put the main idea in or near either the first or last sentence of the paragraph or article.

Determine whether either of these sentences capture the main idea. Sometimes, however, the author will use what is called a reversal transition in the second sentence - words like but, however, in contrast, nevertheless, etc. - that indicate that the second sentence is the main idea. If you see one of these words that negate or qualify the first sentence, that is a clue that the second sentence is the main idea.

2.4 Look for Repetition of Ideas

If you read through a paragraph and you have no idea how to summarize it because there is so much information, start looking for repeated words, phrases, ideas or similar ideas. Read this example paragraph:

A new hearing device uses a magnet to hold the detachable sound-processing portion in place. Like other aids, it converts sound into vibrations. But it is unique in that it can transmit the vibrations directly to the magnet and then to the inner ear. This produces a clearer sound. The new device will not help all hearing-impaired people - only those with a hearing loss caused by infection or some other problem in the middle ear. It will probably help no more than 20 percent of all people with hearing problems. Those people who have persistent ear infections, however, should find relief and restored hearing with the new device.

What idea does this paragraph consistently repeat? A new hearing device. What is the point about this idea? A new hearing device is now available for some hearing-impaired people. And there is the main idea.

3. Student Practice

- 1) Students are given assignment to find a passage with four-five paragraphs.
- 2) Student read the passage and find the main idea of each paragraph.
- 3) Student list all the paragraph main ideas and create the passage main idea.

Lesson Plan 5 (Conventional Classroom)

Lesson Name: Reading Comprehension Strategy - Identifying Text Structure

Course: Reading Comprehension

Time: 2:30 h.

Concept:

Text structure supports reading comprehension. Authors organize their texts in different ways, and students learn how to recognize these organizational patterns. The goal of text structure instruction is to develop skill in recognizing signals that go together as a set. These signal words designate patterns of thinking such as sequence, contrast, or cause-effect. Familiarity with such patterns makes it much easier for the reader to follow the line of thinking in the text as they read. This places the reader at a comprehension advantage for understanding the overall message of the text.

Learning Objectives:

Overall objective: The student will be able to identify text structures to aid comprehension of text.

Behavioral objectives:

1. Recognize characteristics of each text structure (Description, Chronology/Sequence, Comparison and Contrast, and Cause and Effect).
2. Identify structure of a text (Description, Chronology/Sequence, Comparison and Contrast, and Cause and Effect).
3. Answer questions from texts of various structures.

Identifying Text Structure

In order to identify text structure, the reader needs to identify words and phrases in the passage, ask comprehension questions, and use graphic organization. The following are common text structures.

- a. Description

- b. Chronology/Sequence
- c. Compare and Contrast
- d. Cause and Effect

1. Description

Purpose: to explain a topic, concept, person, place, event or object, by providing characteristics, features and/or giving examples.

Signal Words and Phrases:

descriptive words (e.g., color, shape, size)

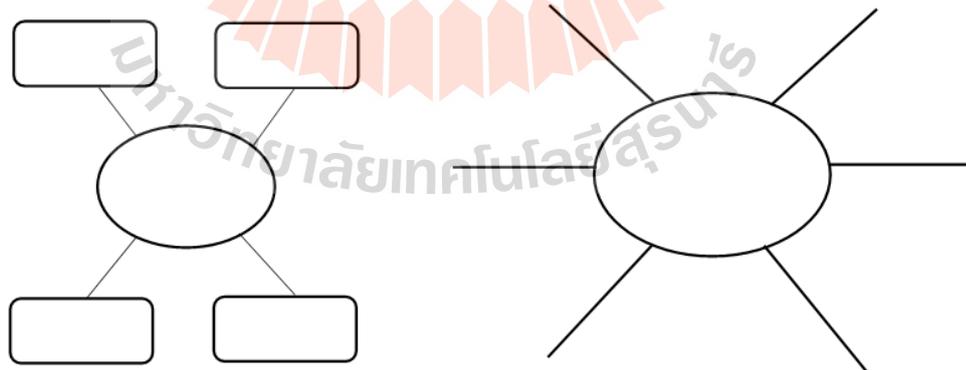
position words (e.g., above, along, beside, between, in front of, near)

appears to be, for example, made up of, characteristics, for instance, most important, consists of, in fact, specifically, features, looks like, such as

Comprehension Question Frames:

1. What is the subject being described?
2. How is the topic being described (i.e., where it is, what it does, how it works, what it looks like, its classification)?
3. What are the most important attributes or characteristics?

Graphic Organizers:



2. Chronology/Sequence

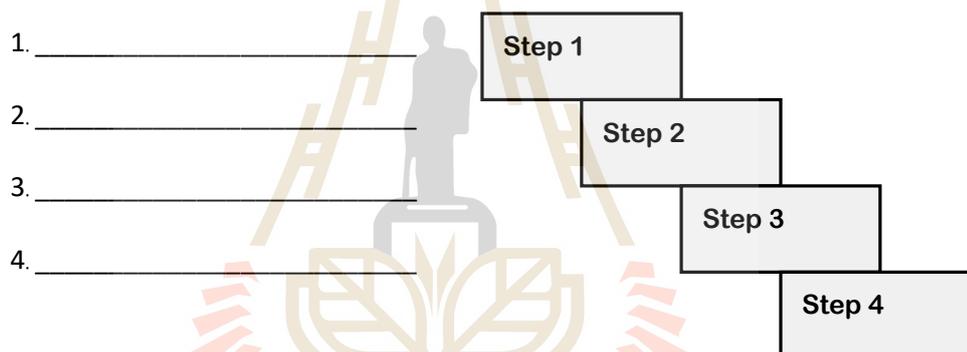
Purpose: to provide information in time order or the order in which events, actions, or steps in a process occur.

Signal Words and Phrases:

finally, later, soon, first/second/third, meanwhile, step, following, next, then, immediately, now, today, initially, prior to, until, last, simultaneously, when

Comprehension Question Frames:

1. What sequence of events is being described?
2. What are the major events or incidents that occur?
3. What happens first, next, last?
4. How is the sequence or cycle revealed in the text?
5. What are the steps, directions, procedures to follow to make or do something?

Graphic Organizers:**3. Compare and Contrast**

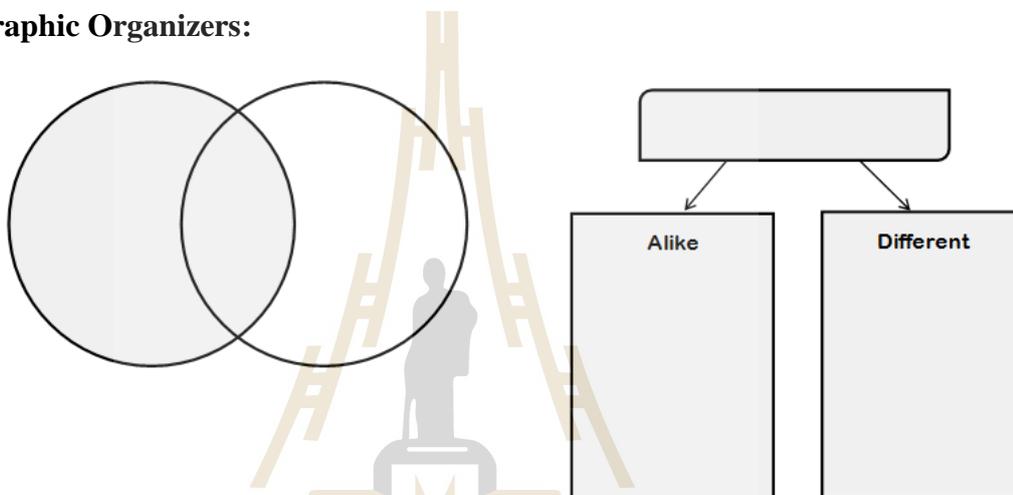
Purpose: to describe what is similar and/or different about two or more subjects.

Signal Words and Phrases:

alike, but, in comparison, also, compared to, , in contrast, although, despite, instead of, as , different from, just, as opposed to, either-or, on the contrary, as well as, however, on the other hand, both, in common, opposite

Comprehension Question Frames:

1. What subjects are being compared?
2. What is it about them that is being compared?
3. What characteristics of the subjects form the basis of the comparison?
4. What characteristics do they have in common? How are they alike?
5. In what ways are they different?

Graphic Organizers:**4. Cause and Effect**

Purpose: to explain why or how something happened/happens

Effect = what happened

Cause = why it happened

Signal Words and Phrases

as a result	if . . . then	outcome
because	impact	reasons for
consequently	in order to	since
due to	influenced by	so that
effects of	is caused by	therefore
for this reason	leads to	thus
how	on account of	when...then

Comprehension Question Frames:

1. What were the specific events that happened?
2. Why did the events happen? What were the causes?
3. What were the results or outcomes of these events happening? What was the effect?

4. Did prior events cause or influence the main event? If so, in what ways?
5. What is the significance of the event and/or the results (outcomes)?

Graphic Organizers:



5. Student Practice

Teacher give homework to students for practice. Students are given with a different text passage. Then, students identify signal words in their content- area passage, and organize text information in a graphic organizer, and answer comprehension questions, and explain how applying my knowledge of text structure help them comprehend?

Lesson Plan 6 (Conventional Classroom)

Lesson Name: Reading Comprehension Strategy - Visualizing

Course: Reading Comprehension

Time: 2:30 h.

Concept:

This lesson is for students who are experiencing difficulty with higher order thinking comprehension skills. Some students exhibit language impairments that inhibit their ability to process verbal, auditory, and/or visual information. The imagery strategy that students will be introduced to in this lesson will include visualizing, drawing, and verbalizing text that is read aloud to them. By creating a concrete visual picture, students will be able to understand key ideas and details from a read aloud text.

Learning Objectives:

Overall objective: The student will be able to use visualization to help comprehend text.

Behavioral objectives:

1. Explain the meaning of visualizing
2. Explain methods used for visualizing while reading.
3. Express visual image from the reading text.
4. Answer questions about texts requiring visualization.

Visualizing

Visualization refers to our ability to make visual representations in our minds while reading. Some people think of it as making videos or movies in our heads. Visualization helps readers engage in text in ways that make it memorable and personable. When students create pictures in their minds, they become more involved with the text. Visualization stimulates the imagination, enhances involvement with the

text, and improves mental imagery. Visualization is used to improve reading comprehension.

Students are taught visual, sequential steps for putting details together to get the main idea. By using prior knowledge and background experiences, readers connect the author's writing with a personal picture. Through guided visualization, students learn how to create mental pictures as they read. They use sensory images like sounds, physical sensations, smells, touch, and emotions described in the story to help them picture the story.

In short, visualizing is...

- A reading strategy.
- A way to help you understand what you read.
- An important tool for reading fiction and nonfiction.
- Making a picture in your mind.

For example, to visualize, the reader do the following actions.

1. Use the words in the text to make a picture in the mind.
2. The picture in the mind is like seeing a “movie in your mind”

With the word “A green tractor” would make the picture like the following.



The mental image may be different from one to another. The reason is that people use background knowledge to help us visualize what is in the text. Different people bring different background knowledge, and so they visualize differently

Another example of longer passage:

“The purple flowers bloomed, lifting their petals up to the sun. They were surrounded by the bright green lily pads that covered the surface of the pond.”

The reader should imagine the picture like this:



More example

“The sleek, modern museum rose at the end of the parking lot. A tower that looked just like an airport control tower glistened in the center. To the right curved a silver, round building. A tree was to the left.”

In this example, there are details which are probably most important. There are also the ones which are the easiest and the hardest to visualize. The picture should look similar to this.



Because each person has unique background knowledge, everyone will visualize differently. However, you need to make sure that you are using the text clues to visualize. For example, this picture would not match the details of the paragraph at all.



1. Using prior knowledge to visualize

Visualizing is making a picture in your mind based on the text. But authors don't explain every single detail. Sometimes, you need to fill in with your background knowledge.

Try visualizing the scene below:

“Far in the distance, a group of ponies huddled in the surf, flicking away the biting insects with the swishing of their tails. Excited visitors watched them from the further up the beach, taking pictures and chatting.”

The picture should be sand. Even though it was not mentioned in the text, prior knowledge of the beach helped make an accurate mental picture. If you have been to a

beech with horses waling on, you were probably able to picture the ponies. If you have not, your mental picture was probably different.



2. Pay attention to an author's clues

Sometimes what we read will not match our prior knowledge.

For example:

“The fences and fields of Shelburne Farms stretched down the gentle slope toward the barn.”

But...

“The fences and fields of Shelburne Farms stretched down the gentle slope toward the barn.

But this was not a regular barn. Instead, it looked more like a palace. One round turret towered over the side wall.”

This is the clue.

“The fences and fields of Shelburne Farms stretched down the gentle slope toward the barn.

But this was not a regular barn. Instead, it looked more like a palace. One round turret towered over the side wall.”

There is a difference to notice. That is, this barn does not look like the barns that you have in your prior knowledge. If you kept on thinking about a regular red barn, you would miss out on an important detail.

3. Visualize whenever you read

Try sketching what you visualize based on the dialogue below.

“What a day for a class trip!” Ricky said.

“I know. I can’t wait to get back in the boats and go canoeing some more,” Ana replied.

“I just wish it weren’t so cold,” Ricky sighed.

In this dialogue, there are some things that can be drawn in the picture. Based on prior knowledge and the clues in the text, people should have some picture in mind of the following words.

Canoe

Lake

Forest

Students

The picture should somewhat look similar to the following scene.



4. Visualizing Process

Students can use visualization strategy in the follow steps.

1. Students should read familiar text and describe the images they see in their mind.
2. Students read a passage for students to visualize. When visualizing, it is important to use background knowledge and words in the text to help imagine a picture

in their mind. It is important to understand that there is not one correct answer. Students may start with an object and describe it by color, size, shape and smell. Students may close eyes and create an image.

3. Students should share their images with a partner. Students can use the “Think, Pair, Share.” technique. After forming an image, pair up with a partner, and share what you have visualized. Choose your own subjects to describe to the partner.

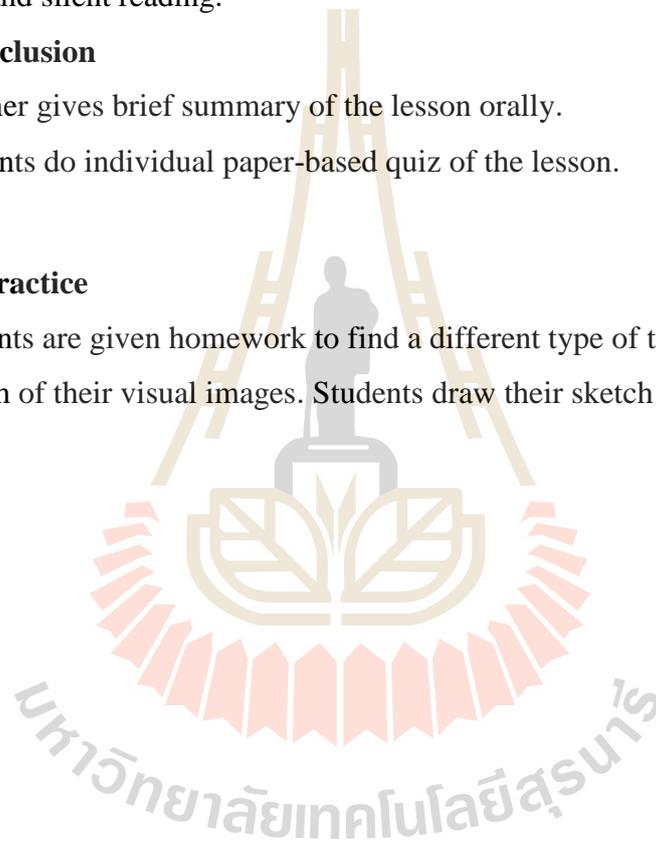
5. Students should practice the strategy frequently. Use visualization during read-alouds and silent reading.

5. Class Conclusion

- 1) Teacher gives brief summary of the lesson orally.
- 2) Students do individual paper-based quiz of the lesson.

6. Student Practice

Students are given homework to find a different type of text, read the text, and make a sketch of their visual images. Students draw their sketch on the Let’s Visual Sheet.



Lesson Plan 7 (Conventional Classroom)

Lesson Name: Reading Comprehension Strategy - Inferring

Course: Reading Comprehension

Time: 2:30 h.

Concept:

Inferring is the act of reading between the lines. The readers predict and guess what is going on when it is not actually explained in writing. Readers make meaning by evaluating the author's words to draw conclusions about the story or subject and create logical predictions about what might happen. Readers who build skills in sequencing can visualize events, make sense of a story line, and predict what may happen based on the time and order of events in a story.

This lesson provide basic process and ways of making inferences, including Inferring with Context Clues, Guided reading questions, Inference activity, and KIS Activity.

Learning Objectives:

Overall objective: The student will be able to infer meaning from what was read to help comprehend text.

Behavioral objectives:

1. Explain the meaning of inference.
2. Explain the process of inferring.
3. Identify different method of making inferences.
4. Answer questions related to making inferences about short paragraphs.

Inferring

Proficient readers understand that writers often tell more than they actually say with words. They give you hints or clues that allow you to draw conclusions from information that is implied. Using these clues to “read between the lines” and reach a deeper understanding of the message is called inferring.

Students need to learn how to infer so that they can go below the surface details to see what is actually implied (not stated) within the words of the story. Some meanings are meant to be implied – that is not stated clearly but they are hinted at. When meanings are implied, you have to infer them.

The reason why much of what an author writes is implied is that the authors expect their readers to fill in the gaps. Therefore, to truly comprehend or understand much of what an author writes, readers, have to use our inference skills. The more readers are able to do this, the better their inference and reading comprehension becomes. Moreover, successful inference of written text often requires readers to have good word and world knowledge.

To have a good vocabulary is important, but perhaps even more important is to have a solid understanding of semantic categories, and the links between words in mental lexicon, or mental dictionary. If readers are able to access the connections well then their ability to make inferences from complex text is that much stronger.

Successful inferential comprehension requires that:

1. The readers must use the information presented in the text as the starting point.
2. The readers look for key words in the text that give little hints or clues of a hidden meaning.
3. The readers use background knowledge, or world knowledge, to fill in the gaps by using the key words to select a best fit answer.

Inferences can also be done by using context clues, guided reading questions, inferring activity, and KIS activity.

1. Inferring with context clues

One way students can infer a word meaning is from context clues within the text. Students have to learn how to work out meanings from these clues. There's several ways to do this.

They can simply make an educated guess using the hints given before the unknown word and the sentences that follow the word. Asking questions is one way to unravel these clues.

2. Guided reading questions

Here are a few questions teachers can ask during guided reading sessions to help students uncover the meaning of unknown words.

During the guided reading session, the teacher should have these question stems available when students find a word they don't know the meaning of. The teacher pauses the reading and chooses the appropriate question to ask.

“What do you think the word means considering (a certain action or event) has happened?”

“How do you know that the word means (insert definition)?”

“What part of the text helps you make this inference?”

“Where can you find other clues to help you understand?”

“If you substitute what you think is a similar word, would the sentence still make sense?”

3. Inference activity

With a list of sentences, students infer the meaning by choosing from a list of possible meanings. Here are a few examples:

Let's go swimming to cool off!

What season is it?

- a. Summer
- b. Winter

The moon sure looks bright.

What time is it?

- a. Morning
- b. Night

I'm starving!

What will I do?

- a. Drink something
- b. Eat something

4. KIS Activity

The KIS activity takes the following steps.

K- Key words (Underline key words or facts that will help you make an inference.)

I - Infer (Use the key words to guess what information is missing from the text.)

S - Support (Support your inference with facts from the text and your own experiences and knowledge.)

While reading students underline key words and try to guess the what information is missing from the text. Then, students find supports for the inferences using facts from the text, together with their own experience and knowledge.

In summary, making inferences is really about digging deep to find the important meaning of the message. What is important to understanding the message of a story, why is it important, how can one meaning influence what will happen next. Understanding the stated facts alone are not enough to fully experience the message. Students have to understand how the facts influence characters and what the facts will mean to the student as they construct their own lessons and understandings.

6. Class Conclusion

- 1) Teacher gives brief summary of the lesson orally.
- 2) Students do individual paper-based quiz of the lesson.

7. Student Practice

Teacher assigns homework to students to practice individually with more paragraphs.

Lesson Plan 8 (Conventional Classroom)

Lesson Name: Reading Comprehension Strategy - Summarizing

Course: Reading Comprehension

Time: 2:30 h.

Concept:

Summarizing is the ability to recount the key events or steps in a text. It enables the brain to process this newly learned information and link ideas in a sequence. Developing skills in summarizing helps save reader's time and energy. By creating an outline or a shortened version of the text, the readers can keep track of important information in a sequence without getting bogged down by details.

This lesson introduces the key elements of a summary with the Hand Summaries activity. The other activity involves making summaries using the title.

Learning Objectives:

Overall objective: The student will be able to summarize what was read to help comprehend text.

Behavioral objectives:

1. Identify characteristics and process of summarizing.
2. Create a title summary for a given passage.
3. Make a summary of paragraphs.
4. Answer questions related to finding the summary or the title of a text.

Summarizing

The summarization strategy helps students recall the main ideas and specific facts of materials they read. There are five rules for writing summaries.

1. Rules for writing summaries

- 1) Delete irrelevant or trivial information.
- 2) Delete redundant information.

- 3) Select topic sentences.
- 4) Make a list of actions.
- 5) Invent topic sentences when none are provided by the author.

2. Using Summary Frames

Summary frames are powerful tools for independent reading, thinking and writing. They give the student some structure to support their writing, and help students to see that summaries can come in a lot of forms. Obviously, a narrative summary would be different from an expository summary. But even within a genre a summary focusing on a sequence of events would be different from a summary focusing on problems and solutions. The followings are frames for summarizing different types of texts.

2.1 Sequence Summary Frame

In order to _____ you must follow several steps.

First, _____.

Then, _____.

Next, _____.

Finally, _____.

2.2 Chronological Summary Frame

_____ has a specific order.

At the beginning _____.

After that, _____.

Then, _____.

Next, _____.

The, _____ ended when _____.

2.3 Compare-Contrast Summary Frame

_____ and _____ are alike and are different in several ways.

First, they are alike because _____ but they are different _____.

Secondly, _____ is _____ while _____ is _____.

Finally, _____ and _____ are alike because _____.

But, they are different because _____.

2.4 Problem-Solution Summary Frame

The problem began when _____.

The _____ tried to _____.

After that, _____.

Then, _____.

The problem was finally resolved when _____.

2.5 Definition/Word Meaning Summary Frame

The word/concept _____ is important to (subject) _____.

It relates to (category or big idea it belongs to) _____.

One main characteristic of (word/concept) is _____.

Another key characteristic/element is _____.

An example of this word/concept is _____.

2.6 Main Idea/Details Summary Frame

The main idea of this passage is _____.

One fact or example that supports this main idea is _____.

Another fact or example that supports this main point is _____.

In addition, _____.

Finally, _____ illustrates that (main idea) _____.

2.7 Cause/Effect Summary Frame

In order to understand the (effect/result) _____ you must identify the causes.

The first cause of (effect/result) _____ is _____.

Secondly, _____ was another cause of (effect/result) _____.

A third cause of (effect/result) _____ is _____.

It is clear that (effect/result) _____ has a number of contributing causes.

2.8 Character Trait Analysis Summary Frame

A significant personality characteristic of (character name) _____ in the (book/story/passage) _____ is that he/she was (characteristic) _____.

The first incident where/way that the character demonstrates (characteristic) _____ was _____.

A second incident where/way that the character demonstrates this trait was _____, (Character) _____ also shows this trait when he/she _____.

Finally, (character) _____ shows that he/she is (characteristic) _____ when _____.

It is clear that (characteristic) _____ makes (character) _____ an (choose one -- interesting, fascinating, important, etc) character in (book/story) _____.

2.9 Conclusion/Generalization Summary Frame

A person can conclude that _____.

The first reason for/evidence that (conclusion/generalization) _____ is _____.

A second reason for/evidence that (conclusion/generalization) _____ is _____.

Yet another example that, (conclusion/generalization) _____ is _____.

There is no question then that (conclusion/generalization) _____.

3. Checklist for Evaluating a Summary

- 1) Does the summary state the **Main idea**?
- 2) Is the **main idea** stated first?
- 3) Does the summary give **only the most important information**?
- 4) Is the summary brief with **unimportant and redundant information** deleted?
- 5) Is the summary written well and clear?

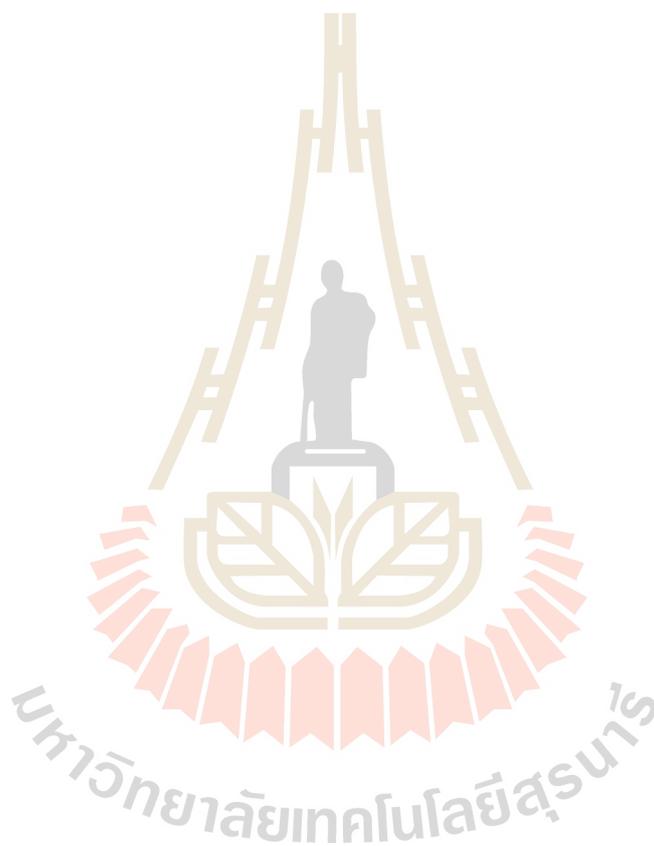
4. Class Conclusion

- 1) Teacher gives brief summary of the lesson orally.

- 2) Students do individual paper-based quiz of the lesson.

5. Student Practice

Teacher gives students homework to find an article and make a summary using one of the summary frames, depending on the type of text.



APPENDIX B

FLIPPED COOPERATIVE CLASSROOM LESSON PLANS

Lesson Plan 1 (Flipped Cooperative Classroom)

Lesson Name: Course Introduction

Course: Reading Comprehension

Time: 2:30 h.

Concept:

The first lesson introduces students to the course. This lesson provides the overview of the course content, instructional approach, and the course evaluation. As this course will employ the flipped cooperative classroom model as the main approach for instructional method, students need to be prepared for how to learn through cooperative activities both inside and outside classroom. To be specific, students need to understand how to prepare for their lessons in the pre-class online course before the face-to-face class time. Essentially, students will learn how to use the online mode of the course through the learning management system on computer and mobile devices. That is, they will be prepared for how to make the first access to the online course through Internet browsers and a mobile application. They also need to be informed about how they will be assessed throughout the course from which learning and testing activities.

Learning Objectives:

The students will be able to:

4. Identify topics to be covered in the course.
5. Explain the process of a flipped cooperative classroom approach.
6. Install a course mobile app on a personal mobile device.
7. Use the given user name and password to access the mobile course.

8. View a lesson video on the online course content page.
9. View text-based content on the online course.
10. Access and complete an online quiz in the online course.
11. Submit a text-based online assignment.
12. Use an online chat function in the Moodle Chat function.
13. Join a group for course cooperative activities and the course project.
14. Explain the process of the course's group reading project.
15. Indicate which activities are to be assessed for the course evaluation.

Procedures

1. Class Greeting and Course Details

- 1) Teacher greets students and check their class attendance from the class list.
- 2) Teacher distributes and explains the course outline which contains details about the course content, instructional activities, learning approach, and course evaluation.

2. Preparation for Online Course

Teacher explains that the online course will be used for pre-class activities and other related face-to-face activities for this course. The online course is at <https://alls.gnomio.com>. The course name is Reading Comprehension. Students can use their student ID as the user ID and use the password given by the instructor. Students can use a PC, a notebook or any internet-connected devices which enable web browsers such as preferably Google Chrome or Firefox. Alternatively, students can install an app (Moodle Mobile) on a device such as smart phone or tablet. By accessing the online course, students can interact with the course contents and activities. Teacher explain steps in preparing for the online course and how to use the features in the online course as follows.

2.1 Installing a Mobile App

Teacher instruct students how to install a course mobile app on a personal mobile device, using the instruction in Appendix E. After the installation, students can view the course contents and activities.

2.2 Understanding General Features of the Online Course

1) Teacher explains students how to use general features of the online course in the following topics. Students use their mobile devices to perform according to each step.

- How to edit personal profile
- How to use a group chat activity
- How to view lesson videos and content pages
- How to take quizzes and how to view the quiz results
- How to submit online assignment in the forms of online text and files
- How to view grades and comments for the assignments

2) Teacher informs students that they are required to make a pre-class lesson preparation by performing tasks in the online course. Each of the online lessons can be accessed one week before the face-to-face meeting of each week. The pre-class tasks must be completed no later than 6:00 p.m. of the day before the class meeting, allowing time for teacher to check for the task completion. Essentially, the following need to be done.

- Viewing lesson videos and lesson content pages
- Taking the individual lesson quiz
- Making contribution to the online group chat to discuss about how to make a written summary of the lesson.
- Submitting the text-based summary of the lesson.

3) Teacher reminds students that all the required online tasks will be marked for completion and/or performance.

4) Teacher also asks student to prepare questions regarding to the lesson contents for the classroom discussion before doing lesson activities.

2.3 Preparation for Cooperative Learning

Teachers explains that most activities require students to work in cooperative groups. Then teacher asks students to form groups of 4 (to 5) on a convenient basis. The group will last for the whole semester, and will be used for every lesson. Each member of the group needs to make contribution to learning, especially in activities which require making group discussion and making decision, including group project.

2.4 Course Assessment and Evaluation

Teacher indicates which activities to be assessed and how students will be evaluated in the course. Therefore, students need to complete the required tasks in order get marks for the course evaluation. Graded activities include the following.

- 1) Viewing lesson videos and contents
- 2) Completing individual online quiz of each lesson.
- 3) Contributing to the online group chat of each lesson in order to make a written summary of lesson content for each week.
- 4) Submitting the lesson summary in the online assignments.
- 5) Contributing to the conduction of the group reading project and making the project presentation.
- 6) Submitting lesson worksheets in the face-to-face class.
- 7) Taking individual quiz in the face-to-face class.
- 8) Taking midterm test and final exam.

3. Group Project

- 1) Teacher explains the detail of the group reading project – aim, concept, procedures, additional requirements, project product, themes, and project timeline.
- 2) Students perform the group reading project for Week 1:

- Students discuss with the group of what theme/issue to be selected for the reading project.

- Students select a theme/ issue for their group reading project.

4. Course Pretest

Teacher explains that students need to take a course pretest in order to identify their level of reading comprehension. Teacher administers the test, which contains 40 multiple-choice questions on reading passages. After all the students have finished the test, teacher reports their scores.

5. Class Summary

Teacher gives a brief review of the lesson, emphasizing on key features of the course. Teacher allows students to ask questions on issues they may not fully clear about. Teacher also checks students' understanding by asking them to explain certain points. Teachers reminds students to make a pre-class preparation for the next week meeting.

Lesson Plan 2 (Flipped Cooperative Classroom)

Lesson Name: Reading Strategy - Predicting

Course: Reading Comprehension

Time: 2:30 h.

Concept:

Students will learn to make predictions about the text through various activities: Anticipation guide, Vocabulary prediction, Sort and predict, and CATS (covers, author, title, and skim). By making prediction, student will gain a purpose and motivation to read, and hence improve comprehension.

Learning Objectives:

Overall objective: The student will be able to make predictions to aid comprehension of text.

Behavioral objectives:

- 1) Identify the meaning of prediction.
- 2) Explain the process and influences of predicting on reading comprehension.
- 3) Make predictions when reading text using anticipation guide, vocabulary, and CATS techniques.
- 4) Adjust predictions when reading text using anticipation guide, vocabulary, and CATS techniques.
- 5) Answer questions of given texts correctly.

Procedures

1. Before Reading (Pre-class Session)

1) Students watch the Predicting Strategy video and learn the contents of the predicting strategy for reading comprehension on the online course.

2) Students do the video quiz to check their understanding of the lesson on the online course. The quiz contains 6-8 multiple-choice questions. The quiz will be automatically graded, so that each student will be able to view the score after

submission. The quiz is designed for multiple tries, allowing reattempts in case students until students get their desired scores. This means that, they can make a multiple revisions of the lesson videos and content pages before taking each consecutive quiz. This is to ensure each student's understanding of the lesson.

3) Students make a written summary of the lesson as a group task. In order to ensure that the lesson summary is the result of every group member's contribution, the group need to use the Chat function of the corresponding week in the online course to discuss how to come up with the group summary. The text-based chat will be stored on the online course for teacher's review and marking.

4) The final lesson summary will need to be submitted through the Assignment function of the online course. For this function, one of the group member form of online text or a document file. Then, teacher will review the submitted summaries and give marks accordingly. Students can view their scores and teacher's comments (if any) on the following morning.

5) Students prepare questions for the in-class discussion regarding their misconceptions about the lesson topic.

2. During Reading (In-class Session)

2.1 Class Discussion

Teacher and students discuss the issues students encountered in learning with the online video, lesson texts, and in the video quizzes, as well as the brief summary of the lesson concepts prepared in the online session orally. The teacher explains to the class about the misconceptions about the lesson contents orally and makes sure the students are ready for doing the class activity.

2.2 Cooperative Reading Activities

Students work in groups of 4 to complete the following tasks.

Task 1 - Anticipation Guide

- 1) Teacher prepares a fiction, nonfiction, or poetry text for the activity.
- 2) Teacher distributes the Anticipation Sheet to the students containing four to six statements related to the main themes/ideas of the texts.

3) Student groups respond to these statements in writing, either agreeing or disagreeing with them. Their decisions should be based on what they know or think they know, and should be supported by reasons. “I believe this because....”

4) Students read the text to confirm their group predictions, and then revise their original responses to the statements where applicable.

5) Groups submit the Anticipation Sheet for class discussion. The discussion focuses on what students have learned from the text by asking questions such as those that follow:

- “What statements support your original opinions?”
- “What statements contradict your original opinions?”
- “Where have you changed your opinion?”
- “Where you haven’t changed your opinion, why do you still agree or disagree with the statements?”
- “What would help you change your mind?”

Task 2 - Vocabulary Prediction

1) From a new text, teacher chooses 10 to 20 “strong words”; that is, words that elicit images and are key to comprehending the text selection.

2) Students work in groups making predictions on what the story might be about based on the words chosen. Students write the group prediction on the Vocabulary Prediction Sheet.

3) Students work in groups to discuss the vocabulary and to make predictions. This step provides an excellent opportunity for purposeful conversation, which often leads to new understandings of word meanings.

4) Students read the story and revisit their predictions.

5) Groups submit the Vocabulary Prediction Sheet for the class evaluation and discussion.

Task 3 - CATS

1) Teacher distributes the CATS Prediction Form to all the groups.

2) Teacher shows the front and back covers of an e-book to the students.

3) In the CATS Prediction form, students, as a group, write the answer to the question “What do the front and back covers tell us about the book?”

4) Teacher shows the author name of the book and asks students to write the answer to the question “What do we know about the author and other books he or she might have written?” on the CATS Prediction form.

5) Groups examine the book title and write the answer to the question “What does the title suggest the text may be about?” on the CATS Prediction form.

6) Teacher quickly flips through pages of the e-book and let students skim the text, paying attention to any pictures, charts, drawings, diagrams, and maps. Then, the students help the group make a prediction.

7) Teacher gives the correct answers to all the question and each group get 1 mark for each correct answer.

2.3 Cooperative Issues

1) Criteria for Success: (1) Discussion of the predictions and reasons for the predictions; (2) Discussion of prediction from vocabulary; (3) Discussion of prediction from covers, author, and skimming

2) Positive Interdependence: Each group member contributes to the completion of learning tasks.

3) Individual Accountability: Any person could be asked to report on any aspect of the task.

4) Intergroup Cooperation: Ask question, dig for deep understanding, and listen attentively.

5) Expected Behaviors: Contribute to discussion.

6) Monitoring and Intervening:

- Observation Procedure: Formal

- Observation By: Teacher

- Intervening for Task Assistance: Is each group member participating in discussion with ideas, questions, and answers to complete the tasks?

- Intervening for Teamwork Assistance: Walk around listening closely to be sure that: (1) each group working to complete its tasks when they have to complete the lesson materials; and (2) each group is making sure that each member could potentially present the information/answer questions.

3. After Reading (In-class Session)

3.1 Assessing and Processing

1) Assessment of Members' Individual Learning: Observation of individuals within groups in on-task discussion and completion of assignment; Individual quizzes.

2) Assessment of Group Productivity: Observation that each group is one time, completing task, preparing to present; When the task sheet is turned in, correct or incorrect, each rewarded for completion.

3) Positive Feedback to Each Students: Verbal feedback while students are working together, praise for correct ideas.

4) Celebration: When the paper is handed back, announce the bonus groups who did the assignment sheet correctly, show class an example of a fully correct sheet, and praise class for working hard and working well together!

3.2 Class Conclusion

1) Teacher gives brief summary of the lesson orally.

2) Teacher summarizes the tasks' scores of each group.

3) Students do individual paper-based quiz of the lesson.

4) Students perform the group reading project for Week 2:

- Making a written summary of the group article.

- Identifying interesting issues from the article.

5) Teacher introduces the next lesson, asking students to view the online videos, take the quizzes, enter the lesson online chat, and submit the lesson summary.

6) Extension/Applications: Teacher asks students to review the lesson videos and redo the quizzes of the lesson and see whether their understanding and scores have improved.

Worksheet 2.1: Anticipation Sheet

Anticipation Sheet

Statements	Before Reading Prediction	After Reading Prediction
1.	() Agree () Disagree I believe this because...	() Agree () Disagree I believe this because...
2.	() Agree () Disagree I believe this because...	() Agree () Disagree I believe this because...
3.	() Agree () Disagree I believe this because...	() Agree () Disagree I believe this because...
4.	() Agree () Disagree I believe this because...	() Agree () Disagree I believe this because...
5.	() Agree () Disagree I believe this because...	() Agree () Disagree I believe this because...
6.	() Agree () Disagree I believe this because...	() Agree () Disagree I believe this because...

Worksheet 2.2: Vocabulary Prediction Sheet**Vocabulary Prediction Sheet**

Vocabulary	The prediction	The actual story
1.	I think the story will be about ...	Now, the story is about...
2.		
3.		
...		
20.		

Worksheet 2.3: CATS Prediction Form**CATS Prediction Form**

Questions	Your answers/Predictions
C – What do the front and back covers tell us about the book?	
A – What do we know about the author and other books he or she may have written?	
T – What does the title suggest the text may be about?	
S – Skim the text. Notice any pictures, charts, drawings, diagrams, and maps. What would the text be about?	

Lesson Plan 3 (Flipped Cooperative Classroom)

Lesson Name: Reading Comprehension Strategy - Generating Questions

Course: Reading Comprehension

Time: 2:30 h.

Concept:

Students ask questions about the text and the author's intentions and seek information to clarify and extend their thinking before, during and after reading. By generating and answering questions, students can make improvement on reading comprehension.

There are several types of questions students can ask which can assist them in comprehending texts. In this unit, the questions are based on three types of texts: 1) Narrative; 2) Expository; and 3) Functional. Questions for each type of texts are either simple, focusing low thinking levels of knowing and understanding the Bloom's taxonomy, where the answers can be found in the text, or thoughtful, which aim for high thinking levels of applying, analyzing, evaluating, and creating. The lesson provides sample question stems for all the thinking levels in all text types in order for the students to use for learn and practice the strategy of generating questions to improve their reading comprehension.

Learning Objectives:

Overall objective: The student will be able to generate questions to aid comprehension of text.

Behavioral objectives:

- 1) Identify influences of different types of questions on reading.
- 2) Generate and answer questions for narrative, expository, and functional texts.
- 3) Answer questions about a given narrative, expository, or functional text.

Procedures

1. Before Reading (Pre-class Session)

1) Students watch the Generating Question Strategy video and learn the contents of the predicting strategy for reading comprehension on the online course.

2) Students do the video quiz to check their understanding of the lesson on the online course. The quiz contains 6-8 multiple-choice questions. The quiz will be automatically graded, so that each student will be able to view the score after submission. The quiz is designed for multiple tries, allowing reattempts in case students until students get their desired scores. This means that, they can make a multiple revisions of the lesson videos and content pages before taking each consecutive quiz. This is to ensure each student's understanding of the lesson.

3) Students make a written summary of the lesson as a group task. In order to ensure that the lesson summary is the result of every group member's contribution, the group need to use the Chat function of the corresponding week in the online course to discuss how to come up with the group summary. The text-based chat will be stored on the online course for teacher's review and marking.

4) The final lesson summary will need to be submitted through the Assignment function of the online course. For this function, one of the group member form of online text or a document file. Then, teacher will review the submitted summaries and give marks accordingly. Students can view their scores and teacher's comments (if any) on the following morning.

5) Students prepare questions for the in-class discussion regarding their misconceptions about the lesson topic.

2. During Reading (In-class Session)

2.1 Class Discussion

Teacher and students discuss the issues students encountered in learning with the online video, lesson texts, and in the video quizzes, as well as the brief summary of the lesson concepts prepared in the online session orally. The teacher explains the class about the misconceptions about the lesson contents orally and makes sure the students are ready for doing the class activity.

2.2 Cooperative Reading Activities

Students work in groups of 4 to complete the following tasks.

- 1) Teacher explains that in this lesson students will generate questions to help them understand a reading text.
- 2) Each group receives a copy of different text type with a Questioning Sheet.
- 3) Groups identify the text type, which can be either narrative, expository, or functional, and produce two simple questions and two thoughtful questions in the in the Questioning Sheet.
- 4) Groups give the complete Questioning Sheet to the other group with different text type together with the accompanied text.
- 5) Groups read the given text and tries to answer the four questions.
- 6) The answered questions are submitted for marking.

2.3 Cooperative Issues

- 1) Criteria for Success: (1) Discussion of how to generate questions for narrative, expository, and functional texts; (2) Discussion of how to identify answers for narrative, expository, and functional texts.
- 2) Positive Interdependence: Each group member contributes to the completion of learning tasks.
- 3) Individual Accountability: Any person could be asked to report on any aspect of the task.
- 4) Intergroup Cooperation: Ask question, dig for deep understanding, and listen attentively.
- 5) Expected Behaviors: Contribute to discussion.
- 6) Monitoring and Intervening:
 - Observation Procedure: Formal
 - Observation By: Teacher
 - Intervening for Task Assistance: Is each group member participating in discussion with ideas, questions, and answers to complete the tasks?

- Intervening for Teamwork Assistance: Walk around listening closely to be sure that: (1) each group working to complete its tasks when they have to complete the lesson materials; and (2) each group is making sure that each member could potentially present the information/answer questions.

3. After Reading (In-class Session)

3.1 Assessing and Processing

1) Assessment of Members' Individual Learning: Observation of individuals within groups in on-task discussion and completion of assignment; Individual quizzes.

2) Assessment of Group Productivity: Observation that each group is one time, completing task, preparing to present; When the task sheet is turned in, correct or incorrect, each rewarded for completion.

3) Positive Feedback to Each Students: Verbal feedback while students are working together, praise for correct ideas.

4) Celebration: When the paper is handed back, announce the bonus groups who did the assignment sheet correctly, show class an example of a fully correct sheet, and praise class for working hard and working well together!

3.2 Class Conclusion

1) Teacher gives brief summary of the lesson orally.

2) Teacher summarizes the tasks' scores of each group.

3) Students do individual paper-based quiz of the lesson.

4) Students perform the group reading project for Week 3:

- Generating questions for survey questionnaire based on the identified issues.

- Creating a questionnaire

- Selecting the target group of survey respondents.

5) Teacher introduces the next lesson, asking students to view the online videos, take the quizzes, enter the lesson online chat, and submit the lesson summary.

6) Extension/Applications: Teacher asks students to review the lesson videos and redo the quizzes of the lesson and see whether their understanding and scores have improved.

Worksheet 3.1: Narrative Text Questions

Narrative Text Questions

1	Knowing	
	<ul style="list-style-type: none"> • Who is the main character? • Where/When does the story take place? • How many _____? 	
2	Understanding	
	<ul style="list-style-type: none"> • Which of these events happened first/second/last? • Which of these could not have been the reason ___? • Read passage. Which part of the story does this tell about? 	<ul style="list-style-type: none"> • In the beginning of the passage, why was the character/setting ___? • Why did the character ___? • Read the two sentences. Choose the word that correctly completes both sentences.
3	Applying & Analyzing	
	<ul style="list-style-type: none"> • Why did the author or character ___? • Which of these sentences states an opinion/fact? Why? • What will ___ do next? • What does the author mean by the phrase or word ___? • The author writes about ___ as if it were (simile/analogy). 	<ul style="list-style-type: none"> • Which of these would be the best title/main reason for the story? • The story is mostly about ___? • How do you think ___ felt when ___? • Choose the word that means the same or about the same as ___. • Which of these details from the story shows that it probably took place ___?
4	Evaluating & Creating	
	<ul style="list-style-type: none"> • What kind of genre is this? • Which of these events will most likely happen after the end of the passage? • Which of the following sentences will best conclude the story? • How does the character/story remind you of another? (Compare & Contrast) 	<ul style="list-style-type: none"> • What did ___ mean when she ___? • From the passage you can conclude: <ul style="list-style-type: none"> - that you learned ___. - the main idea was ___. - in the future ___ will ___. - the author's purpose was ___. - the character probably felt/knew ___ because ___.

Worksheet 3.2: Expository Text Questions

Expository Text Questions

1	Knowing	
	<ul style="list-style-type: none"> • What happened after ___? • What did the ___ do? • How does the ___ work? • What is one fact you learned? 	<ul style="list-style-type: none"> • Who ___? • What ___? • Where/When do the events in the passage take place?
2	Understanding	
	<ul style="list-style-type: none"> • What did _____ do first/next/last? • Give one reason why ____. • Evidence for reason needs to be stated in the text. 	<ul style="list-style-type: none"> • According to the passage: <ul style="list-style-type: none"> - which ___? - what ___? - why ___?
3	Applying & Analyzing	
	<ul style="list-style-type: none"> • Which of these is the most important when ___? • Infer and read between the lines: • Why do ___? • Another way to ___ would be ___? • This text was written mainly to ___? • Give a reason why ____. 	<ul style="list-style-type: none"> • Which of these would be the best title of the passage? • Make a prediction: • Could _____ happen? • What will happen next? • What do you think will happen if _____?
4	Evaluate & Creating	
	<ul style="list-style-type: none"> • How would you _____? • Is this passage fact or opinion? • Evaluate how important _____ is. • How does this information fit in with what you already know about this topic? 	<ul style="list-style-type: none"> • There is enough information in this selection to show that _____. • Compare this article with another you have read. How are they similar/different?

Worksheet 3.3: Functional Text Questions

Functional Text Questions

	Knowing	
1	<ul style="list-style-type: none"> • What time does the ___? How long do you ___? • Where does the ___? Who does the ___? 	
	Comprehend	
2	<ul style="list-style-type: none"> • What is the first thing you need to do? • What do you do before/after ___? • When do you ___? • Which of these is found in the ___ section of the map? • Which direction is the ___ from ___? • What will ___? 	
	Applying & Analyzing	
3	<ul style="list-style-type: none"> • The word ___ means the same as ___? • According to the rules/directions/passages ___ is? • Which of these statements express an opinion/fact? • Which page will probably have info. about ___? • Look at the blank in the chart. • Which of these best fit there? • According to the schedule/poster, who will/how will/which of these ___? • Study the dictionary entry. Which definition of the word is used in the following? • The word ___ is shown in the dictionary as which part of speech? 	
	Evaluating & Creating	
4	<ul style="list-style-type: none"> • What would happen if you ___? • Why did ___ go to the ___? • Why were the directions listed in a certain order? • This announcement probably appeared in ___? • If you want to make/go ___, how much ___? • What would you need to ___? • What can you learn from the graph about ___? • Which route would take you more directly to ___? 	

Worksheet 3.4: Questioning Sheet

Questioning Sheet	
Text Type: Narrative / Expository / Functional	
<p>1. _____ _____ _____ _____</p> <p>a. _____ b. _____ c. _____ d. _____</p>	<p>2. _____ _____ _____ _____</p> <p>a. _____ b. _____ c. _____ d. _____</p>
<i>Simple Questions</i>	
<p>3. _____ _____ _____ _____</p> <p>a. _____ b. _____ c. _____ d. _____</p>	<p>4. _____ _____ _____ _____</p> <p>a. _____ b. _____ c. _____ d. _____</p>
<i>Thoughtful Questions</i>	

Lesson Plan 4 (Flipped Cooperative Classroom)

Lesson Name: Reading Comprehension Strategy - Identifying Main Idea

Course: Reading Comprehension

Time: 2:30 h.

Concept:

Identifying the main idea will help students to recall important information. Knowing where the main idea and significant details are located helps the reader understand the points the writer is attempting to express. Identifying the relationship between the main idea and significant details will improve comprehension.

In order to identify the main idea, students need to understand the definition of main idea before applying this definition to identify the main idea in sentences and short texts. The ability to identify the main idea in a text, whether it is stated directly or inferred, is crucial for students to gain meaning when they read.

This lesson consists of four main activities: Main Idea vs. Detail, Supporting the Main Idea, Important Detail, and Using Equation to Find the Main Idea.

Learning Objectives:

Overall objective: The student will be able to identify main idea and supporting details to aid comprehension of text.

Behavioral objectives:

- 1) Identify relevant and irrelevant details in a paragraph.
- 2) Distinguish between main idea and details.
- 3) Use a graphic organizer to show how detail sentences support the main idea of a paragraph.
- 4) Identifying main idea of a passage.

Procedures

1. Before Reading (Pre-class Session)

1) Students watch the Identifying Main Idea Strategy video and learn the contents of the predicting strategy for reading comprehension on the online course.

2) Students do the video quiz to check their understanding of the lesson on the online course. The quiz contains 6-8 multiple-choice questions. The quiz will be automatically graded, so that each student will be able to view the score after submission. The quiz is designed for multiple tries, allowing reattempts in case students until students get their desired scores. This means that, they can make a multiple revisions of the lesson videos and content pages before taking each consecutive quiz. This is to ensure each student's understanding of the lesson.

3) Students make a written summary of the lesson as a group task. In order to ensure that the lesson summary is the result of every group member's contribution, the group need to use the Chat function of the corresponding week in the online course to discuss how to come up with the group summary. The text-based chat will be stored on the online course for teacher's review and marking.

4) The final lesson summary will need to be submitted through the Assignment function of the online course. For this function, one of the group member form of online text or a document file. Then, teacher will review the submitted summaries and give marks accordingly. Students can view their scores and teacher's comments (if any) on the following morning.

5) Students prepare questions for the in-class discussion regarding their misconceptions about the lesson topic.

2. During Reading (In-class Session)

2.1 Class Discussion

Teacher and students discuss the issues students encountered in learning with the online video, lesson texts, and in the video quizzes, as well as the brief summary of the lesson concepts prepared in the online session orally. The teacher explains the class about the misconceptions about the lesson contents orally and makes sure the students are ready for doing the class activity.

2.2 Cooperative Reading Activities

Students work in groups of 4 to complete the following tasks.

Task 1 - Main Idea vs. Details

1) Teacher explains that in order to identify the main idea of a passage, students need to distinguish between main idea and details.

2) Teacher supplies each group with the Main Idea vs. Detail worksheet.

3) Teacher asks students to identify main idea sentences, details sentences, and a topic sentence that states the main idea in the worksheet.

Task 2 - Support Main Idea

1) Teacher explains that details in a paragraph are like the legs that support a tabletop or desktop.

2) Teacher distributes the Christopher Columbus sheet and the Main Idea on the Table graphic organizer.

3) Teacher demonstrates how to use the Main Idea on the Table graphic organizer using text in Paragraph 1 of Christopher Columbus.

4) Students work in groups to differentiate which sentence from the first paragraph belongs at the top of the Main Idea on the Table graphic organizer. Then identify which sentences are the details.

5) Students work in groups to read Paragraph 2 of Christopher Columbus and fill in the table organizer to complete the group task.

Task 3 - Important Details

1) Teacher shows the Irrelevant Details sheet and read Example 1.

2) Teacher explains that there are a number of relevant and irrelevant details to the students and point out that although the sentences are about the topic, some of them don't support the main idea. Teacher then identifies those irrelevant sentences and the reason for why they are not related to the main idea or the big picture.

3) Students work in group to read Example 2 and 3 in the sheet and fill in the Paragraph Rip & Tear sheet, to complete the group task.

Task 4 - Using an Equation to Find the Main Idea

1) Teacher explains that a passage is made up of several paragraphs about the same topic. The main idea of a passage is mentioned in the first paragraph and repeated in the last paragraph. The title will support the main idea, too.

2) Teacher displays the Bigger Picture sheet and explains that the main ideas of the paragraphs in a passage are like the details that make up the main idea of the entire passage.

3) Student groups are distributed with the Urban Jungle passage. They read the passage and identify the big picture (main idea) in each paragraph as well as fill in the Bigger Picture sheet as a group.

4) Teacher hands out the Main Idea Equation sheet to the student groups. Teacher asks the groups to tell which sentence is the main idea of each paragraph and writes a topic sentence on each line of the equation.

5) When all the topic sentences are written down, teacher asks student groups to tell you what the main idea of the passage is. Write it underneath the equal sign.

2.3 Cooperative Issues

1) Criteria for Success:

- Discussion of the differences between main idea and details;
- Discussion of irrelevant details;
- Discussion of main ideas of a passage.

2) Positive Interdependence: Each group member contributes to the completion of learning tasks.

3) Individual Accountability: Any person could be asked to report on any aspect of the task.

4) Intergroup Cooperation: Ask question, dig for deep understanding, and listen attentively.

5) Expected Behaviors: Contribute to discussion.

6) Monitoring and Intervening:

- Observation Procedure: Formal
- Observation By: Teacher
- Intervening for Task Assistance: Is each group member participating in discussion with ideas, questions, and answers to complete the tasks?

- Intervening for Teamwork Assistance: Walk around listening closely to be sure that: (1) each group working to complete its tasks when they have to complete the lesson materials; and (2) each group is making sure that each member could potentially present the information/answer questions.

3. After Reading (In-class Session)

3.1 Assessing and Processing

1) Assessment of Members' Individual Learning: Observation of individuals within groups in on-task discussion and completion of assignment; Individual quizzes.

2) Assessment of Group Productivity: Observation that each group is one time, completing task, preparing to present; When the task sheet is turned in, correct or incorrect, each rewarded for completion.

3) Positive Feedback to Each Students: Verbal feedback while students are working together, praise for correct ideas.

4) Celebration: When the paper is handed back, announce the bonus groups who did the assignment sheet correctly, show class an example of a fully correct sheet, and praise class for working hard and working well together!

3.2 Class Conclusion

1) Teacher gives brief summary of the lesson orally.

2) Teacher summarizes the tasks' scores of each group.

3) Students do individual paper-based quiz of the lesson.

4) Students are assigned to perform the group reading project for Week 5 (outside class time):

- Conducting a survey

- Recording video clips on selected respondents

5) Teacher introduces the next lesson, asking students to view the online videos, take the quizzes, enter the lesson online chat, and submit the lesson summary.

6) Extension/Applications: Teacher asks students to review the lesson videos and redo the quizzes of the lesson and see whether their understanding and scores have improved.

Worksheet 4.1: Main Idea vs. Details

Group: _____ Date: _____

Main Idea vs. DetailsIn each set, write an *M* for the main idea and a *D* for detail sentences.**1.**

- ___ Native American tribes lived in a variety of different dwellings.
- ___ The Plains Indians used tepees that were easy to put up and take down.
- ___ The Iroquois built longhouses, which were large rectangular homes.
- ___ The Navaho constructed an earth-covered log dwelling called a hogan.

2.

- ___ If a volcano has not erupted within historic times, it is inactive.
- ___ Volcanoes can be classified by the amount of activity they produce.
- ___ An extinct volcano will probably not erupt in the future.
- ___ Dormant volcanoes have been known to erupt in historic times and will probably erupt again in the future.



Read the detail sentences below. Can you think of a topic sentence that states the main idea?

- 3.** I was elected librarian for the class library. I write a book review column for our school paper. At home, I like to find a quiet space to read in my spare time. I'm usually finishing up a book that I'm going to discuss with my book club.

Topic sentence: _____

Worksheet 4.2: Main Idea and Graphic organizer

a. Christopher Columbus and the Main Idea sheet

Christopher Columbus and the Main Idea

Graph the sentences in each paragraph on the table graphic organizer. Write the main idea (topic sentence) on the tabletop and the details on the table legs. You can add more legs to the table. Remember—the more details there are, the sturdier the paragraph is!

Paragraph 1

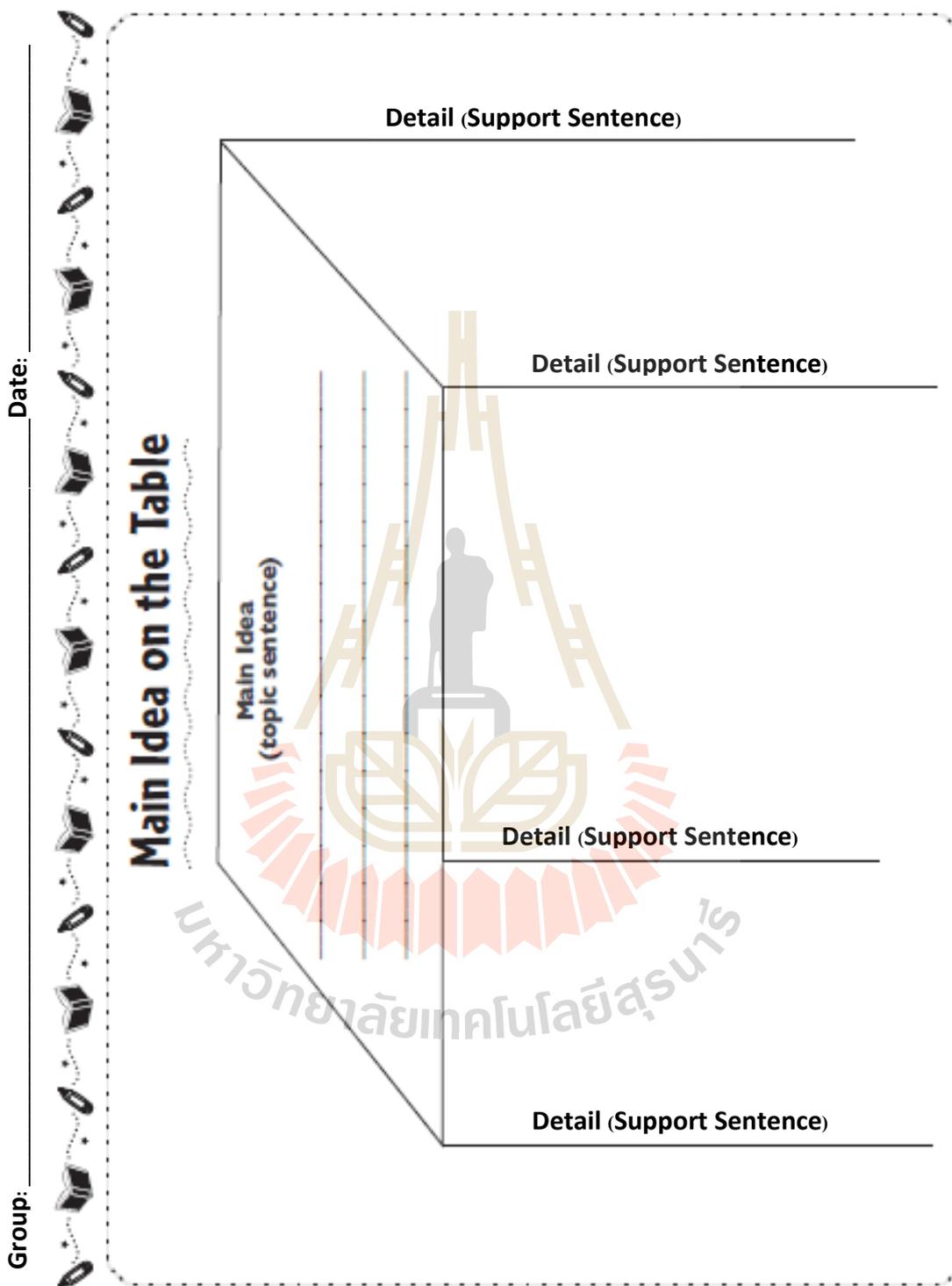
At 15, Christopher Columbus left home to work on trading ships sailing back and forth on the Mediterranean Sea. During these voyages, he improved his sailing skills. Columbus learned how to navigate by studying the height of the North Star at night and the position of the sun at noon. He learned how to use a compass. By watching birds, fish, driftwood, seaweed, and the color of the water, Columbus could also tell where he was. The sea had much to teach him.



Paragraph 2

While the Spaniards thought the inhabitants of San Salvador were strange, it is hard to imagine how weird Columbus and his men appeared to the native people. They had never seen white men before and thought perhaps they were gods or birds from the sky. The natives touched the Spaniards' beards and hands and seemed amazed that they covered their bodies. They felt Columbus's clothing and ran their hands along the edges of his sword. Columbus even gave them little bells and necklaces of glass beads in order to share their unique treasures from Spain.

b. Main Idea on the Table graphic organizer



Worksheet 4.3: Irrelevant Detail sheet**a. Irrelevant Details**

Irrelevant Details

Read the paragraphs below and identify the main idea, supporting details, and irrelevant details.

Example 1

Dr. Martin Luther King, Jr., became a well-known civil rights leader because of his role in the 1955 boycott of city buses in Montgomery, Alabama. Other civil rights leaders worked on boycotts in southern cities, too. Until this time, city buses were segregated, meaning that African Americans had to sit at the back of the bus and often had to give up their seats for white people. One day, Rosa Parks refused to sit in the back of the bus, and then she refused to give up her seat for a white person. The bus was not very large. When Mrs. Parks was arrested, Dr. King led a boycott of the Montgomery buses. People who supported Dr. King and the boycott decided not to take the buses until African Americans could sit where they pleased.

Example 2

The 1950s in America were an age of prosperity, or economic well-being. The country grew stronger and its population increased. Two new states, Alaska and Hawaii, became a part of the United States. Countless new machines speeded up household chores. These machines were greatly needed. Watching television became a popular leisure, or free-time, activity. In fact, there was too much free time during this period.

Example 3

New scientific developments helped increase farm production in the 1800s. Better seeds and livestock were developed. Crop rotation and fertilizers were used to improve the soil. So much food was produced that there was a surplus. Fortunately, George Washington Carver discovered the following new uses for soybeans, peanuts, and sweet potatoes: face cream, cooking oil, tooth polish, and paint. Carver was born into slavery.

Worksheet 4.4: Main Idea Equation
a. The Big Picture sheet

The Bigger Picture

Fill in the main ideas for each paragraph in the passage and give the supporting details. Synthesize the paragraph main idea statements to find the main idea of the whole passage.

Bigger Picture of Passage:	
<p>Big Pictures:</p> <p>Details:</p>	<p>Big Pictures:</p> <p>Details:</p>
<p>Big Pictures:</p> <p>Details:</p>	<p>Big Pictures:</p> <p>Details:</p>

b. Main Idea Equation sheet

Main Idea Equation

“Add up” the topic sentences from each paragraph in the passage to find a main idea that combines all of the paragraph main idea statements.

+ x ÷ - + x ÷ - + x ÷ - + x ÷ - + x ÷ - + x ÷ - + x ÷ - + x ÷ - + x ÷ - + x ÷ -

(topic sentence of paragraph 1)

+

(topic sentence of paragraph 2)

+

(topic sentence of paragraph 3)

+

(topic sentence of paragraph 4)

+

(topic sentence of paragraph 5)

Main Idea of Passage

c. Urban Jungle reading passage



Urban Jungle

Zoos today focus on education and conservation, or saving endangered species and natural habitats. In the past few years, several of the nation's leading zoos have spent millions of dollars building new exhibits. These displays show animals living in spaces that resemble their native homes.

The panda exhibit at Zoo Atlanta raises money to save a natural habitat—bamboo forests in China. Zoo Atlanta built a \$7 million habitat for Yang Yang and Lun Lun, two pandas moving there from China. This is an important exhibit because giant pandas are among the world's rarest mammals, or warm-blooded animals with backbones. Fewer than 1,000 pandas exist in China's mountains because of their diminishing food supply. Farmers have to cut down bamboo forests to clear land, eliminating the panda's major food source. A single panda must eat more than 20 pounds of the plant each day to survive. The zoo will make sure that the pandas have the food and environment they need in order to survive.

Zoos across the country help other endangered animals, including elephants, monkeys, turtles, and cranes by replicating their habitats and helping wounded animals heal. Zoo studies also help scientists learn how to breed endangered species and help them give birth to new generations. Their studies paid off at the San Diego Zoo last month where a rare, new arrival boosted the U.S. panda population from three to four. The baby panda was the first born in the U.S. in ten years.

"Zoos are now spending more time trying to understand animals," says Ed Spevak, a Bronx Zoo curator, or person in charge of the exhibit. "Zoo animals live longer in zoos because they get better care, nutrition, and doctors." And today's zoo animals serve an important function: They help preserve the lives and homes of animals living in the wild.



Lesson Plan 5 (Flipped Cooperative Classroom)

Lesson Name: Reading Comprehension Strategy- Identifying Text Structure

Course: Reading Comprehension

Time: 2:30 h.

Concept:

Text structure supports reading comprehension. Authors organize their texts in different ways, and students learn how to recognize these organizational patterns. The goal of text structure instruction is to develop skill in recognizing signals that go together as a set. These signal words designate patterns of thinking such as sequence, contrast, or cause-effect. Familiarity with such patterns makes it much easier for the reader to follow the line of thinking in text as they read. This places the reader at a comprehension advantage for understanding the overall message of the.

Learning Objectives:

Overall objective: The student will be able to identify text structures to aid comprehension of text.

Behavioral objectives:

- 1) Recognize characteristics of each text structure (Description, Chronology/Sequence, Comparison and Contrast, and Cause and Effect).
- 2) Identify structure of a text (Description, Chronology/Sequence, Comparison and Contrast, and Cause and Effect).
- 3) Answer questions from texts of various structures.

Procedures

1. Before Reading (Pre-class Session)

- 1) Students watch the Identifying Text Structure Strategy video and learn the contents of the predicting strategy for reading comprehension on the online course.

2) Students do the video quiz to check their understanding of the lesson on the online course. The quiz contains 6-8 multiple-choice questions. The quiz will be automatically graded, so that each student will be able to view the score after submission. The quiz is designed for multiple tries, allowing reattempts in case students until students get their desired scores. This means that, they can make a multiple revisions of the lesson videos and content pages before taking each consecutive quiz. This is to ensure each student's understanding of the lesson.

3) Students make a written summary of the lesson as a group task. In order to ensure that the lesson summary is the result of every group member's contribution, the group need to use the Chat function of the corresponding week in the online course to discuss how to come up with the group summary. The text-based chat will be stored on the online course for teacher's review and marking.

4) The final lesson summary will need to be submitted through the Assignment function of the online course. For this function, one of the group member form of online text or a document file. Then, teacher will review the submitted summaries and give marks accordingly. Students can view their scores and teacher's comments (if any) on the following morning.

5) Students prepare questions for the in-class discussion regarding their misconceptions about the lesson topic.

2. During Reading (In-class Session)

2.1 Class Discussion

Teacher and students discuss the issues students encountered in learning with the online video, lesson texts, and in the video quizzes, as well as the brief summary of the lesson concepts prepared in the online session orally. The teacher explains the class about the misconceptions about the lesson contents orally and makes sure the students are ready for doing the class activity.

2.2 Cooperative Reading Activities

Students work in groups of 4 to complete the following tasks.

1) Teacher models how to organize the identified significant/relevant text information, a cause and effect text type in this case, using a graphic organizer using Worksheet 4.1 as an example.

2) Teacher distributes student groups with the Time to Practice worksheet and the Graphic Organizer. Then groups discuss and decide on what type of graphic organization to work on.

3) Groups select comprehension questions you would ask students to use with this passage. Then they work together to answer the questions.

4) Group members discuss to give explanations on how knowing the text structure helped you locate, organize, understand and recall the content.

5) Each group presents their work to the class, and the class gives feedbacks on their answers.

2.3 Cooperative Issues

1) Criteria for Success: (1) Discussion of how to identify text type and the corresponding text organizer; (2) Discussion of how to comprehend question for the text; (3) Discussion of how applying knowledge of text structure help comprehending text.

2) Positive Interdependence: Each group member contributes to the completion of learning tasks.

3) Individual Accountability: Any person could be asked to report on any aspect of the task.

4) Intergroup Cooperation: Ask question, dig for deep understanding, and listen attentively.

5) Expected Behaviors: Contribute to discussion.

6) Monitoring and Intervening:

- Observation Procedure: Formal
- Observation By: Teacher

- Intervening for Task Assistance: Is each group member participating in discussion with ideas, questions, and answers to complete the tasks?

- Intervening for Teamwork Assistance: Walk around listening closely to be sure that: (1) each group working to complete its tasks when they have to complete the lesson materials; and (2) each group is making sure that each member could potentially present the information/answer questions.

3. After Reading (In-class Session)

3.1 Assessing and Processing

1) Assessment of Members' Individual Learning: Observation of individuals within groups in on-task discussion and completion of assignment; Individual quizzes.

2) Assessment of Group Productivity: Observation that each group is one time, completing task, preparing to present; When the task sheet is turned in, correct or incorrect, each rewarded for completion.

3) Positive Feedback to Each Students: Verbal feedback while students are working together, praise for correct ideas.

4) Celebration: When the paper is handed back, announce the bonus groups who did the assignment sheet correctly, show class an example of a fully correct sheet, and praise class for working hard and working well together!

3.2 Class Conclusion

1) Teacher gives brief summary of the lesson orally.

2) Teacher summarizes the tasks' scores of each group.

3) Students do individual paper-based quiz of the lesson.

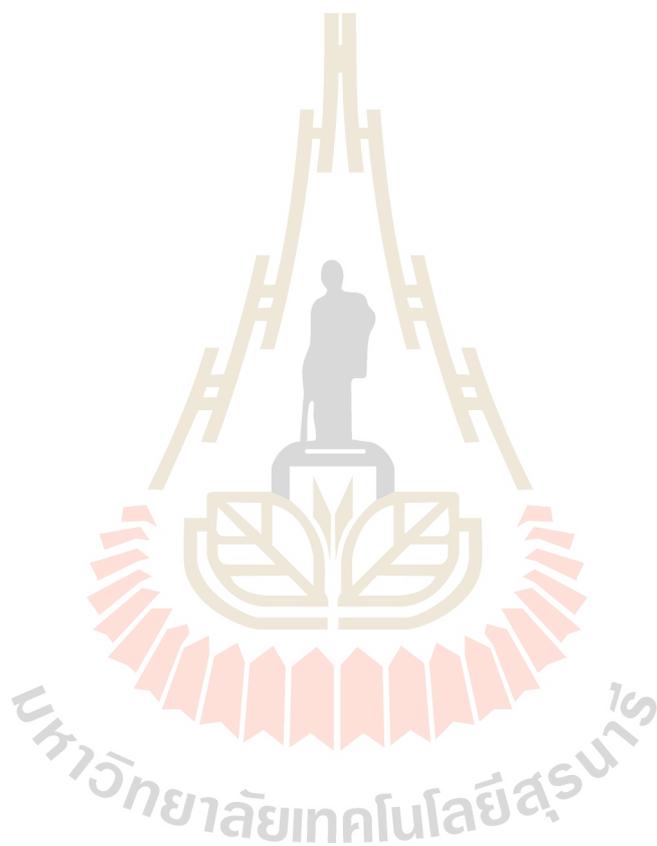
4) Students perform the group reading project for Week 5:

- Analyzing quantitative data

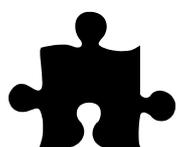
- Analyzing qualitative data

5) Teacher introduces the next lesson, asking students to view the online videos, take the quizzes, enter the lesson online chat, and submit the lesson summary.

6) Extension/Applications: Teacher asks students to review the lesson videos and redo the quizzes of the lesson and see whether their understanding and scores have improved.



Worksheet 5.1: Description



Description

Purpose: to explain a topic, concept, person, place, event or object, by providing characteristics, features and/or giving examples.

Signal Words and Phrases

descriptive words (e.g., color, shape, size)

position words (e.g., above, along, beside, between, in front of, near)

appears to be

for example

made up of

characteristics

for instance

most important

consists of

in fact

specifically

features

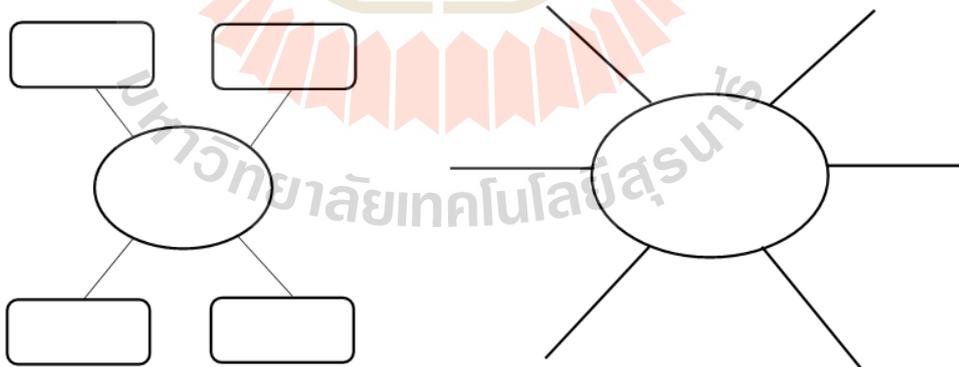
looks like

such as

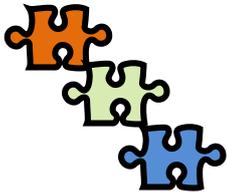
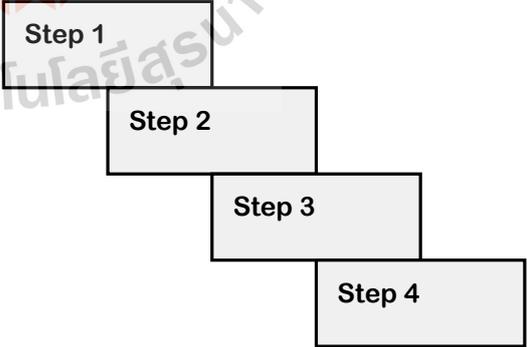
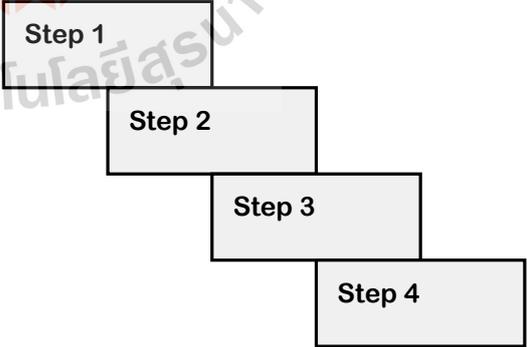
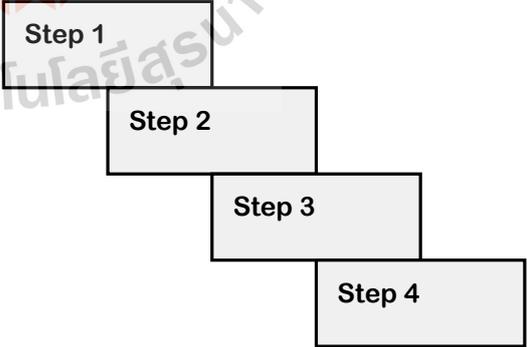
Comprehension Question Frames

1. What is the subject being described?
2. How is the topic being described (i.e., where it is, what it does, how it works, what it looks like, its classification)?
3. What are the most important attributes or characteristics?

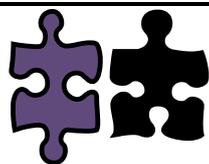
Graphic Organizers



Worksheet 5.2: Chronology/Sequence

	<h3>Chronology/Sequence</h3>																								
<p>Purpose: to provide information in time order or the order in which events, actions, or steps in a process occur.</p>																									
<h4>Signal Words and Phrases</h4> <table border="0"> <tr> <td>after</td> <td>finally</td> <td>later</td> <td>soon</td> </tr> <tr> <td>as soon as</td> <td>first/second/third</td> <td>meanwhile</td> <td>step</td> </tr> <tr> <td>at the same time</td> <td>following</td> <td>next</td> <td>then</td> </tr> <tr> <td>before</td> <td>immediately</td> <td>now</td> <td>today</td> </tr> <tr> <td>directions</td> <td>initially</td> <td>prior to</td> <td>until</td> </tr> <tr> <td>during</td> <td>last</td> <td>simultaneously</td> <td>when</td> </tr> </table>		after	finally	later	soon	as soon as	first/second/third	meanwhile	step	at the same time	following	next	then	before	immediately	now	today	directions	initially	prior to	until	during	last	simultaneously	when
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as soon as	first/second/third	meanwhile	step																						
at the same time	following	next	then																						
before	immediately	now	today																						
directions	initially	prior to	until																						
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<h4>Comprehension Question Frames</h4> <ol style="list-style-type: none"> 4. What sequence of events is being described? 5. What are the major events or incidents that occur? 6. What happens first, next, last? 7. How is the sequence or cycle revealed in the text? 8. What are the steps, directions, procedures to follow to make or do something? 																									
<h4>Graphic Organizers</h4> <table border="0"> <tr> <td style="vertical-align: top;"> <ol style="list-style-type: none"> 1. _____ 2. _____ 3. _____ 4. _____ </td> <td style="vertical-align: top; text-align: right;">  </td> </tr> </table>		<ol style="list-style-type: none"> 1. _____ 2. _____ 3. _____ 4. _____ 																							
<ol style="list-style-type: none"> 1. _____ 2. _____ 3. _____ 4. _____ 																									

Worksheet 5.3: Compare and Contrast



Compare and Contrast

Purpose: to describe what is similar and/or different about two or more subjects.

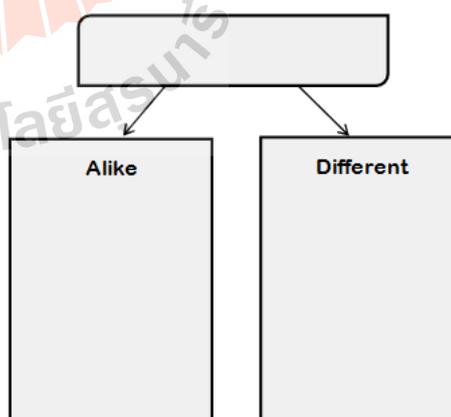
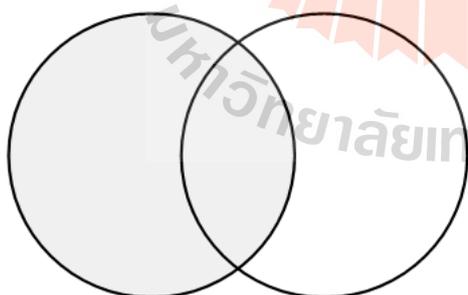
Signal Words and Phrases

alike	but	in comparison	same as
also	compared to	in contrast	similar to
although	despite	instead of	similarity
as	different from	just	too
as opposed to	either-or	on the contrary	unlike
as well as	however	on the other hand	yet
both	in common	opposite	

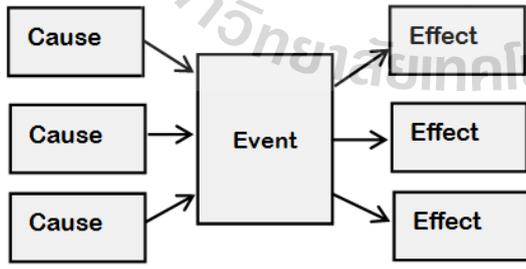
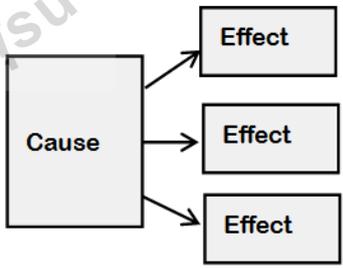
Comprehension Question Frames

9. What subjects are being compared?
10. What is it about them that is being compared?
11. What characteristics of the subjects form the basis of the comparison?
12. What characteristics do they have in common? How are they alike?
13. In what ways are they different?

Graphic Organizers



Worksheet 5.4: Cause and Effect

	<h2 style="text-align: center;">Cause and Effect</h2>																					
<p>Purpose: to explain why or how something happened/happens</p> <p>Effect = what happened Cause = why it happened</p>																						
<h3 style="text-align: center;">Signal Words and Phrases</h3> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">as a result</td> <td style="width: 33%;">if . . . then</td> <td style="width: 33%;">outcome</td> </tr> <tr> <td>because</td> <td>impact</td> <td>reasons for</td> </tr> <tr> <td>consequently</td> <td>in order to</td> <td>since</td> </tr> <tr> <td>due to</td> <td>influenced by</td> <td>so that</td> </tr> <tr> <td>effects of</td> <td>is caused by</td> <td>therefore</td> </tr> <tr> <td>for this reason</td> <td>leads to</td> <td>thus</td> </tr> <tr> <td>how</td> <td>on account of</td> <td>when...then</td> </tr> </table>		as a result	if . . . then	outcome	because	impact	reasons for	consequently	in order to	since	due to	influenced by	so that	effects of	is caused by	therefore	for this reason	leads to	thus	how	on account of	when...then
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how	on account of	when...then																				
<h3 style="text-align: center;">Comprehension Question Frames</h3> <ol style="list-style-type: none"> 14. What were the specific events that happened? 15. Why did the events happen? What were the causes? 16. What were the results or outcomes of these events happening? What was the effect? 17. Did prior events cause or influence the main event? If so, in what ways? 18. What is the significance of the event and/or the results (outcomes)? 																						
<h3 style="text-align: center;">Graphic Organizers</h3> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> </div>																						

Worksheet 5.5: Time to Practice**Time to Practice****Directions**

- 1.1 Select one of the passages below.
- 1.2 Practice modeling a Think Aloud about how you figured out what text structure it follows, including identifying signal words.
- 1.3 Select and complete an appropriate graphic organizer for your passage.
- 1.4 Select comprehension questions you would ask students to use with this passage.
- 1.5 Explain how knowing the text structure helped you locate, organize, understand and recall the content.

Practice Passage #1: The Cousins*

Sally and Maria are both cousins. Sally is tall and has brown eyes. Maria also has brown eyes. On the other hand, Maria is short. The girls live in beautiful states. Sally lives in Maine where it is cold. However, Maria lives in Florida where it is hot.

It snows a lot in Maine. In contrast, it is usually sunny and warm in Florida. Both girls like to play outside. They like to have a friend with them. Sally plays in the snow. She builds snowmen.

However, Maria plays in the sand at the beach. She builds sand castles. Florida and Maine are alike because you can play outside.

Sally and Maria are good swimmers. They are both on swim teams. Their pools are different. The pools in Florida are outside. On the other hand, the pools in Maine are inside. So Sally swims in an indoor pool and Maria swims in an outdoor pool. In the summer, Sally and Maria swim in the ocean. Both states are on the coast.

*From *Empowering Teachers*, Florida Center for Reading Research, 2007.

Practice Passage #2: Bats

Bats are animals that fly like birds, mostly at night. They are usually black or brown in color. And their wings look sort of like human hands with skin between the fingers. Bats live a long time, sometimes 30 or 40 years. They live in places like caves, buildings, and under bridges. When they aren't flying, they hang upside down because their bodies aren't shaped right for standing up. Bats can be as small as 6 inches or as large as 6 feet with their wings open. Bats eat lots of different things such as insects, moths, and fruit. Some even eat fish or frogs!

Practice Passage #3: Alligator Nests*

A female alligator builds her nest in early April. First, she uses her body and tail to clear an area that is sheltered and near water. Second, she uses her jaws to find vegetation like grass, leaves, sticks, and dirt. After this, she builds a mound and digs a hole in it with her back legs. The nest is finished.

Next the female alligator lays 20–70 eggs. Then she covers the eggs with the vegetation to keep them warm. The eggs are buried 3–14 inches deep in the nest. During this time, the alligator protects her nest from predators such as raccoons, opossums, and skunks. Never go near an alligator’s nest!

After 65–70 days, the eggs begin to hatch. Then the new babies make a sound called “yerping” and the female alligator opens the nest. Finally, the alligator helps some of the babies out of the eggs by rolling the eggs in her mouth. Some baby alligators stay near the nest for about 2 years.

*From *Empowering Teachers*, Florida Center for Reading Research. 2007.

Practice Passage #4: A Neighborhood Comes Together

The members of one city neighborhood were becoming concerned about the health of their citizens. The residents realized more people living in their area of the city had weight-related health problems than those who lived in other neighborhoods. After studying the issue, a group of community leaders found two major factors contributing to poor health and weight gain. One cause was not enough affordable ways to exercise and the other was a lack of grocery stores selling fresh fruits, produce, meats, and other healthy food options.

Worksheet 5.6: Graphic Organizer

Graphic Organizer

Comprehension Questions

How did applying my knowledge of text structure help me comprehend?

Lesson Plan 6 (Flipped Cooperative Classroom)

Lesson Name: Reading Comprehension Strategy- Visualizing

Course: Reading Comprehension

Time: 2:30 h.

Concept:

This lesson is for students who are experiencing difficulty with higher order thinking comprehension skills. Some students exhibit language impairments that inhibit their ability to process verbal, auditory, and/or visual information. The imagery strategy that students will be introduced to in this lesson will include visualizing, drawing, and verbalizing text that is read aloud to them. By creating a concrete visual picture, students will be able to understand key ideas and details from a read aloud text.

Learning Objectives:

Overall objective: The student will be able to use visualization to help comprehend text.

Behavioral objectives:

- 1) Identifying visualizing process of reading.
- 2) Draw and label visual image of texts.
- 3) Visualize text using a Vivid Piece of Text technique.
- 4) Answer questions about texts requiring visualization.

Procedures

1. Before Reading (Pre-class Session)

- 1) Students watch the Visualizing Strategy videos and learn the contents of the predicting strategy for reading comprehension on the online course.
- 2) Students do the video quiz to check their understanding of the lesson on the online course. The quiz contains 6-8 multiple-choice questions. The quiz will be

automatically graded, so that each student will be able to view the score after submission. The quiz is designed for multiple tries, allowing reattempts in case students until students get their desired scores. This means that, they can make a multiple revisions of the lesson videos and content pages before taking each consecutive quiz. This is to ensure each student's understanding of the lesson.

3) Students make a written summary of the lesson as a group task. In order to ensure that the lesson summary is the result of every group member's contribution, the group need to use the Chat function of the corresponding week in the online course to discuss how to come up with the group summary. The text-based chat will be stored on the online course for teacher's review and marking.

4) The final lesson summary will need to be submitted through the Assignment function of the online course. For this function, one of the group member form of online text or a document file. Then, teacher will review the submitted summaries and give marks accordingly. Students can view their scores and teacher's comments (if any) on the following morning.

5) Students prepare questions for the in-class discussion regarding their misconceptions about the lesson topic.

2. During Reading (In-class Session)

2.1 Class Discussion

Teacher and students discuss the issues students encountered in learning with the online video, lesson texts, and in the video quizzes, as well as the brief summary of the lesson concepts prepared in the online session orally. The teacher explains the class about the misconceptions about the lesson contents orally and makes sure the students are ready for doing the class activity.

2.2 Cooperative Reading Activities

Students work in groups of 4 to complete the following tasks.

Task 1 - Draw-and-Label Visualizations

1) Teacher supplies all student groups with the Let's Visualize sheet.

2) Teacher demonstrates (models) the strategy by reading the title and first page to the students, then sketches what he/she sees in his/her mind and labels the picture.

3) After sketching and labeling, teacher reads a few more pages (or paragraphs of the book) and again, sketches what is visualized and labels it.

3) The guided practice portion begins by teacher reading aloud a few more pages, stopping at points of interest.

4) Then, teacher asks the students to visualize and create pictures in their mind.

5) Next, teacher encourages students to use the Think Aloud (partner discussion) strategy to generate discussion and help students to sketch their group vision on the Let's Visualize sheet.

6) After this, students share their sketches with their class as the teacher walks around and points out the differences.

7) Groups vote for the best sketched pictures and the teacher also give marks to each group.

Task 2 - Visualizing from a Vivid Piece of Text

1) Students work in their groups with one student (the reader) reads the passage out loud to the other students and asks them to close their eyes and visualize the scene.

2) The reader says, "Tell me what you see." then the group members discuss and sketch their visualization.

3) When finished sketching, the groups share their sketch to the class and point out the differences in each sketch. Students discuss their reasons for these differences (schema). The class reflects on the following two questions:

- How do draw and label visualizations help us understand what we are reading?

- How does visualizing help us be creative?

4) Students together with the teacher rate the sketch.

2.3 Cooperative Issues

1) Criteria for Success: (1) Discussion of sketching and visualization; (2) Discussion of reasons for differences in visualizing ability.

2) **Positive Interdependence:** Each group member contributes to the completion of learning tasks.

3) **Individual Accountability:** Any person could be asked to report on any aspect of the task.

4) **Intergroup Cooperation:** Ask question, dig for deep understanding, and listen attentively.

5) **Expected Behaviors:** Contribute to discussion.

6) **Monitoring and Intervening:**

- Observation Procedure: Formal
- Observation By: Teacher
- Intervening for Task Assistance: Is each group member participating in discussion with ideas, questions, and answers to complete the tasks?
- Intervening for Teamwork Assistance: Walk around listening closely to be sure that: (1) each group working to complete its tasks when they have to complete the lesson materials; and (2) each group is making sure that each member could potentially present the information/answer questions.

3. After Reading (In-class Session)

3.1 Assessing and Processing

1) **Assessment of Members' Individual Learning:** Observation of individuals within groups in on-task discussion and completion of assignment; Individual quizzes.

2) **Assessment of Group Productivity:** Observation that each group is one time, completing task, preparing to present; When the task sheet is turned in, correct or incorrect, each rewarded for completion.

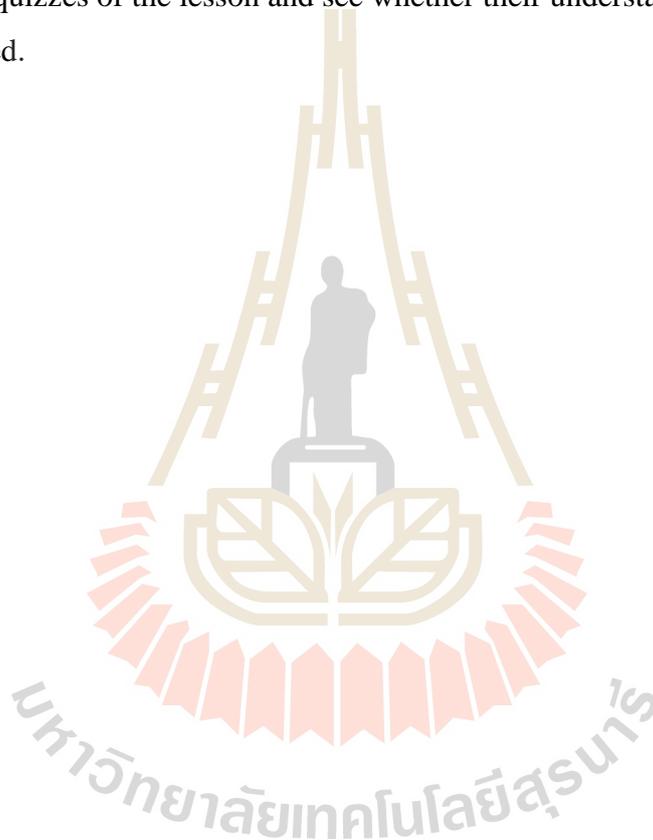
3) **Positive Feedback to Each Students:** Verbal feedback while students are working together, praise for correct ideas.

4) **Celebration:** When the paper is handed back, announce the bonus groups who did the assignment sheet correctly, show class an example of a fully correct sheet, and praise class for working hard and working well together!

3.2 Class Conclusion

1) Teacher gives brief summary of the lesson orally.

- 2) Teacher summarizes the tasks' scores of each group.
- 3) Students do individual paper-based quiz of the lesson.
- 4) Students perform the group reading project for Week 6:
 - Writing a report of the reading project
- 5) Teacher introduces the next lesson, asking students to view the online videos, take the quizzes, enter the lesson online chat, and submit the lesson summary.
- 6) Extension/Applications: Teacher asks students to review the lesson videos and redo the quizzes of the lesson and see whether their understanding and scores have improved.



Worksheet 6.1: Let's Visualize**Let's Visualize**

Name _____ Date _____

Draw a picture of the story based on the paragraph the teacher will read.

Lesson Plan 7 (Flipped Cooperative Classroom)

Lesson Name: Reading Comprehension Strategy - Inferring

Course: Reading Comprehension

Time: 2:30 h.

Concept:

Inferring is the act of reading between the lines. The readers predict and guess what is going on when it is not actually explained in the writing. Readers make meaning by evaluating the author's words to draw conclusions about the story or subject and create logical predictions about what might happen. Readers who build skills in sequencing can visualize events, make sense of a story line, and predict what may happen based on the time and order of events in a story.

Learning Objectives:

Overall objective: The student will be able to infer meaning from what was read to help comprehend text.

Behavioral objectives:

- 1) Define inference and infer action or feeling.
- 2) Apply the KIS strategy to make inference about short paragraphs.
- 3) Answer questions related to making inferences about short paragraphs.

Procedures

1. Before Reading (Pre-class Session)

1) Students watch the Inferring Strategy videos and learn the contents of the predicting strategy for reading comprehension on the online course.

2) Students do the video quiz to check their understanding of the lesson on the online course. The quiz contains 6-8 multiple-choice questions. The quiz will be automatically graded, so that each student will be able to view the score after submission. The quiz is designed for multiple tries, allowing reattempts in case students

until students get their desired scores. This means that, they can make a multiple revisions of the lesson videos and content pages before taking each consecutive quiz. This is to ensure each student's understanding of the lesson.

3) Students make a written summary of the lesson as a group task. In order to ensure that the lesson summary is the result of every group member's contribution, the group need to use the Chat function of the corresponding week in the online course to discuss how to come up with the group summary. The text-based chat will be stored on the online course for teacher's review and marking.

4) The final lesson summary will need to be submitted through the Assignment function of the online course. For this function, one of the group member form of online text or a document file. Then, teacher will review the submitted summaries and give marks accordingly. Students can view their scores and teacher's comments (if any) on the following morning.

5) Students prepare questions for the in-class discussion regarding their misconceptions about the lesson topic.

2. During Reading (In-class Session)

2.1 Class Discussion

Teacher and students discuss the issues students encountered in learning with the online video, lesson texts, and in the video quizzes, as well as the brief summary of the lesson concepts prepared in the online session orally. The teacher explains the class about the misconceptions about the lesson contents orally and makes sure the students are ready for doing the class activity.

2.2 Cooperative Reading Activities

Students work in groups of 4 to complete the following tasks.

Task 1 - Inferential Reflection

1) Teacher points out that inferences may be used to predict what might logically happen next.

2) Students work together in groups explaining what inference is in the Inferential Reflection Sheet.

3) Groups respond to questions in the Inferential Reflection Sheet: “Why is this skill important to know?” and “How can using inferences be helpful in your everyday life?”

4) Groups make an inference about Paragraph a. and b. in the Inferential Reflection Sheet.

5) Groups submit their sheet for class evaluation and discussion.

Task 2 - The KIS Strategy

1) Teacher uses the KIS Strategy Examples sheet to practice the strategy with the students by modeling each step in the first paragraph by thinking aloud. While reading, teacher underlines keywords in the paragraph, makes inferences, and finds supports for those inferences.

2) Students practice in their group for the second and the third paragraph.

3) Students do additional practice individually with the Practicing the KIS Strategy worksheet.

4) Student groups submit the KIS Strategy worksheet for evaluation and class discussion.

2.3 Cooperative Issues

1) Criteria for Success: (1) Discussion of the inferring strategy; (2) Discussion of the KIS strategy for inferring.

2) Positive Interdependence: Each group member contributes to the completion of learning tasks.

3) Individual Accountability: Any person could be asked to report on any aspect of the task.

4) Intergroup Cooperation: Ask question, dig for deep understanding, and listen attentively.

5) Expected Behaviors: Contribute to discussion.

6) Monitoring and Intervening:

- Observation Procedure: Formal

- Observation By: Teacher
- Intervening for Task Assistance: Is each group member participating in discussion with ideas, questions, and answers to complete the tasks?
- Intervening for Teamwork Assistance: Walk around listening closely to be sure that: (1) each group working to complete its tasks when they have to complete the lesson materials; and (2) each group is making sure that each member could potentially present the information/answer questions.

3. After Reading (In-class Session)

3.1 Assessing and Processing

- 1) Assessment of Members' Individual Learning: Observation of individuals within groups in on-task discussion and completion of assignment; Individual quizzes.
- 2) Assessment of Group Productivity: Observation that each group is one time, completing task, preparing to present; When the task sheet is turned in, correct or incorrect, each rewarded for completion.
- 3) Positive Feedback to Each Students: Verbal feedback while students are working together, praise for correct ideas.
- 4) Celebration: When the paper is handed back, announce the bonus groups who did the assignment sheet correctly, show class an example of a fully correct sheet, and praise class for working hard and working well together!

3.2 Class Conclusion

- 1) Teacher gives brief summary of the lesson orally.
- 2) Teacher summarizes the tasks' scores of each group.
- 3) Students do individual paper-based quiz of the lesson.
- 4) Students perform the group reading project for Week 7:
 - Preparing presentation slides
- 5) Teacher introduces the next lesson, asking students to view the online videos, take the quizzes, enter the lesson online chat, and submit the lesson summary.

6) Extension/Applications: Teacher asks students to review the lesson videos and redo the quizzes of the lesson and see whether their understanding and scores have improved.



Worksheet 7.1: Inferential Reflection Sheet

Group: _____ Date: _____

Inferential Reflection Sheet

1. In your own words, explain what an inference is.

2. Why is this skill important to know? How can using inferences be helpful in your everyday life?

3. Read the two paragraphs. What do you think is happening in each paragraph? Write down your inferences.

- a. David never thought he would end up here. It was dark, cold, and damp. In fact, it smelled moldy and mildewy. Something flew past him at such speed that he yelled and ducked. David couldn't wait to get out of this pit. After the animal flyby, he ran up the steep, wet cliff until he saw daylight. David decided he would never walk down into that hole again.

- b. Spring can be a miserable time. My chores are so exhausting that I sometimes cry. With this one particular chore, my muscles ache because of the pressure I have to put on the handle. Blades are flying, making a huge roaring sound. It's not fair that I get stuck with this job. I end up getting really dirty—and green.

4. Now it's your turn to write a paragraph in which inferences can be made about a place or an action. Use the back of this page.

Worksheet 7.2: KIS Strategy Example

Group: _____ Date: _____

KIS Strategy Examples

Underline the key words in each paragraph. Then make an inference and support it.

Paragraph 1

Joshua went into the backyard to play on the swing set. His new puppy, Rascal, ran beside him. As Joshua was running toward the play area, he twisted his ankle. The accident caused him a lot of pain. Joshua's dad was always doing yard work and making sure that the grass was perfectly cut and the ground was even. Certainly, he would have noticed that hole and filled it up. Neither Joshua nor his father could figure out how that hole appeared. Who or what do you think caused the hole?

Inference: _____

Support: _____

Paragraph 3

Emma is a very cautious shopper. She rarely takes risks, and she has a hard time buying new items unless she knows she won't waste her money. Emma sticks to her shopping list unless there's a sale, and she's been wanting to buy the item. You won't ever see Emma wasting her money. In fact, her family calls her the Tightwad Money Manager. Which of the following items would Emma most likely not buy: toothpaste, Super Duper Water Spray, beans, bubble gum?

Inference: _____

Support: _____

Paragraph 2

Mary has been a receptionist at Hair Clips for seven years. She rarely makes mistakes in scheduling customers. Last week, two hairdressers complained that three of their regular customers missed their appointments because of scheduling errors. What could have happened?

Inference: _____

Support: _____



Worksheet 7.3: Practicing the KIS Strategy

Practicing the KIS Strategy

Use the KIS strategy to make and support inferences.

1. What a long elevator ride it was! Lu and Seth couldn't wait to see the view through the wire fence. The wind was blowing through their hair as they looked down. The cars on the street looked like toy cars. What an amazing city this was!

Where were they?

Inference: _____

Support: _____

2. Frankie could hear the people's screams from a long distance. She could hear terror and excitement in the screams. The sound of the screams occurred intermittently. A brief moment of silence would be followed by full-force screams. Frankie could also hear what she thought might be the rattle of chains.

What could be going on?

Inference: _____

Support: _____

3. The kids were allowed to be here without their parents, but they were told to whisper three times by different adults. The place was big, cool, and quiet. Computers were set up by the information desk so people could find exactly what they needed or use the Internet for research. The kids looked at some magazines, listened to some CDs, read a few short books, and then saw a short puppet show. By using a special card, they were able to borrow some items.

What kind of place is this?

Inference: _____

Support: _____



Lesson Plan 8 (Flipped Cooperative Classroom)

Lesson Name: Reading Comprehension Strategy - Summarizing

Course: Reading Comprehension

Time: 2:30 h.

Concept:

Summarizing is the ability to recount the key events or steps in a text. It enables the brain to process this newly learned information and link ideas in a sequence. Developing skills in summarizing helps save reader's time and energy. By creating an outline or a shortened version of the text, the readers can keep track of important information in a sequence without getting bogged down by details.

This lesson introduces the key elements of a summary with the Hand Summaries activity. The other activity involves making summaries using title.

Learning Objectives:

Overall objective: The student will be able to summarize what was read to help comprehend text.

Behavioral objectives:

- 1) Identify characteristics and process of summarizing.
- 2) Create a title summary for a given passage.
- 3) Make a summary of paragraphs.
- 4) Answer questions related to finding the summary or the title of a text.

Procedures

1. Before Reading (Pre-class Session)

1) Students watch the Summarizing Strategy videos and learn the contents of the predicting strategy for reading comprehension on the online course.

2) Students do the video quiz to check their understanding of the lesson on the online course. The quiz contains 6-8 multiple-choice questions. The quiz will be automatically graded, so that each student will be able to view the score after

submission. The quiz is designed for multiple tries, allowing reattempts in case students until students get their desired scores. This means that, they can make a multiple revisions of the lesson videos and content pages before taking each consecutive quiz. This is to ensure each student's understanding of the lesson.

3) Students make a written summary of the lesson as a group task. In order to ensure that the lesson summary is the result of every group member's contribution, the group need to use the Chat function of the corresponding week in the online course to discuss how to come up with the group summary. The text-based chat will be stored on the online course for teacher's review and marking.

4) The final lesson summary will need to be submitted through the Assignment function of the online course. For this function, one of the group member form of online text or a document file. Then, teacher will review the submitted summaries and give marks accordingly. Students can view their scores and teacher's comments (if any) on the following morning.

5) Students prepare questions for the in-class discussion regarding their misconceptions about the lesson topic.

2. During Reading (In-class Session)

2.1 Class Discussion

Teacher and students discuss the issues students encountered in learning with the online video, lesson texts, and in the video quizzes, as well as the brief summary of the lesson concepts prepared in the online session orally. The teacher explains the class about the misconceptions about the lesson contents orally and makes sure the students are ready for doing the class activity.

2.2 Cooperative Reading Activities

Students work in groups of 4 to complete the following tasks.

Task 1 - Hand Summaries

1) Teacher brings in a short newspaper article with a focused lead paragraph that will be interesting to the students.

2) Students work together in their group circle the words that tell who the article was about, star the words that tell what the article was about, underline the when and where descriptions, and draw a box around the why and how it happened phrases. Student groups put the identified words in the Hand Summary Chart.

3) Student groups write a summary statement using the key elements of who, what, when, where, why, and how and then synthesis a summary using the Hand Summary Organizer.

4) Groups hand in the summary for class discussion and rating.

Task 2 – Using title

1) Teacher displays the Lightning Paragraphs to the students. Each paragraph paraphrases information from the book and is followed by three titles, created by the teacher.

2) Students work in their groups to select the best title for each paragraph. They are asked to also explain why they chose that title.

3) The groups repeat this process for the remaining paragraphs.

4) Teacher hands out the A Title's Worth a Thousand Words sheet and 10 paragraphs.

5) Each group reads each paragraph and tries to give the title for each paragraph.

6) Groups hand in the sheet for class discussion assessment.

2.3 Cooperative Issues

1) Criteria for Success: (1) Discussion of the use of hand summary technique; (2) Discussion of using title for summary.

2) Positive Interdependence: Each group member contributes to the completion of learning tasks.

3) Individual Accountability: Any person could be asked to report on any aspect of the task.

4) Intergroup Cooperation: Ask question, dig for deep understanding, and listen attentively.

5) Expected Behaviors: Contribute to discussion.

6) Monitoring and Intervening:

- Observation Procedure: Formal
- Observation By: Teacher
- Intervening for Task Assistance: Is each group member participating in discussion with ideas, questions, and answers to complete the tasks?
- Intervening for Teamwork Assistance: Walk around listening closely to be sure that: (1) each group working to complete its tasks when they have to complete the lesson materials; and (2) each group is making sure that each member could potentially present the information/answer questions.

3. After Reading (In-class Session)

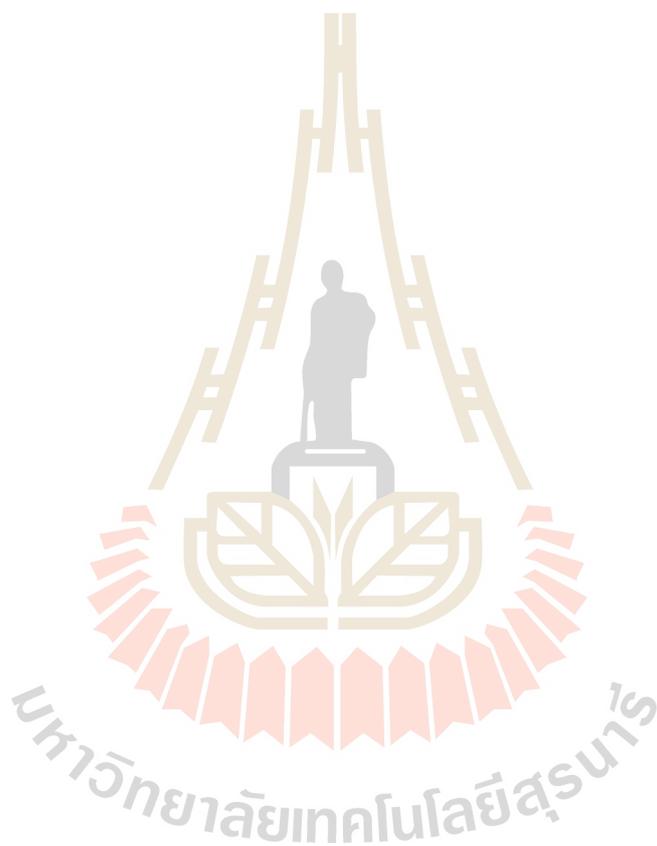
3.1 Assessing and Processing

- 1) Assessment of Members' Individual Learning: Observation of individuals within groups in on-task discussion and completion of assignment; Individual quizzes.
- 2) Assessment of Group Productivity: Observation that each group is one time, completing task, preparing to present; When the task sheet is turned in, correct or incorrect, each rewarded for completion.
- 3) Positive Feedback to Each Students: Verbal feedback while students are working together, praise for correct ideas.
- 4) Celebration: When the paper is handed back, announce the bonus groups who did the assignment sheet correctly, show class an example of a fully correct sheet, and praise class for working hard and working well together!

3.2 Class Conclusion

- 1) Teacher gives brief summary of the lesson orally.
- 2) Teacher summarizes the tasks' scores of each group.
- 3) Students do individual paper-based quiz of the lesson.
- 4) Students perform the group reading project for Week 8:
 - Finalizing the report before submitting in Week 9
 - Making a rehearsal for the project presentation
- 5) Teacher introduces the next lesson, asking students to view the online videos, take the quizzes, enter the lesson online chat, and submit the lesson summary.

6) Extension/Applications: Teacher asks students to review the lesson videos and redo the quizzes of the lesson and see whether their understanding and scores have improved.



Worksheet 8.1: Hand Summary

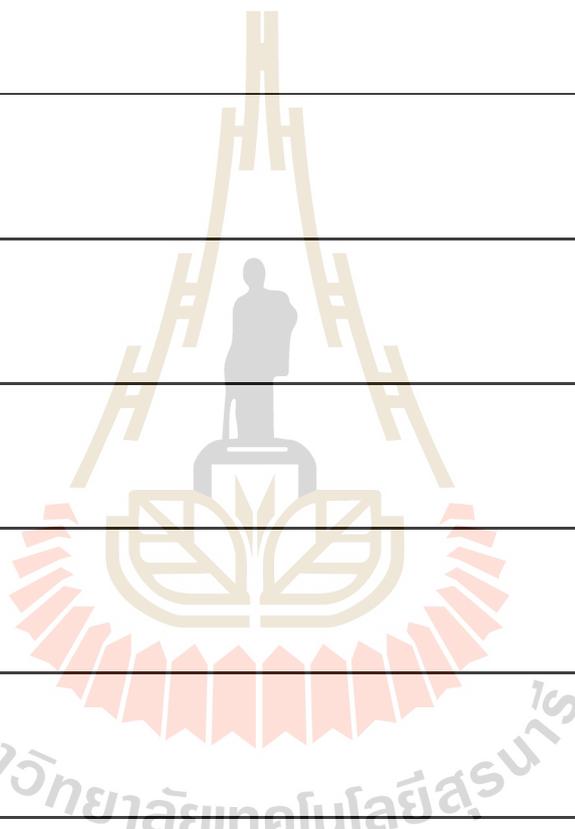
Group: _____ Date: _____



Worksheet 8.2: Hand Summary Organizer

Group: _____ Date: _____

Hand Summary Organizer

WHO?
DID WHAT?
WHERE?
WHEN?
WHY?
HOW?
SUMMARY



Worksheet 8.3: Lightning Paragraphs

Group: _____ Date: _____

Lightning Paragraphs



Lightning bolts flash across the sky at over 60,000 miles per second! That speed would take you around the earth in about 25 minutes. Single bolts of lightning are about an inch wide and travel on twisted paths in the air, stretching from 6 to 10 miles in length.

Choose the best title.

- A Long Lightning
- B The Speed of Lightning
- C Traveling through the Sky

In a millionth of one second, a lightning bolt flashes with the brightness of ten million one-hundred-watt lightbulbs. The pulse of energy is equal to all the power generated in all electrical generating plants in America in that split second. Because the pulse is so short, the actual energy released is much smaller and would power one lightbulb for only one month.

Choose the best title.

- A The Power of a Lightning Bolt
- B Lightning Is the Future Electricity
- C Light Bright

Have you ever felt your hair stand on end right before a lightning storm? Lightning begins with rapidly moving raindrops and ice crystals in clouds. The motion results in an electrical charge buildup in the cloud. An opposite charge builds on the ground below the cloud. This is what may cause your hair to rise.

Choose the best title.

- A Electrical Charges Strike Again
- B Ice Crystals and Raindrops
- C The Beginnings of Lightning

Worksheet 7.8: A Title's Worth a Thousand Words

Group: _____ Date: _____

A Title's Worth a Thousand Words

Paragraph 1 title _____

Paragraph 2 title _____

Paragraph 3 title _____

Paragraph 4 title _____

Paragraph 5 title _____

Paragraph 6 title _____

Paragraph 7 title _____

Paragraph 8 title _____

Paragraph 9 title _____

Paragraph 10 title _____

APPENDIX C

EXPERT'S ASSESSMENT FOR CONTENT VALIDITY

OF THE CONVENTIONAL CLASSROOM LESSON PLANS

Statements	Experts			Mean	S.D.	Validity
	1	2	3			
1. Learning objectives are related to contents of lesson plans.	4	3	4	3.67	0.58	Suitable
2. The contents are suitable for learning objectives.	4	3	5	4.00	1.00	Suitable
3. The contents are suitable for conventional classroom method.	4	3	4	3.67	0.58	Suitable
4. Learning activities are suitable for classroom method.	4	3	4	3.67	0.58	Suitable
5. Learning activities are suitable for learning objectives.	4	3	4	3.67	0.58	Suitable
6. Learning activities are suitable for the concept of conventional classroom learning.	4	3	4	3.67	0.58	Suitable
7. Learning activities are suitable for the contents.	4	3	5	4.00	1.00	Suitable
8. Learning activities are suitable for each time period.	4	3	4	3.67	0.58	Suitable
9. Learning materials are related to learning activities.	4	3	5	4.00	1.00	Suitable
10. Learning materials are suitable for students.	4	3	4	3.67	0.58	Suitable
11. Evaluation and assessment are suitable for learning objectives.	4	3	4	3.67	0.58	Suitable
12. Evaluation and assessment are suitable for the contents and learning activities.	4	3	4	3.67	0.58	Suitable
13. Instruments of evaluation are suitable for the contents.	4	3	5	4.00	1.00	Suitable
14. On the overall, the lesson plans are suitable.	4	3	4	3.67	0.58	Suitable
Total				3.76	0.62	Suitable

APPENDIX D

EXPERT'S ASSESSMENT FOR CONTENT VALIDITY OF THE FLIPPED COOPERATIVE CLASSROOM LESSON PLANS

1 = Very unsuitable, 2 = Unsuitable, 3 = Moderately Suitable, 4 = Suitable, 5 = Very Suitable

Statements	Experts			Mean	S.D.	Validity
	1	2	3			
1. Learning objectives are related to contents of lesson plans.	4	3	4	3.67	0.58	Suitable
2. The contents are suitable for learning objectives.	4	3	5	4.00	1.00	Suitable
3. The contents are suitable for flipped classroom method.	4	3	5	4.00	1.00	Suitable
4. Learning activities are suitable for flipped classroom method.	4	3	4	3.67	0.58	Suitable
5. Learning activities are suitable for learning objectives.	4	3	5	4.00	1.00	Suitable
6. Learning activities are suitable for the concept of cooperative learning.	4	3	4	3.67	0.58	Suitable
7. Learning activities are suitable for the contents.	4	3	5	4.00	1.00	Suitable
8. Learning activities are suitable for each time period.	4	3	4	3.67	0.58	Suitable
9. Learning materials are related to learning activities.	4	3	5	4.00	1.00	Suitable
10. Learning materials are suitable for students.	4	3	5	4.00	1.00	Suitable
11. Evaluation and assessment are suitable for learning objectives.	4	3	4	3.67	0.58	Suitable
12. Evaluation and assessment are suitable for the contents and learning activities.	4	3	5	4.00	1.00	Suitable
13. Instruments of evaluation are suitable for the contents.	4	3	5	4.00	1.00	Suitable
14. On the overall, the lesson plans are suitable.	4	3	4	3.67	0.58	Suitable
Total				3.86	0.72	Suitable

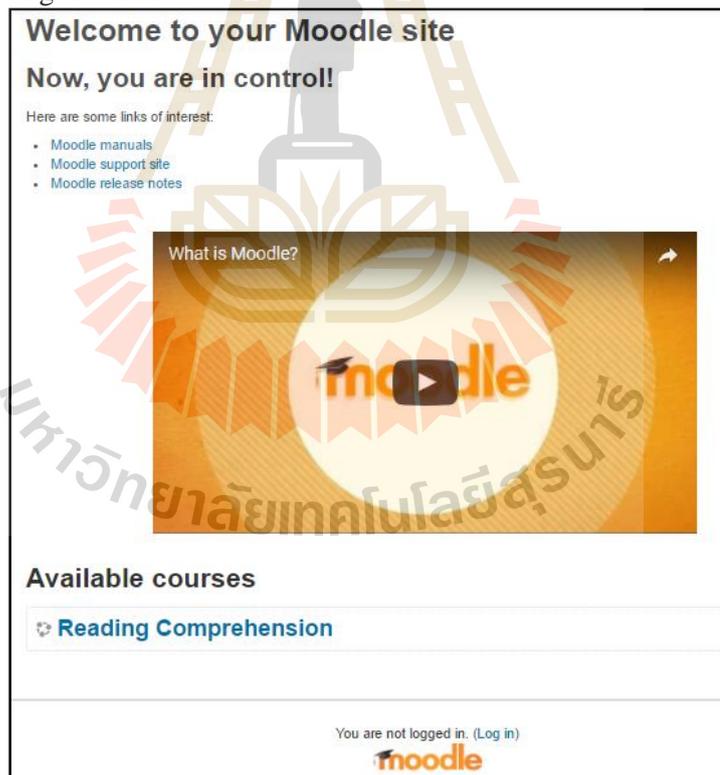
APPENDIX E

INSTRUCTIONS FOR ACCESSING THE MOODLE

ONLINE COURSE

Instructions for Accessing the Online Course on PCs

1. On an Internet-connected PC, open a web browser (Chrome, Internet Explorer, Firefox, etc.)
2. Enter the URL of the course:
<https://alls.gnomio.com>



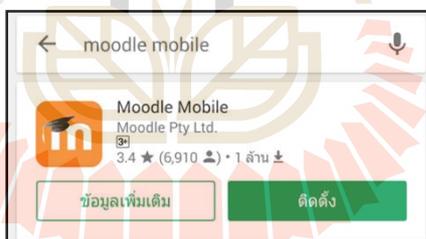
3. Under the Available course section, click on the “Reading Comprehension” course.
4. Enter your username and password (obtained from the instructor) in the Username and Password blanks. Then, click on the “Log in” button.

5. With correct user name and passwords, you are successfully logged into the course.

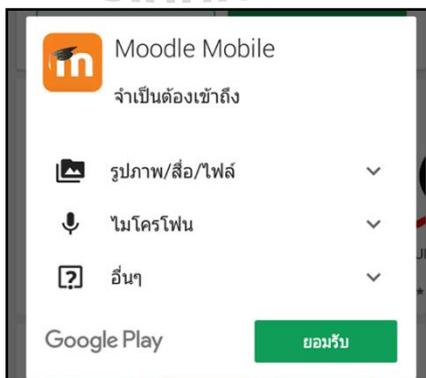
Installing and using Moodle Mobile App

With the registered Moodle site <https://alls.gnomio.com>, students can access the course named Reading Comprehension through Moodle Mobile app available for both Android and iOS operating system. The following steps are example of how to install and use Moodle Mobile for Android machines.

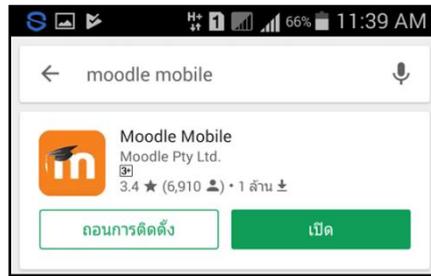
1. On the student's Internet-connected mobile device, browse the Play Store for the app name Moodle Mobile. Click on the button "Install" to begin the installation process



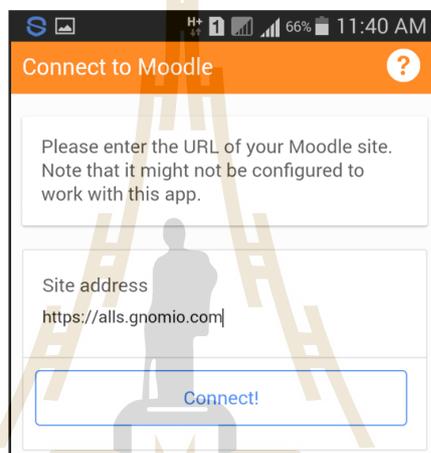
2. Click on the "Accept" button to allow the app to use the features of the device.



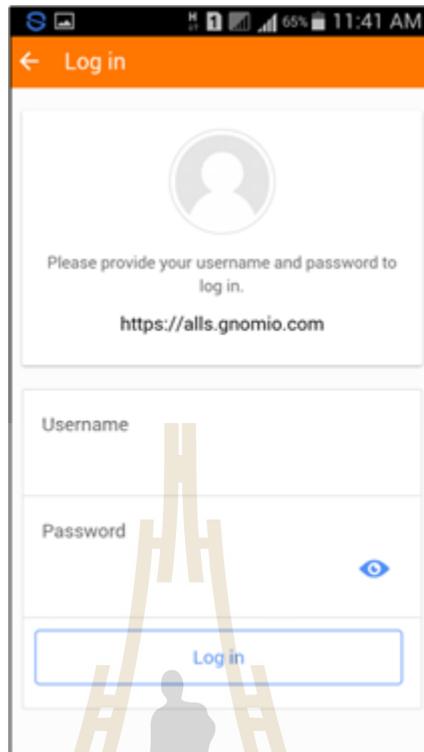
3. When the installation process is completed, click "Open" button to launch the app.



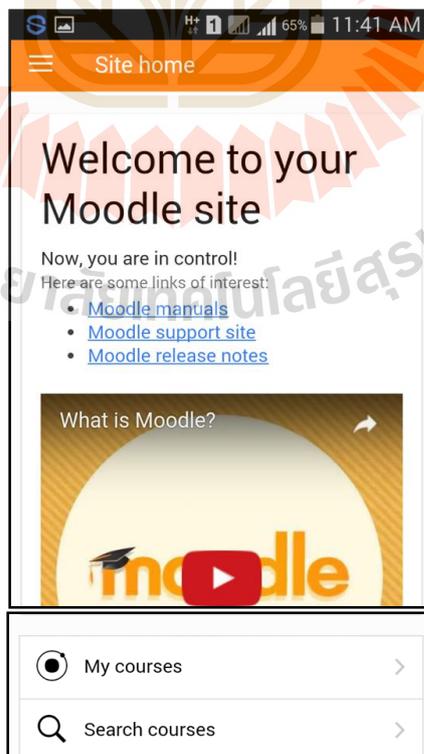
4. When the app is used for the first time, a “Connect to Moodle” window appears, prompting for app configuration. In the text box under to Site address, type in the site addresses ‘https://alls.gnomio.com’. Then click the ‘Connect!’ button.



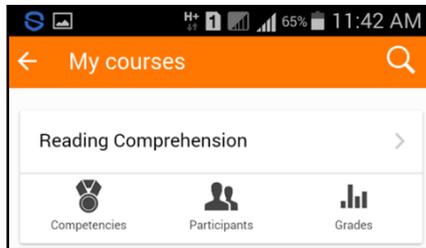
5. When connection to the Moodle site is done, the user (the student) is required to log in the course. Type in the username and the password (obtained from instructor) and click ‘Log in’.



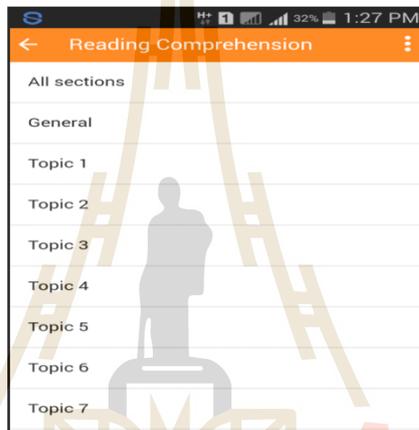
6. Upon successful log in, the student is brought to the welcome page of the site with the Moodle introduction video and a list of options for finding the course. Choose the “My courses” tab.



7. A list of courses the student is enrolling appears, apart from the Competencies, Participants, and the Grades functions. Choose the course name “Reading Comprehension”, in this case to enter the course.



8. The course page appears with available course sections. Students can choose to view either certain sections or all sections at once, where all the course activities are ready to for eligible students.



APPENDIX F

EXPERT'S ASSESSMENT FOR CONTENT VALIDITY OF THE FLIPPED COOPERATIVE CLASSROOM LESSONS (ONLINE)

1 = Very unsuitable, 2 = Unsuitable, 3 = Moderately Suitable, 4 = Suitable, 5 = Very Suitable

Statements	Experts			Mean	S.D.	Validity
	1	2	3			
1. The video clip contents are suitable for learning objectives.	4	3	4	3.67	0.58	Suitable
2. The video clip contents are suitable for flipped classroom method.	4	3	5	4.00	1.00	Suitable
3. The quizzes are suitable for learning objectives.	4	3	4	3.67	0.58	Suitable
4. The quizzes contents are suitable for flipped classroom method.	4	3	5	4.00	1.00	Suitable
5. The group chat activities are suitable for learning objectives.	4	3	4	3.67	0.58	Suitable
6. The group chat activities are suitable for flipped classroom method.	4	3	5	4.00	1.00	Suitable
7. The group chat activities are suitable for the concept of cooperative learning.	4	3	4	3.67	0.58	Suitable
8. The group project activities are suitable for learning objectives.	4	3	5	4.00	1.00	Suitable
9. The group project activities are suitable for flipped classroom method.	4	3	4	3.67	0.58	Suitable
10. The group project activities are suitable for the concept of cooperative learning.	5	3	5	4.33	1.15	Suitable
Total				3.87	0.73	Suitable

APPENDIX G

IOC ASSESSMENT FORM FOR PRE-TEST AND POST-TEST

ITEMS

Test Specifications

Passage	Main Idea (MI)	Supporting Detail (SD)	Description (DE)	Sequence (SQ)	Cause and Effect (CE)	Compare and Contrast (CC)
1	-	2	-	-	1	2
2	-	1	-	2	2	-
3	1	-	-	-	4	-
4	1	2	-	-	2	-
5	-	1	-	-	1	3
6	-	2	1	-	2	-
7	2	-	1	1	1	-
8	2	2	1	-	-	-
9	-	3	2	-	-	-
10	3	1	-	1	-	-
11	1	-	-	1	2	1
12	-	1	3	-	1	-
13	1	2	2	-	-	-
14	1	1	3	-	-	-
15	-	2	1	1	1	-
16	2	1	-	-	2	-
17	1	-	1	-	3	-
18	2	1	1	1	-	-
19	1	2	2	-	-	-
20	3	-	2	-	-	-
Total	21	24	20	7	22	6

IOC Assessment Form for the Pre-test and Post-test Items

No.	Objectives (Comprehension)	Items	IOC			Comments
			-1	0	+1	
<p>Passage 1</p> <p>For many years people believed that the cleverest animals after man were chimpanzees. Now, however, there is proof that dolphins may be even cleverer than these big apes.</p> <p>Although a dolphin lives in the sea it is not a fish. It is a mammal. It is in many ways, therefore, like a human being.</p> <p>Dolphins have a simple language. They are able to talk to one another. It may be possible for man to learn how to talk to dolphins. But this will not be easy because dolphins cannot hear the kind of sounds man can make. If man wants to talk to dolphins, therefore, he will have to make a third language which both he and the dolphins can understand.</p> <p>Dolphins are also very friendly towards man. They often follow ships. There are many stories of dolphins guiding ships through difficult and dangerous waters.</p>						
1	Compare and Contrast	Which animals do people think may be the cleverest? A. Chimpanzees B. Dolphins C. Big apes D. Mammals				
2	Compare and Contrast	What other beings are dolphins like in many ways? A. Fish B. Animals C. Reptiles D. Men				
3	Supporting Detail	What have scientists discovered about dolphins? A. They understand simple language. B. They can speak to one another. C. Men can now talk to them. D. They can teach men their languages.				
4	Cause and Effect	Why is a third language necessary if man wants to talk to dolphins? A. Most men do not speak English. B. The dolphins language is hard to learn. C. Dolphins cannot hear men speaking. D. Men want to talk to dolphins in secret.				
5	Supporting Detail	In what way are dolphins friendly to man? A. They like interesting things about man. B. They often follow ships. C. They often jump on to ships. D. They seem to like stories.				

No.	Objectives (Comprehension)	Items	IOC			Comments
			-1	0	+1	
Passage 2						
<p>Elizabeth Blackwell was born in England in 1821, and emigrated to New York City when she was ten years old. One day she decided that she wanted "to become a doctor". That was nearly impossible for a woman in the middle of the nineteenth century. After writing many letters seeking admission to the medical schools, she was finally accepted by a doctor in Philadelphia. So determined was she that she taught school and gave music lessons to earn money for her tuition.</p> <p>In 1849, after graduation from medical school, she decided to further her education in Paris. She wanted to be a surgeon, but a serious eye infection forced her to abandon the idea. Upon returning to the United States, she found it difficult to start her own practice because she was a woman. By 1857 Elizabeth and her sister, also a doctor along with another female doctor, managed to open a new hospital, first for women and children. Besides being the first female physician and founding her own hospital, she also established the first medical school for women.</p>						
6	Cause and Effect	<p>Why couldn't Elizabeth realize her dream of becoming a surgeon?</p> <p>A. She couldn't get admitted to medical school.</p> <p>B. She decided to further her education in Paris.</p> <p>C. A serious eye infection prevented.</p> <p>D. It was difficult for her to start practice in the U.S.</p>				
7	Cause and Effect	<p>What main reason almost destroyed Elizabeth's chances for becoming a doctor?</p> <p>A. She was a woman.</p> <p>B. She wrote too many letters.</p> <p>C. She couldn't graduate from medical school.</p> <p>D. She couldn't establish her hospital.</p>				
8	Sequence	<p>How many years passed between her graduation from medical school and the opening of her hospital?</p> <p>A. 8</p> <p>B. 10</p> <p>C. 19</p> <p>D. 36</p>				
9	Sequence	<p>When Elizabeth became a doctor, she was _____</p> <p>A. 21 years old</p> <p>B. 49 years old</p> <p>C. 28 years old</p> <p>D. 31 years old</p>				

No.	Objectives (Comprehension)	Items	IOC			Comments
			-1	0	+1	
10	Supporting Detail	All of the following are: "first" in the life of Elizabeth Blackwell, except : A. She became the first female physician. B. She was the first woman surgeon. C. She and several other women founded the first hospital for women and children. D. She established the first medical school for women.				
<p>Passage 3</p> <p>John liked chocolates very much, but his mother never gave him any, because they were bad for his teeth, she thought. But John had a very nice grandfather. The old man loved his grandson very much, and sometimes he brought John chocolates when he came to visit him. Then his mother let him eat them, because she wanted to make the old man happy. One evening, a few days before John's seventh birthday, he was saying his prayers in his bedroom before he went to bed. "Please, God" he shouted, "make them give me a big box of chocolates for my birthday on Saturday". His mother was in the kitchen and she heard the small boy shouting and went into his bedroom quickly. "Why are you shouting, John?" she asked her son, "God can hear you when you talk quietly" "I know" answer the clever boy with a smile, "but Grandfather's in the next room, and he can't".</p>						
11	Cause and Effect	Why did his grandfather sometimes give him chocolate? A. Because his grandfather loved candy. B. Because John was a good boy. C. Because it was good for his health. D. Because his grandfather loved him.				
12	Cause and Effect	Why did his mother let John eat the chocolate he got from his grandfather? A. To please the old man. B. To make John happy. C. Because she didn't have to pay for it. D. Because John liked it a lot.				
13	Cause and Effect	Why did he pray to God before his seventh birthday? A. He asked for good luck. B. He wanted his grandfather to give him chocolate. C. He begged God to make him a big box of chocolate. D. He wished for some money to buy chocolate.				

No.	Objectives (Comprehension)	Items	IOC			Comments
			-1	0	+1	
14	Cause and Effect	Why did he shout when he was praying? A. So that God can hear him. B. So that his mother could hear him. C. So that his grandfather could hear him. D. Because his grandfather was deaf.				
15	Main Idea	Which sentence is not true according to the passage? A. John was fond of chocolate. B. He wanted a big box of chocolate for his birthday. C. His mother was too poor to give him a big box of chocolate. D. While he was praying that day his grandfather was in the next room.				
<p>Passage 4</p> <p>Every year students in many countries learn English. Some of these students are young people, others are teenagers. Many are adults. Some learn at school, others study by themselves. A few learn English just by hearing the language in film on television, in the office or among their friends. But not many are lucky enough to do that. Most people must work hard to learn another language. Many boys and girls learn English at school because it is one of their subjects. They study their own language, mathematics and English. In England, or America, or Australia, many boys and girls study their own language, which is English, and mathematics and another language, perhaps French, or German or Spanish. Many adults learn English, because it is useful for their work. Teenagers often learn English for their higher studies, because some of their books are in English at the college or university. Other people learn English because they want to read newspapers or magazines in English.</p>						
16	Main Idea	According to the writer: A. Only adults learn English. B. No children like learning English. C. English is useful only to teenagers. D. English is popular in much of the world.				
17	Supporting Detail	Many people learn English by: A. Watching videos only. B. Hearing the language in the office. C. Talking with the film stars. D. Working hard on their lessons.				
18	Cause and Effect	Many boys and girls learn English because: A. English can give them a job. B. It is included in their study courses. C. Their parents make them. D. They have to study their own language.				

No.	Objectives (Comprehension)	Items	IOC			Comments
			-1	0	+1	
19	Supporting Detail	In America or Australia many school children study _____ A. English as a foreign language. B. English and mathematics only. C. Such foreign languages as French, German and Spanish. D. Their own language and no foreign language.				
20	Cause and Effect	Many adults learn English because: A. Their work is useful. B. They want to go abroad. C. Most of their books are in English. D. It helps them in their work				
<p>Passage 5</p> <p>I arrived in London at last. The railway station was big, black and dark. I did not know the way to my hotel, so asked a porter. I spoke English not only very carefully, but clearly as well. The porter, however, could not understand me. I repeated my questions several times and at last he understood. He answered me, but he spoke neither slowly nor clearly "I am but I could not understand him, a foreigner", I said. Then he spoke slowly, but I could not understand him. My teacher never spoke English like that! The porter and I looked at each other and smiled. Then he said something and I understood it. "You'll soon learn English!" he said. I wonder in England, each man speaks different language. The English understand each other, but I don't understand them! Do they speak English?</p>						
21	Supporting Detail	The writer asked the porter _____ A. How to speak English. B. Where the railway station was. C. The direction to the hotel. D. If he could speak English.				
22	Cause and Effect	The porter couldn't understand the writer because _____ A. The writer didn't speak English very carefully. B. The writer repeated the questions several times. C. The porter didn't know English. D. The writer's English was unusual.				
23	Compare and Contrast	The writer's teacher of English _____ A. spoke English differently from English people. B. never spoke English in class. C. didn't speak English slowly. D. didn't work as a porter.				

No.	Objectives (Comprehension)	Items	IOC			Comments
			-1	0	+1	
24	Compare and Contrast	In England _____ A. People understand one another without speaking English. B. People speak English, which is not like the one the writer studied at school. C. People don't speak English at all. D. Each person speaks a different language.				
25	Compare and Contrast	Which of the following statements is not true ? A. The writer expected every one in England to speak like his teacher. B. At last the writer understood what the porter said. C. The porter didn't feel angry with the writer. D. The porter always spoke English slowly and clearly.				
<p>Passage 6</p> <p>An artist went to a beautiful part of the country for a holiday, and stayed with a farmer. Everyday he went out with his paints and his brushes and painted from morning to evening, and then when it got dark, he went back to the farm and had a good dinner before going to bed. At the end of his holiday, he wanted to pay the farmer, but the farmer said: "No, I don't want money, but give me one of your pictures. What is money? In a week it will all be finished, but your painting will still be here". The artist was very pleased and thanked the farmer for saying such kind things about the paintings. The farmer smile and answered: "It is not that. I have a son in London. He wants to become an artist. When he comes here next month I will show him your picture, and then he will not want to be an artist any more, I think".</p>						
26	Description	Where did the artist spend his holiday? A. In a beautiful country B. On a farm C. With a farmer D. With his paints and brushes				
27	Supporting Detail	What did he do during his holiday? A. He went back to the farm. B. He made paints and brushes. C. He painted all day. D. He went out every day.				
28	Supporting Detail	What did the farmer ask the artist for at the end of the holiday? A. Money B. For his wages				

No.	Objectives (Comprehension)	Items	IOC			Comments
			-1	0	+1	
		C. Many pictures D. A picture				
29	Cause and Effect	Why was the artist very pleased with the farmer's request? A. Because he thought his pictures were so beautiful. B. Because he had so many kinds of pictures. C. Because he would sell one of his pictures. D. Because the farmer had thanked him.				
30	Cause and Effect	The farmer's son didn't want to become an artist any more. A. Because he lived in London. B. Because he had the artist's picture. C. After he had seen the artist's picture. D. When he came here.				
Passage 7						
<p>Ted Robinson has been worried all the week. Last Tuesday he received a letter from the local police. In the letter he was asked to call at the station. Ted wondered why he was wanted by the police, but he went to the station yesterday and now he is not worried any more. At the station he was told by a smiling policeman that his bicycle had been found. Five days ago, the policeman told him, the bicycle was picked up in a small village four hundred miles away. It is now being sent to his home by train. Ted was most surprised when he heard the news. He was amused too, because he never expected the bicycle to be found. It was stolen twenty years ago when Ted was a boy of fifteen.</p>						
31	Main Idea	Ted was worried because A. He received a letter. B. He went to police station yesterday. C. The police would catch him. D. He didn't know why the police wanted him.				
32	Description	The police who talked to Ted was _____. A. Pleasant B. Worried C. Surprised D. Small				
33	Cause and Effect	Why was Ted very surprised when he heard the news? A. Because his bicycle was stolen 20 years ago. B. Because his bicycle was found when he was a boy of fifteen.				

No.	Objectives (Comprehension)	Items	IOC			Comments
			-1	0	+1	
		<p>C. Because he thought he would never find the bicycle.</p> <p>D. Because the bicycle was sent to him by train.</p>				
34	Sequence	<p>When was Ted's bicycle found?</p> <p>A. Last Tuesday</p> <p>B. Five days ago</p> <p>C. Twenty years ago</p> <p>D. Yesterday</p>				
35	Main Idea	<p>Which of the following statements is not true?</p> <p>A. The police asked Ted to go to the station.</p> <p>B. The policeman told Ted the good news five days ago.</p> <p>C. Ted is no longer anxious.</p> <p>D. Ted is 35 years old now.</p>				
<p>Passage 8</p> <p>Mrs. Brown's grandfather lived with her and her husband. Every morning he went for a walk in the park and came home at half past twelve for his lunch.</p> <p>But one morning a police car stopped outside Mrs. Brown's house at twelve o'clock, two policemen helped Mr. Brown to get out. One of them said to Mrs. Brown: "The poor old gentleman lost his way in the park and telephoned to us for help, so we sent a car to bring him home". Mrs. Brown was very surprised, but she thanked the policemen and they left.</p> <p>"But Grandfather", she then said, "You have been to that park nearly everyday for twenty years. How did you lose your way there?"</p> <p>The old man smiled, closed one eye and said: "I didn't quite lose my way. I just got tired and I didn't want to walk home!"</p>						
36	Supporting Detail	<p>What did Mrs. Brown's old grandfather go to the park for?</p> <p>A. For pleasure</p> <p>B. For a walk</p> <p>C. For amusement</p> <p>D. For recreation</p>				
37	Main Idea	<p>What happened to him one morning?</p> <p>A. He lost his way.</p> <p>B. He was too tired to walk home.</p> <p>C. He came home for lunch.</p> <p>D. He wanted to stay in the park.</p>				
38	Description	<p>How did Mrs. Brown feel?</p> <p>A. Very surprised</p> <p>B. Normal</p>				

No.	Objectives (Comprehension)	Items	IOC			Comments
			-1	0	+1	
		C. Calm D. Interesting				
39	Supporting Detail	What did the two policemen do? A. They received Mr. Brown's call for help. B. They helped Mr. Brown to get out of the park. C. They sent a car to bring him home. D. All above are correct.				
40	Main Idea	Which of the following statements is not true ? A. People walk in the park for fresh air. B. Mr. Brown didn't quite lose his way. C. He didn't want to go home on foot. D. It was the first time he had been to the park.				
<p>Passage 9</p> <p>Man discovered fire many thousands of years ago: The first time he saw fire was probably when a tree was struck by lightning. He soon learned how to make fire for himself. However man probably made his first fire by rubbing two sticks together.</p> <p>Fire was very important to man. He needed to keep himself warm at night. He used fire to cook his food. He used fire to frighten away enemies and wild animals. In some parts of the world he used fire to signal messages. Red Indians, for example, used fire to make smoke signals. In some other countries people lit fires to warn their friends of danger.</p> <p>Fire was also used to give light. Before the invention of the oil lamp, men used burning sticks as torches. And before man discovered gas and electricity, he hung small fires in wire baskets from post to light the streets.</p> <p>One man even used fire to tell the time. He invented a candle clock. He made a candle that took exactly twelve hours to burn. Then he marked this candle in twelve equal parts. He lit the candle and could tell the time by counting the number of parts left of the burning candle. But the candle clock did not always work well. If there was a wind blowing on the candle, the flame burned too quickly.</p>						
41	Description	Man probably first made fire _____. A. From a tree struck by lightning B. By rubbing two sticks together C. From wire baskets hung on posts D. From a candle				
42	Supporting Detail	Man probably first used fire _____. A. To tell the time B. To send signal C. To light the streets D. To keep warm at night				

No.	Objectives (Comprehension)	Items	IOC			Comments
			-1	0	+1	
43	Supporting Detail	Fire was used by Red Indians _____. A. To make gas and electricity B. To burn down trees C. To frighten away enemies D. To send messages				
44	Description	The first street lights were _____. A. Large bonfires B. Candles C. Burning trees D. Small fires in hanging baskets				
45	Supporting Detail	The candle clock burned for: A. One hour B. Twelve hours C. A day D. 12 days				
<p>Passage 10</p> <p>In the years after the Civil War, most American painters received their training in Europe, the majority studying in the French schools at Paris or Barbizon, and a smaller number in Germany at Munich and Dusseldorf. The teaching of the Barbizon school, which stressed the use of colour and the creation of an impression or a mood influenced many American artists. One group of American painters led by James McNeil Whistler and John Singer Sargent, expatriated themselves from the American scene and settled in Europe. Whistler, who is often ranked as the greatest genius in the history of American art, was a versatile and industrious artist who was equally proficient in several media - oil, water colour, etching, and with several themes - portraits and his so-called "nocturnes", impressionistic sketches of moonlight on water and other scenes. He was one of the first to appreciate the beauty of Japanese colour prints and to introduce Oriental concepts into Western art.</p>						
46	Main Idea	For a period after the Civil War the majority of American painters: A. were influenced by the Barbizon school B. painted the impressionist style C. studied art in Europe D. used striking colour in their work				
47	Sequence	According to the passage, one group of American painters _____. A. left American never to return B. turned their back on American art tradition				

No.	Objectives (Comprehension)	Items	IOC			Comments
			-1	0	+1	
		C. copied the style of Whistler and Sargent D. were unaffected by the European style of painting				
48	Main Idea	From the passage we are led to believe that Whistler: A. did much of his painting at night B. produced a large number of pictures C. combined several media and themes in his painting D. was the most proficient in impressionistic sketches				
49	Supporting Detail	According to the passage, Whistler was one of the Western painters to: A. use Japanese ideas in his work B. become interested in Japanese painting C. admire Japanese oil D. start producing Japanese sketches				
50	Main Idea	The main theme of this passage is: A. Whistler's influence on Japanese art B. The influence of European art on American painters C. The influence of Oriental art on Whistler D. The American painter's influence in Europe				
<p>Passage 11</p> <p>In most animals, dental decay is a rare problem. In man, and especially in the affluent West, the disease has reached epidemic proportions.</p> <p>The cause of tooth decay in human beings is a bacterium that feeds on the sugar in our food. It digests the sugar more easily by converting it into an acid. The acid then dissolves the enamel, the outer coating of the teeth, and finally attacks the living nerve within. The result is the agonizing pain we know as toothache.</p>						
51	Compare and Contrast	According to the passage how common is it for animals to suffer from tooth decay? A. They never suffer from it. B. They seldom suffer from it. C. They suffer from it as commonly as people do. D. They suffer from it more commonly than people do.				
52	Main Idea	What does the passage say about the problem of tooth decay in the rich Western countries?				

No.	Objectives (Comprehension)	Items	IOC			Comments
			-1	0	+1	
		A. It is steadily decreasing each year. B. It has remained unchanged for a long time. C. It has been increasing slowly for years. D. It is now virtually out of control.				
53	Cause and Effect	Human teeth decay when they are attacked by a kind of _____. A. sugar. B. acid. C. nerve. D. food.				
54	Sequence	Decay cannot begin until the bacterium produces _____. A. food from sugar B. sugar from food C. acid from sugar D. sugar from acid				
55	Cause and Effect	The term "tooth decay" refers to the A. digestion of the food. B. conversion of the sugar. C. production of the acid. D. dissolution of the enamel.				
<p>Passage 12</p> <p>Our friend Nick, whose English gets better and better, declared solemnly the other day that he thought that the British climate was wonderful but that British weather was terrible. He went on to elucidate by pointing out that the British weather was a temperate one. This meant, he said that you could always be certain that the weather would never be extreme at any rate not for any length of time, never very hot and never very cold. He quite rightly pointed out that the rainfall in British according to the statistics was not very heavy. Why then, he asked, had the British weather had such a bad reputation? He answered by saying that it was because of the extraordinary, unreliable weather. There was no part of the year at which you could be certain that the weather would be dry or wet, clear or dull, hot or cold. A bad day 10 July could be as cold as a mild day of January.</p> <p>Indeed you could feel cold at almost any time of the year. Nick blamed droughty British houses for this, but agreed that you could also blame the amount of sunshine and the great amount of dampness. He admitted he had never experienced one of London's notorious fogs, which he said, were things of the past. For the present, he advised every student coming to Britain to bring an umbrella and to understand the meaning of that splendid word "drizzle".</p>						
56	Description	How did Nick first describe the British weather? A. wonderful B. solemn C. better D. terrible				

No.	Objectives (Comprehension)	Items	IOC			Comments
			-1	0	+1	
57	Cause and Effect	According to Nick, what caused the British climate to have such a bad reputation is: A. its rainfall B. its climate statistics C. its extraordinary, unreliable weather D. its temperature				
58	Description	In Britain you find it always: A. dry and clear B. wet and dull C. mild D. cold				
59	Supporting Detail	Nick had never experienced _____. A. a droughty British house B. a mild day in January C. one of London's notorious fogs D. a bad day in July				
60	Description	What word did Nick consider to be splendid? A. umbrella B. drizzle C. fog D. Sunshine				
<p>Passage 13 Rules for riding bicycle safely:</p> <ol style="list-style-type: none"> 1. Don't ride a bicycle which is not the right size for you. 2. Check a bicycle before using it and make sure that the brakes and steering-wheel work properly and the tyres have enough air in them. 3. When riding a bicycle, always use a cycling track at the side of the road when there is one. 4. Don't ride too fast, especially when going down hills and turning corner. 5. Control the speed of your bicycle with your brakes, but always use them gently. 6. When in a group, always ride in single file. 7. Always keep to the side of the road, do not ride in the middle of the road or weave back and forth on the road. 						
61	Supporting Detail	You should ride a bicycle which is _____. A. higher than you are B. with high seat C. your right size D. your favourite				
62	Description	Which part of a bicycle is used for changing direction? A. The front wheel				

No.	Objectives (Comprehension)	Items	IOC			Comments
			-1	0	+1	
		B. The back wheel C. The tyres D. The steering-wheel				
63	Supporting Detail	When is the most dangerous to ride fast? A. When riding along the roads B. When turning corner C. When going down hill D. B and C are right				
64	Description	Which part of a bicycle do you use to control the speed? A. The brake B. The lights C. The chains D. None of the above				
65	Main Idea	When you are in a hurry you can _____. A. ride in the middle of the road B. weave back and forth C. ride dangerously D. ride in a cycling track quickly				
<p>Passage 14</p> <p>When you put a letter into the postbox, do you know what will happen to it?</p> <p>First of all, a postman will come in a van to collect all the mail from it. The mail is collected at fixed times, usually once in the afternoon. These collection times are shown on each postbox. The van will then take the mail to the nearest post office.</p> <p>The mail going to places in the same district will be put together. A machine will chop the stamps so that they cannot be used again. Then postmen will arrange the letters into bundles and pack them into their postbox.</p> <p>The work of a postman is not easy. He often has to get up very early. He has to work outdoors in all the weathers. He must be strong in order to carry his heavy postage. He sometimes has to read bad writing. Can you read address on this envelope? It is very difficult for postman to deliver mail quickly and correctly when addresses are not written clearly.</p> <p>Do you know the proper way to send a letter? If you are writing to someone in Thailand, you should use a white envelope. If you want to send a letter to a country outside Thailand, you should use an envelope bordered by red and blue stripes. Also you should write the name and address clearly and correctly on the envelope. Letters and small parcels can be posted in postboxes or at a post office. However, you must take larger parcels to a post office. It costs more to send a heavy parcel than a light one. It is also more expensive to send mail overseas.</p>						
66	Supporting Detail	When is mail collected from a postbox? A. Usually twice a day B. At any time in a day C. Only once in the afternoon D. Twice in the morning				

No.	Objectives (Comprehension)	Items	IOC			Comments
			-1	0	+1	
67	Description	How do we know the collection times? A. A policeman will tell us. B. They are shown outside the mail vans. C. They are written on the postbox. D. They are shown on the postboxes.				
68	Description	What does a machine do to the mail collected in a post office? A. It takes the stamps off for use again. B. It puts a chop on the stamps. C. It sticks more stamps onto them. D. It arranges the letters into bundles.				
69	Main Idea	What does the writer think about a postman's work? A. It is really very easy. B. He has to work in good and bad weather. C. He has to walk all the time. D. He often works inside a post office.				
70	Description	What kind of envelope should you use when you send a letter to a local address? A. A white envelope B. A red envelope with blue stripes C. A white envelope with red and blue stripes D. A blue envelope with red stripes				
<p>Passage 15</p> <p>Making a film takes a long time and is a very hard work. Writing the story for the film may take many weeks. Filming the story being acted - or shooting the film, as it is called - often takes at least six months. Actors and cameramen work from very early in the morning until late at night. Each scene may have to be acted twenty or thirty times.</p> <p>The film studio is like a large factory, and the indoor stages are very big indeed. Scenery of all kinds is made in the studio: churches, houses, castles and forests are all built of wood and cardboard. Several hundred people work together to make one film. Some of these people are the actors and actresses. The director of the film, however, is the most important person in a film studio. He decided how the scenes should be filmed and how the actors should act.</p> <p>Most people go to see a film because they know the film stars in it. Sometimes the film may be very poor. It is best to choose a film made by a good director. Some</p>						

No.	Objectives (Comprehension)	Items	IOC			Comments
			-1	0	+1	
		famous directors make their films very real. People feel that they themselves are among the people in the film.				
71	Supporting Detail	Shooting the film often takes _____. A. less than 6 months. B. at least 6 months. C. many weeks. D. from early in the morning until late at night.				
72	Sequence	Before making a film _____. A. we must look for actors. B. we must write the story. C. we must choose a good director. D. all of these are correct.				
73	Description	We should choose a film which _____. A. has the actors we know. B. scenes very real. C. takes along time to make. D. is made by a good director.				
74	Supporting Detail	A film is real _____. A. when the actors are famous. B. if the pictures are clear. C. if the sound is good. D. when the spectators live the lives of persons in the film.				
75	Cause and Effect	The scenes have to be filmed many times because _____. A. it takes a long time to make a film. B. it is often difficult to make them just right. C. many people work together. D. the film is poor.				
<p>Passage 16</p> <p>Human memory, formerly believed to be rather inefficient, is really more sophisticated than that of a computer. Researchers approaching the problem from a variety of points of view have all concluded that there is a great deal more stored in our minds than has been generally supposed. Dr. Wilder Penfield, a Canadian neurosurgeon, proved that by stimulating the brain electrically, he could elicit the total recall of specific events in his subjects' lives. Even dreams and other minor events supposedly forgotten for many years suddenly emerged in detail.</p> <p>Although the physical basis for memory is not yet understood, one theory is that the fantastic capacity for storage in the brain is the result of an almost unlimited</p>						

No.	Objectives (Comprehension)	Items	IOC			Comments
			-1	0	+1	
		communication of interconnections between brain cells, stimulated by patterns of activity. Repeated references to the same information support recall. Or, to say that another way, improved performance is the result of strengthening the chemical bonds in the memory.				
76	Main Idea	With what topic is the passage mainly concerned? A. Wilder Penned B. Neurosurgery C. Human memory D. Chemicals reactions				
77	Main Idea	According to the passage, researchers have concluded that _____. A. the mind has a much greater capacity for memory than was previously believe. B. the physical basic for memory is clear. C. different points of view area valuable. D. human memory is inefficient.				
78	Cause and Effect	How did Penned elicit dreams and other minor events from the past? A. By surgery. B. By electric stimulation. C. By repetition. D. By chemical stimulation.				
79	Cause and Effect	According to the passage, the capacity for storage in the brain _____. A. can be understood by examining the physiology. B. is stimulated by pattern of activity. C. has a limited combination of relationships. D. is not inflected by repetition.				
80	Supporting Detail	The word "bonds" in the last sentence of the passage means _____. A. promises. B. agreements C. connections. D. responsibilities.				
<p>Passage 17</p> <p>People usually sing because they like music or because they feel happy.</p> <p>They express their happiness by singing. When a bird sings, however, its song usually mean much more than that the bird is happy. Birds have many reasons for singing. They sing to give information. Their songs are their languages.</p> <p>The most beautiful songs are sung by male (cock) birds. They sing well when they want to attract a female (hen) bird. It is their way of saying that they are looking for a wife.</p>						

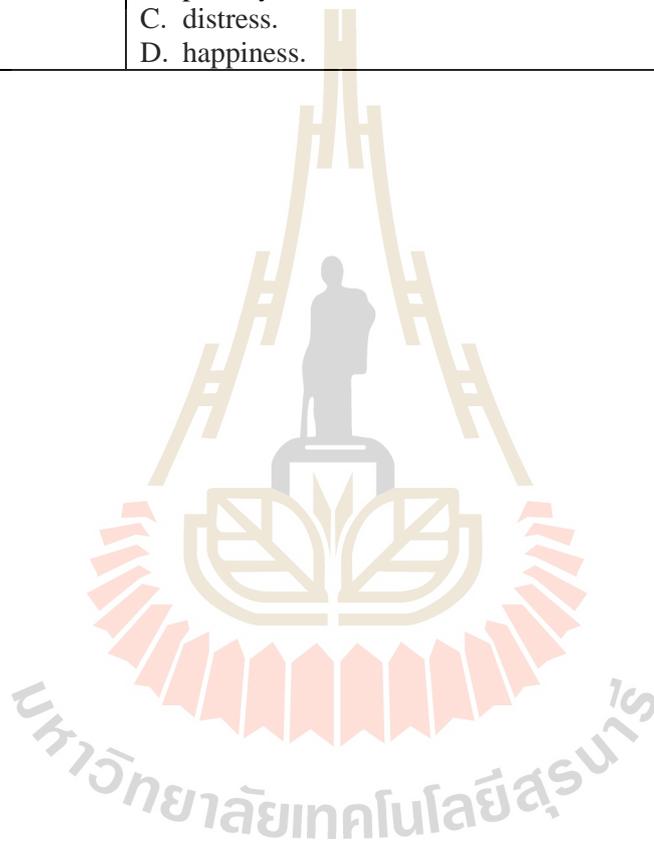
No.	Objectives (Comprehension)	Items	IOC			Comments
			-1	0	+1	
		<p>Birds also sing to tell other birds to keep away. To a bird, his tree or even a branch of a tree, is his home. He does not want strangers coming near him, so he sings to warn them.</p> <p>If a bird cannot sing well, he usually has some other means of giving important information. Some birds dance, spread out their tails or made other signs. One bird has a most unusual way of finding a wife. It builds a small garden of shells and flowers.</p>				
81	Cause and Effect	<p>Why do people usually sing?</p> <p>A. They like birds. B. They feel happy. C. They want to tell a story. D. They like studying music</p>				
82	Main Idea	<p>What is one of the chief reasons why birds sing?</p> <p>A. They are happy. B. They are in a good temper. C. They want to tell something. D. They can sing many songs.</p>				
83	Description	<p>Which birds sing the most beautiful songs?</p> <p>A. Birds in a good temper. B. Cock birds. C. Hen birds. D. Female birds which attract male birds.</p>				
84	Cause and Effect	<p>What warning does a bird sometimes sing?</p> <p>A. A warning to keep away. B. A warning to come quickly. C. A warning about the approach of people. D. A warning to stop singing</p>				
85	Cause and Effect	<p>What do most birds usually do if they cannot sing well?</p> <p>A. Warn other birds to go away. B. Give their information in another way. C. Find a wife. D. Fly high in the sky.</p>				
<p>Passage 18</p> <p>Bison have not always lived in North America, they are relative newcomers. They belong to the Bovidae family, like domestic cattle and the wild buffalo of Africa and Asia. The oldest known bison fossils have been found in China and Himalayan foothills, where an animal with all the essential features of the genus lived a million years ago. They evolved rapidly and spread over most of the northern hemisphere in Europe and Siberia. During one of the Ice Ages, the faunas of Asia and North America began to intermingle. Very early, the steppe bison moved eastward to the North American continent. Much later, men followed the same route.</p>						

No.	Objectives (Comprehension)	Items	IOC			Comments
			-1	0	+1	
86	Main Idea	Which of the following would be the most appropriate title for the passage? A. The classification of Asian and North American fauna B. An introduction to the North American bison C. An analysis of the bison genus in the Bovidae family D. A hypothesis of the evolution of the bison				
87	Supporting Detail	According to the passage, what is true about the evolution of the bison? A. Their ancestors were domestic cattle and wild buffalo. B. They originated in China and in the Himalayas. C. Their beginning was in Africa and Asia. D. They evolved from the steppe bison.				
88	Sequence	According to the passage, when did the bison move to North America? A. Over a million years ago B. Relative recently in North American history C. During one of the Ice Ages D. Early in man's habitation of North America				
89	Description	According to the passage, the bison moved from Asia to North America by _____. A. crossing the sea. B. walking over the land. C. traveling through the foothills. D. climbing over a bridge.				
90	Main Idea	The passage would most likely be assigned reading for courses in which of the following subjects? A. American history B. Anthropology C. Zoology D. Modern science				
<p>Passage 19</p> <p>When you are being interviewed for a job, remember that it's normal for many people to be nervous, particularly in such a stress-producing situation. There are plenty of jobs - indeed, probably most - where a little nervousness isn't looked at askance. It does help to dry a damp brow or a clammy hand just before meeting the interviewer, but otherwise, don't be too concerned about the outward manifestations of your nervousness. Experienced interviewers will discount most physical signs of nervousness. The only one that people have a hard time ignoring is a fidgety hand.</p>						

No.	Objectives (Comprehension)	Items	IOC			Comments
			-1	0	+1	
		<p>Interviewees who constantly twist their hands or make movements that are dramatically distracting are calling to their nervousness.</p> <p>Remember that interviewers talk to people in order to hire, not because they enjoy embarrassing, uneasy applicants. One way to overcome a flustered feeling, or "butterflies in the stomach", is to note that interviewers want to hire people who have something to offer the company. If interviewers think you will fit into their organization, you will be the one who is sought after. It's almost as if you are interviewing them to see if they are good enough for you.</p>				
91	Supporting Detail	<p>According to the passage, the outward sign of nervousness that most attracts the attention of interviewers is _____.</p> <p>A. a damp brow. B. clammy hands. C. restless hand gestures. D. jittery stomach.</p>				
92	Supporting Detail	<p>An interviewer is someone who</p> <p>A. is looking for a job. B. seeks facts from prospective employees. C. has already hired you. D. is always on the lookout to trip applicants.</p>				
93	Main Idea	<p>It can be inferred from the passage that overcoming nervousness is a matter of _____.</p> <p>A. wiping your head and hands before entering the interview room. B. taking several tranquilizers before the interview. C. being dramatic and aggressive. D. realizing that interviews are two-sided and making the most of it.</p>				
94	Description	<p>"Butterflies in the stomach" means _____.</p> <p>A. a nervous feeling. B. feeling of happiness. C. woes. D. sufferings.</p>				
95	Description	<p>"Discount" in line 6 means _____.</p> <p>A. remember. B. ignore. C. discontinue. D. discharge.</p>				

No.	Objectives (Comprehension)	Items	IOC			Comments
			-1	0	+1	
<p>Passage 20</p> <p>Agriculture in the West and South of the United States has traditionally been supported by migrant workers who migrate or move from area to area according to the crops that need harvesting. Many Chinese, Filipino, and Mexican immigrants became migrant workers when they first arrived in the United States. Often they had problems with the English language or no skills that they could immediately use in the new country. A person looking objectively at the living conditions of these workers might say that their way of life was little better than slavery. They were housed in substandard conditions, received wages far below the minimum, and had no medical or insurance benefits. The migrant workers had no labour unions that could bargain for better wages, better hours, or improved working conditions. They had no money and no power with which to bargain with their employers. Employers were making fortunes by the sweat of their workers' brows. It took an idealistic, determined young man named Cesar Chavez to change the plight of the migrant worker forever.</p>						
96	Main Idea	<p>Which of the following correctly describes migrant workers?</p> <p>A. Only Mexicans were permitted to work on crops.</p> <p>B. Living and working conditions were generally poor.</p> <p>C. The workers usually stayed in one place for many years.</p> <p>D. All the workers were fluent in English.</p>				
97	Description	<p>Which of the following describes the work done by migrant workers?</p> <p>A. It required skilled labour.</p> <p>B. It could only be done by native-born Americans.</p> <p>C. It was closely supervised by national labour unions.</p> <p>D. It was low paid, and working conditions were poor.</p>				
98	Main Idea	<p>It can be inferred from the final sentence of the passage that _____.</p> <p>A. the conditions described are still the same today.</p> <p>B. migrant workers will always live like slaves.</p> <p>C. conditions for migrant workers are better now than before the work of Cesar Chavez.</p> <p>D. there is no longer any need for migrant workers.</p>				
99	Main Idea	<p>The next paragraph of this passage will probably be _____.</p> <p>A. a history of agriculture in the United States.</p>				

No.	Objectives (Comprehension)	Items	IOC			Comments
			-1	0	+1	
		B. a listing of the countries migrant workers come from. C. a lesson in English as a foreign language. D. the changes brought about Cesar Chavez.				
100	Description	"Plight" in the last sentence means _____. A. difficult condition. B. poverty. C. distress. D. happiness.				



APPENDIX H

EXPERTS' IOC RESULTS OF THE TEST ITEMS

Item	Experts' Opinions			IOC	Interpretation
	Expert 1	Expert 2	Expert 3		
1	1	1	1	1.00	Accepted
2	0	1	1	0.67	Accepted
3	1	1	1	1.00	Accepted
4	1	1	-1	0.33	Need Improvement
5	1	1	1	1.00	Accepted
6	1	1	-1	0.33	Need Improvement
7	1	1	-1	0.33	Need Improvement
8	1	1	-1	0.33	Need Improvement
9	1	1	-1	0.33	Need Improvement
10	1	1	-1	0.33	Need Improvement
11	1	1	-1	0.33	Need Improvement
12	1	1	1	1.00	Accepted
13	1	1	-1	0.33	Need Improvement
14	1	1	-1	0.33	Need Improvement
15	1	1	1	1.00	Accepted
16	1	1	1	1.00	Accepted
17	1	1	0	0.67	Accepted
18	1	1	1	1.00	Accepted
19	1	1	1	1.00	Accepted
20	1	1	1	1.00	Accepted
21	1	1	-1	0.33	Need Improvement
22	1	1	0	0.67	Accepted
23	1	1	-1	0.33	Need Improvement
24	1	1	1	1.00	Accepted
25	1	1	-1	0.33	Need Improvement
26	1	1	1	1.00	Accepted
27	1	1	1	1.00	Accepted
28	1	1	1	1.00	Accepted
29	1	1	1	1.00	Accepted
30	1	1	0	0.67	Accepted
31	1	1	-1	0.33	Need Improvement
32	1	1	-1	0.33	Need Improvement
33	1	1	1	1.00	Accepted

Item	Experts' Opinions			IOC	Interpretation
	Expert 1	Expert 2	Expert 3		
34	1	1	1	1.00	Accepted
35	1	1	1	1.00	Accepted
35	1	1	1	1.00	Accepted
37	1	1	1	1.00	Accepted
38	1	1	1	1.00	Accepted
39	1	1	1	1.00	Accepted
40	1	1	-1	0.33	Need Improvement
41	1	1	1	1.00	Accepted
42	1	1	0	0.67	Accepted
43	1	1	0	0.67	Accepted
44	1	1	1	1.00	Accepted
45	1	1	1	1.00	Accepted
46	1	1	0	0.67	Accepted
47	1	1	1	1.00	Accepted
48	1	1	1	1.00	Accepted
49	1	1	-1	0.33	Need Improvement
50	1	1	1	1.00	Accepted
51	1	1	0	0.67	Accepted
52	1	1	0	0.67	Accepted
53	1	1	1	1.00	Accepted
54	1	1	-1	0.33	Need Improvement
55	1	1	-1	0.33	Need Improvement
56	1	1	1	1.00	Accepted
57	1	1	1	1.00	Accepted
58	1	1	0	0.67	Accepted
59	1	1	-1	0.33	Need Improvement
60	1	1	-1	0.33	Need Improvement
61	1	1	-1	0.33	Need Improvement
62	1	1	0	0.67	Accepted
63	1	1	1	1.00	Accepted
64	1	1	1	1.00	Accepted
65	1	1	-1	0.33	Need Improvement
66	1	1	1	1.00	Accepted
67	1	1	1	1.00	Accepted
68	1	1	1	1.00	Accepted
69	1	1	-1	0.33	Need Improvement
70	1	1	-1	0.33	Need Improvement
71	1	1	1	1.00	Accepted
72	1	1	1	1.00	Accepted
73	1	1	-1	0.33	Need Improvement
74	1	1	-1	0.33	Need Improvement

Item	Experts' Opinions			IOC	Interpretation
	Expert 1	Expert 2	Expert 3		
75	1	1	1	1.00	Accepted
76	1	1	0	0.67	Accepted
77	1	1	1	1.00	Accepted
78	1	1	1	1.00	Accepted
79	1	1	1	1.00	Accepted
80	1	1	1	1.00	Accepted
81	1	1	1	1.00	Accepted
82	1	1	1	1.00	Accepted
83	1	1	1	1.00	Accepted
84	1	1	1	1.00	Accepted
85	1	1	1	1.00	Accepted
86	1	1	1	1.00	Accepted
87	1	1	-1	0.33	Need Improvement
88	1	1	1	1.00	Accepted
89	1	1	1	1.00	Accepted
90	1	1	1	1.00	Accepted
91	1	1	1	1.00	Accepted
92	1	1	1	1.00	Accepted
93	1	1	1	1.00	Accepted
94	1	1	1	1.00	Accepted
95	1	1	1	1.00	Accepted
96	1	1	-1	0.33	Need Improvement
97	1	1	-1	0.33	Need Improvement
98	1	1	1	1.00	Accepted
99	1	1	1	1.00	Accepted
100	1	1	1	1.00	Accepted

APPENDIX I

ITEM ANALYSIS RESULTS

Item	p	Interpretation	r	Interpretation	Item Quality
1	0.57	Suitable	-0.2	Cut	Cut
2	0.46	Suitable	0.7	Suitable	Suitable
3	0.29	Suitable	0.6	Suitable	Suitable
4	0.6	Suitable	0.6	Suitable	Suitable
5	0.6	Suitable	0.8	Suitable	Suitable
6	0.46	Suitable	0.6	Suitable	Suitable
7	0.51	Suitable	0.8	Suitable	Suitable
8	0.63	Suitable	0.7	Suitable	Suitable
9	0.69	Suitable	0.2	Suitable	Suitable
10	0.34	Suitable	0.6	Suitable	Suitable
11	0.74	Suitable	0.3	Suitable	Suitable
12	0.54	Suitable	0.6	Suitable	Suitable
13	0.46	Suitable	0.1	Cut	Cut
14	0.34	Suitable	0.6	Suitable	Suitable
15	0.51	Suitable	0.3	Suitable	Suitable
16	0.66	Suitable	0.6	Suitable	Suitable
17	0.34	Suitable	0.7	Suitable	Suitable
18	0.37	Suitable	0.3	Suitable	Suitable
19	0.49	Suitable	0.3	Suitable	Suitable
20	0.43	Suitable	0.5	Suitable	Suitable
21	0.43	Suitable	0.6	Suitable	Suitable
22	0.26	Suitable	0.6	Suitable	Suitable
23	0.51	Suitable	0.5	Suitable	Suitable
24	0.4	Suitable	0.5	Suitable	Suitable
25	0.23	Suitable	0.2	Suitable	Suitable
26	0.31	Suitable	0.3	Suitable	Suitable
27	0.34	Suitable	-0.1	Cut	Cut
28	0.51	Suitable	0.9	Suitable	Suitable
29	0.34	Suitable	0	Cut	Cut
30	0.4	Suitable	0.5	Suitable	Suitable
31	0.4	Suitable	0.6	Suitable	Suitable
32	0.29	Suitable	0.4	Suitable	Suitable
33	0.2	Suitable	0.2	Suitable	Suitable
34	0.43	Suitable	0.6	Suitable	Suitable
35	0.26	Suitable	0.2	Suitable	Suitable

Item	p	Interpretation	r	Interpretation	Item Quality
36	0.6	Suitable	0.6	Suitable	Suitable
37	0.46	Suitable	0.3	Suitable	Suitable
38	0.63	Suitable	0.6	Suitable	Suitable
39	0.23	Suitable	0.1	Cut	Cut
40	0.43	Suitable	0.8	Suitable	Suitable
41	0.51	Suitable	0.8	Suitable	Suitable
42	0.51	Suitable	0.8	Suitable	Suitable
43	0.4	Suitable	0.8	Suitable	Suitable
44	0.34	Suitable	0.7	Suitable	Suitable
45	0.57	Suitable	0.7	Suitable	Suitable
46	0.06	Cut	0	Cut	Cut
47	0.26	Suitable	0.3	Suitable	Suitable
48	0.43	Suitable	-0.1	Cut	Cut
49	0.46	Suitable	0.4	Suitable	Suitable
50	0.43	Suitable	0.4	Suitable	Suitable
51	0.26	Suitable	0.2	Suitable	Suitable
52	0.23	Suitable	-0.1	Cut	Cut
53	0.14	Cut	0	Cut	Cut
54	0.26	Suitable	0.4	Suitable	Suitable
55	0.23	Suitable	0	Cut	Cut
56	0.17	Cut	-0.3	Cut	Cut
57	0.23	Suitable	0.5	Suitable	Suitable
58	0.31	Suitable	-0.2	Cut	Cut
59	0.43	Suitable	0.8	Suitable	Suitable
60	0.37	Suitable	0.6	Suitable	Suitable
61	0.31	Suitable	0.5	Suitable	Suitable
62	0.34	Suitable	0.6	Suitable	Suitable
63	0.37	Suitable	1	Suitable	Suitable
64	0.46	Suitable	0.8	Suitable	Suitable
65	0.26	Suitable	-0.5	Cut	Cut
66	0.51	Suitable	1	Suitable	Suitable
67	0.34	Suitable	0.5	Suitable	Suitable
68	0.46	Suitable	0.6	Suitable	Suitable
69	0.4	Suitable	0.7	Suitable	Suitable
70	0.34	Suitable	0.3	Suitable	Suitable
71	0.31	Suitable	0.4	Suitable	Suitable
72	0.34	Suitable	0.6	Suitable	Suitable
73	0.34	Suitable	0.2	Suitable	Suitable
74	0.31	Suitable	0.4	Suitable	Suitable
75	0.31	Suitable	-0.1	Cut	Cut
76	0.51	Suitable	0.8	Suitable	Suitable
77	0.31	Suitable	-0.1	Cut	Cut
78	0.43	Suitable	0.1	Cut	Cut

Item	p	Interpretation	r	Interpretation	Item Quality
79	0.29	Suitable	0.4	Suitable	Suitable
80	0.31	Suitable	0.2	Suitable	Suitable
81	0.46	Suitable	0.5	Suitable	Suitable
82	0.31	Suitable	0.5	Suitable	Suitable
83	0.49	Suitable	0.2	Suitable	Suitable
84	0.54	Suitable	0.6	Suitable	Suitable
85	0.57	Suitable	0.5	Suitable	Suitable
86	0.26	Suitable	0.1	Cut	Cut
87	0.43	Suitable	0.7	Suitable	Suitable
88	0.4	Suitable	0.7	Suitable	Suitable
89	0.31	Suitable	0.4	Suitable	Suitable
90	0.26	Suitable	0.4	Suitable	Suitable
91	0.29	Suitable	0.2	Suitable	Suitable
92	0.34	Suitable	0.1	Cut	Cut
93	0.31	Suitable	-0.1	Cut	Cut
94	0.4	Suitable	0.2	Suitable	Suitable
95	0.31	Suitable	0.2	Suitable	Suitable
96	0.4	Suitable	0.2	Suitable	Suitable
97	0.14	Cut	0.2	Suitable	Cut
98	0.37	Suitable	0.4	Suitable	Suitable
99	0.31	Suitable	0.2	Suitable	Suitable
100	0.46	Suitable	0.2	Suitable	Suitable



APPENDIX J

PRE-TEST (40 ITEMS)

Reading Comprehension Test

Passage 1

For many years people believed that the cleverest animals after man were chimpanzees. Now, however, there is proof that dolphins may be even cleverer than these big apes.

Although a dolphin lives in the sea it is not a fish. It is a mammal. It is in many ways, therefore, like a human being.

Dolphins have a simple language. They are able to talk to one another. It may be possible for man to learn how to talk to dolphins. But this will not be easy because dolphins cannot hear the kind of sounds man can make. If man wants to talk to dolphins, therefore, he will have to make a third language which both he and the dolphins can understand.

Dolphins are also very friendly towards man. They often follow ships. There are many stories of dolphins guiding ships through difficult and dangerous waters.

1. What other beings are dolphins like in many ways?
 - A. Fish
 - B. Animals
 - C. Reptiles
 - D. Men
2. What have scientists discovered about dolphins?
 - A. They understand simple language.
 - B. They can speak to one another.
 - C. Men can now talk to them.
 - D. They can teach men their languages.
3. Why is a third language necessary if man wants to talk to dolphins?
 - A. Most men do not speak English.
 - B. The dolphins language is hard to learn.
 - C. Dolphins cannot hear men speaking.
 - D. Men want to talk to dolphins in secret.
4. In what way are dolphins friendly to man?
 - A. They like interesting things about man.
 - B. They often follow ships.
 - C. They often jump on to ships.
 - D. They seem to like stories.

Passage 2

Elizabeth Blackwell was born in England in 1821, and emigrated to New York City when she was ten years old. One day she decided that she wanted "to become a doctor". That was nearly impossible for a woman in the middle of the nineteenth century. After writing many letters seeking admission to the medical schools, she was finally accepted by a doctor in Philadelphia. So determined was she that she taught school and gave music lessons to earn money for her tuition.

In 1849, after graduation from medical school, she decided to further her education in Paris. She wanted to be a surgeon, but a serious eye infection forced her to abandon the idea. Upon returning to the United States, she found it difficult to start her own practice because she was a woman. By 1857 Elizabeth and her sister, also a doctor along with another female doctor, managed to open a new hospital, first for women and children. Besides being the first female physician and founding her own hospital, she also established the first medical school for women.

5. Why couldn't Elizabeth realize her dream of becoming a surgeon?
 - A. She couldn't get admitted to medical school.
 - B. She decided to further her education in Paris.
 - C. A serious eye infection prevented.
 - D. It was difficult for her to start practice in the U.S.

6. What main reason almost destroyed Elizabeth's chances for becoming a doctor?
 - A. She was a woman.
 - B. She wrote too many letters.
 - C. She couldn't graduate from medical school.
 - D. She couldn't establish her hospital.

7. How many years passed between her graduation from medical school and the opening of her hospital?
 - A. 8
 - B. 10
 - C. 19
 - D. 36

8. When Elizabeth became a doctor, she was
 - A. 21 years old
 - B. 49 years old
 - C. 28 years old
 - D. 31 years old

9. All of the following are: "first" in the life of Elizabeth Blackwell, **except**:
 - A. She became the first female physician.
 - B. She was the first woman surgeon.
 - C. She and several other women founded the first hospital for women and children.
 - D. She established the first medical school for women.

Passage 3

John liked chocolates very much, but his mother never gave him any, because they were bad for his teeth, she thought. But John had a very nice grandfather. The old man loved his grandson very much, and sometimes he brought John chocolates when he came to visit him. Then his mother let him eat them, because she wanted to make the old man happy. One evening,

a few days before John's seventh birthday, he was saying his prayers in his bedroom before he went to bed. "Please, God" he shouted, "make them give me a big box of chocolates for my birthday on Saturday". His mother was in the kitchen and she heard the small boy shouting and went into his bedroom quickly. "Why are you shouting, John?" she asked her son, "God can hear you when you talk quietly" "I know" answer the clever boy with a smile, "but Grandfather's in the next room, and he can't".

10. Why did his grandfather sometimes give him chocolate?
 - A. Because his grandfather loved candy.
 - B. Because John was a good boy.
 - C. Because it was good for his health.
 - D. Because his grandfather loved him.

11. Why did his mother let John eat the chocolate he got from his grandfather?
 - A. To please the old man.
 - B. To make John happy.
 - C. Because she didn't have to pay for it.
 - D. Because John liked it a lot.

12. Why did he shout when he was praying?
 - A. So that God can hear him.
 - B. So that his mother could hear him.
 - C. So that his grandfather could hear him.
 - D. Because his grandfather was deaf.

13. Which sentence is not true according to the passage?
 - A. John was fond of chocolate.
 - B. He wanted a big box of chocolate for his birthday.
 - C. His mother was too poor to give him a big box of chocolate.
 - D. While he was praying that day his grandfather was in the next room.

Passage 4

Every year students in many countries learn English. Some of these students are young people, others are teenagers. Many are adults. Some learn at school, others study by themselves. A few learn English just by hearing the language in film on television, in the office or among their friends. But not many are lucky enough to do that. Most people must work hard to learn another language. Many boys and girls learn English at school because it is one of their subjects. They study their own language, mathematics and English. In England, or America, or Australia, many boys and girls study their own language, which is English, and mathematics and another language, perhaps French, or German or Spanish. Many adults learn English, because it is useful for their work. Teenagers often learn English for their higher studies, because some of their books are in English at the college or university. Other people learn English because they want to read newspapers or magazines in English.

14. According to the writer:
 - A. Only adults learn English.
 - B. No children like learning English.
 - C. English is useful only to teenagers.
 - D. English is popular in much of the world.

15. Many people learn English by:

- A. Watching videos only.
 - B. Hearing the language in the office.
 - C. Talking with the film stars.
 - D. Working hard on their lessons.
16. Many boys and girls learn English because:
- A. English can give them a job.
 - B. It is included in their study courses.
 - C. Their parents make them.
 - D. They have to study their own language.
17. In America or Australia many school children study _____.
- A. English as a foreign language
 - B. English and mathematics only
 - C. such foreign languages as French, German and Spanish
 - D. their own language and no foreign language
18. Many adults learn English because:
- A. Their work is useful.
 - B. They want to go abroad.
 - C. Most of their books are in English.
 - D. It helps them in their work

Passage 5

I arrived in London at last. The railway station was big, black and dark. I did not know the way to my hotel, so asked a porter. I spoke English not only very carefully, but clearly as well. The porter, however, could not understand me. I repeated my questions several times and at last he understood. He answered me, but he spoke neither slowly nor clearly "I am but I could not understand him, a foreigner", I said. Then he spoke slowly, but I could not understand him. My teacher never spoke English like that! The porter and I looked at each other and smiled. Then he said something and I understood it. "You'll soon learn English!" he said. I wonder in England, each man speaks different language. The English understand each other, but I don't understand them! Do they speak English?

19. The writer asked the porter _____.
- A. How to speak English.
 - B. Where the railway station was
 - C. The direction to the hotel
 - D. If he could speak English
20. The porter couldn't understand the writer because _____.
- A. The writer didn't speak English very carefully
 - B. The writer repeated the questions several times.
 - C. The porter didn't know English.
 - D. The writer's English was unusual.
21. The writer's teacher of English _____.
- A. spoke English differently from English people.
 - B. never spoke English in class.
 - C. didn't speak English slowly.

- D. didn't work as a porter.
22. In England _____.
- People understand one another without speaking English.
 - People speak English, which is not like the one the writer studied at school.
 - People don't speak English at all.
 - Each person speaks a different language.
23. Which of the following statements is **not true**?
- The writer expected every one in England to speak like his teacher.
 - At last the writer understood what the porter said.
 - The porter didn't feel angry with the writer.
 - The porter always spoke English slowly and clearly.

Passage 6

An artist went to a beautiful part of the country for a holiday, and stayed with a farmer. Everyday he went out with his paints and his brushes and painted from morning to evening, and then when it got dark, he went back to the farm and had a good dinner before going to bed. At the end of his holiday, he wanted to pay the farmer, but the farmer said: "No, I don't want money, but give me one of your pictures. What is money? In a week it will all be finished, but your painting will still be here". The artist was very pleased and thanked the farmer for saying such kind things about the paintings. The farmer smile and answered: "It is not that. I have a son in London. He wants to become an artist. When he comes here next month I will show him your picture, and then he will not want to be an artist any more, I think".

24. Where did the artist spend his holiday?
- In a beautiful country
 - On a farm
 - With a farmer
 - With his paints and brushes
25. What did the farmer ask the artist for at the end of the holiday?
- Money
 - For his wages
 - Many pictures
 - A picture
26. The farmer's son didn't want to become an artist any more.
- Because he lived in London.
 - Because he had the artist's picture.
 - After he had seen the artist's picture.
 - When he came here.

Passage 7

Ted Robinson has been worried all the week. Last Tuesday he received a letter from the local police. In the letter he was asked to call at the station. Ted wondered why he was wanted by the police, but he went to the station yesterday and now he is not worried any more. At the station he was told by a smiling policeman that his bicycle had been found. Five days ago, the

policeman told him, the bicycle was picked up in a small village four hundred miles away. It is now being sent to his home by train. Ted was most surprised when he heard the news. He was amused too, because he never expected the bicycle to be found. It was stolen twenty years ago when Ted was a boy of fifteen.

27. Ted was worried because _____.
 A. He received a letter.
 B. He went to police station yesterday.
 C. The police would catch him.
 D. He didn't know why the police wanted him.
28. The police who talked to Ted was _____.
 A. Pleasant
 B. Worried
 C. Surprised
 D. Small
29. Why was Ted very surprised when he heard the news?
 A. Because his bicycle was stolen 20 years ago.
 B. Because his bicycle was found when he was a boy of fifteen.
 C. Because he thought he would never find the bicycle.
 D. Because the bicycle was sent to him by train.
30. When was Ted's bicycle found?
 A. Last Tuesday
 B. Five days ago
 C. Twenty years ago
 D. Yesterday
31. Which of the following statements is **not true**?
 A. The police asked Ted to go to the station.
 B. The policeman told Ted the good news five days ago.
 C. Ted is no longer anxious.
 D. Ted is 35 years old now.

Passage 8

Mrs. Brown's grandfather lived with her and her husband. Every morning he went for a walk in the park and came home at half past twelve for his lunch.

But one morning a police car stopped outside Mrs. Brown's house at twelve o'clock, two policemen helped Mr. Brown to get out. One of them said to Mrs. Brown: "The poor old gentleman lost his way in the park and telephoned to us for help, so we sent a car to bring him home". Mrs. Brown was very surprised, but she thanked the policemen and they left.

"But Grandfather", she then said, "You have been to that park nearly everyday for twenty years. How did you lose your way there?"

The old man smiled, closed one eye and said: "I didn't quite lose my way. I just got tired and I didn't want to walk home!"

32. What did Mrs. Brown's old grandfather go to the park for?
 A. For pleasure
 B. For a walk

- C. For amusement
D. For recreation
33. What happened to him one morning?
A. He lost his way.
B. He was too tired to walk home.
C. He came home for lunch.
D. He wanted to stay in the park.
34. How did Mrs. Brown feel?
A. Very surprised
B. Normal
C. Calm
D. Interesting
35. Which of the following statements is **not true**?
A. People walk in the park for fresh air.
B. Mr. Brown didn't quite lose his way.
C. He didn't want to go home on foot.
D. It was the first time he had been to the park.

Passage 9

Man discovered fire many thousands of years ago: The first time he saw fire was probably when a tree was struck by lightning. He soon learned how to make fire for himself. However man probably made his first fire by rubbing two sticks together.

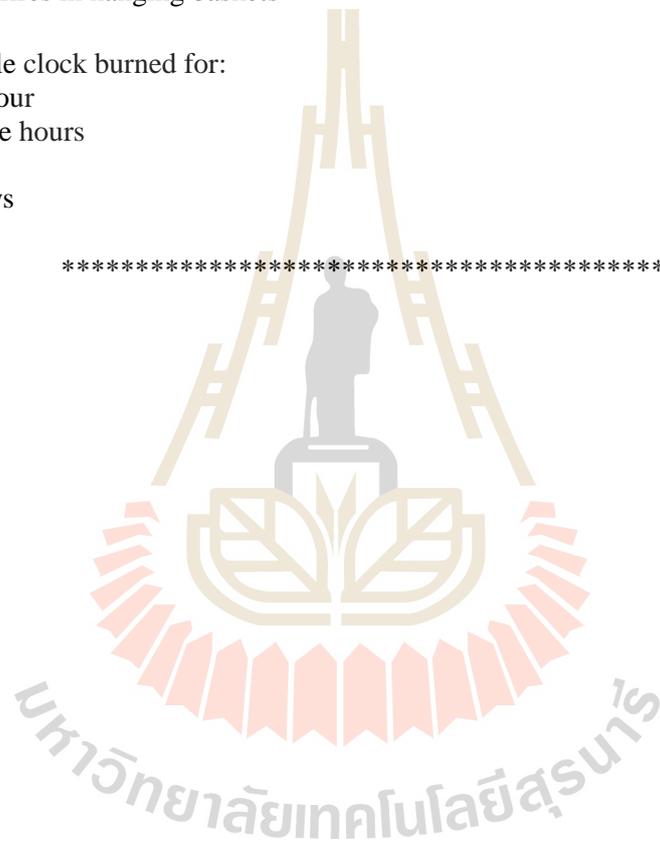
Fire was very important to man. He needed to keep himself warm at night. He used fire to cook his food. He used fire to frighten away enemies and wild animals. In some parts of the world he used fire to signal messages. Red Indians, for example, used fire to make smoke signals. In some other countries people lit fires to warn their friends of danger.

Fire was also used to give light. Before the invention of the oil lamp, men used burning sticks as torches. And before man discovered gas and electricity, he hung small fires in wire baskets from post to light the streets.

One man even used fire to tell the time. He invented a candle clock. He made a candle that took exactly twelve hours to burn. Then he marked this candle in twelve equal parts. He lit the candle and could tell the time by counting the number of parts left of the burning candle. But the candle clock did not always work well. If there was a wind blowing on the candle, the flame burned too quickly.

36. Man probably first made fire _____.
A. From a tree struck by lightning
B. By rubbing two sticks together
C. From wire baskets hung on posts
D. From a candle
37. Man probably first used fire _____.
A. To tell the time
B. To send signal
C. To light the streets
D. To keep warm at night

38. Fire was used by Red Indians _____.
A. To make gas and electricity
B. To burn down trees
C. To frighten away enemies
D. To send messages
39. The first street lights were _____.
A. Large bonfires
B. Candles
C. Burning trees
D. Small fires in hanging baskets
40. The candle clock burned for:
A. One hour
B. Twelve hours
C. A day
D. 12 days



Pre-test Answer Keys

Item	A	B	C	D	Item	A	B	C	D
1				X	21	X			
2		X			22		X		
3			X		23				X
4		X			24		X		
5			X		25				X
6	X				26			X	
7	X				27				X
8			X		28	X			
9		X			29			X	
10				X	30		X		
11	X				31		X		
12			X		32		X		
13			X		33		X		
14				X	34	X			
15				X	35				X
16		X			36		X		
17			X		37				X
18				X	38				X
19			X		39				X
20				X	40		X		

APPENDIX K

POST-TEST (40 ITEMS)

Passage 1

In the years after the Civil War, most American painters received their training in Europe, the majority studying in the French schools at Paris or Barbizon, and a smaller number in Germany at Munich and Dusseldorf. The teaching of the Barbizon school, which stressed the use of colour and the creation of an impression or a mood influenced many American artists. One group of American painters led by James McNeil Whistler and John Singer Sargent, expatriated themselves from the American scene and settled in Europe. Whistler, who is often ranked as the greatest genius in the history of American art, was a versatile and industrious artist who was equally proficient in several media - oil, water colour, etching, and with several themes - portraits and his so-called "nocturnes", impressionistic sketches of moonlight on water and other scenes. He was one of the first to appreciate the beauty of Japanese colour prints and to introduce Oriental concepts into Western art.

1. According to the passage, one group of American painters _____.
 - A. left American never to return
 - B. turned their back on American art tradition
 - C. copied the style of Whistler and Sargent
 - D. were unaffected by the European style of painting
2. According to the passage, Whistler was one of the Western painters to:
 - A. use Japanese ideas in his work
 - B. become interested in Japanese painting
 - C. admire Japanese oil
 - D. start producing Japanese sketches
3. The main theme of this passage is:
 - A. Whistler's influence on Japanese art
 - B. The influence of European art on American painters
 - C. The influence of Oriental art on Whistler
 - D. The American painter's influence in Europe

Passage 2

In most animals, dental decay is a rare problem. In man, and especially in the affluent West, the disease has reached epidemic proportions.

The cause of tooth decay in human beings is a bacterium that feeds on the sugar in our food. It digests the sugar more easily by converting it into an acid. The acid then dissolves the enamel, the outer coating of the teeth, and finally attacks the living nerve within. The result is the agonizing pain we know as toothache.

4. According to the passage how common is it for animals to suffer from tooth decay?
 - A. They never suffer from it.
 - B. They seldom suffer from it.

- C. They suffer from it as commonly as people do.
 - D. They suffer from it more commonly than people do.
5. Decay cannot begin until the bacterium produces _____.
 A. food from sugar
 B. sugar from food
 C. acid from sugar
 D. sugar³ from acid

Passage 3

Our friend Nick, whose English gets better and better, declared solemnly the other day that he thought that the British climate was wonderful but that British weather was terrible. He went on to elucidate by pointing out that the British weather was a temperate one. This meant, he said that you could always be certain that the weather would never be extreme at any rate not for any length of time, never very hot and never very cold. He quite rightly pointed out that the rainfall in British according to the statistics was not very heavy. Why then, he asked, had the British weather had such a bad reputation? He answered by saying that it was because of the extraordinary, unreliable weather. There was no part of the year at which you could be certain that the weather would be dry or wet, clear or dull, hot or cold. A bad day 10 July could be as cold as a mild day of January.

Indeed you could feel cold at almost any time of the year. Nick blamed droughty British houses for this, but agreed that you could also blame the amount of sunshine and the great amount of dampness. He admitted he had never experienced one of London's notorious fogs, which he said, were things of the past. For the present, he advised every student coming to Britain to bring an umbrella and to understand the meaning of that splendid word "drizzle".

6. According to Nick, what caused the British climate to have such a bad reputation is:
 A. its rainfall
 B. its climate statistics
 C. its extraordinary, unreliable weather
 D. its temperature
7. Nick had never experienced _____.
 A. a droughty British house
 B. a mild day in January
 C. one of London's notorious fogs
 D. a bad day in July
8. What word did Nick consider to be splendid?
 A. umbrella
 B. drizzle
 C. fog
 D. sunshine

Passage 4

Rules for riding bicycle safely:

1. Don't ride a bicycle which is not the right size for you.
2. Check a bicycle before using it and make sure that the brakes and steering-wheel work properly and the tyres have enough air in them.
3. When riding a bicycle, always use a cycling track at the side of the road when there is one.
4. Don't ride too fast, especially when going down hills and turning corner.

5. Control the speed of your bicycle with your brakes, but always use them gently.
6. When in a group, always ride in single file.
7. Always keep to the side of the road, do not ride in the middle of the road or weave back and forth on the road.

9. You should ride a bicycle which is _____.
 - A. higher than you are
 - B. with high seat
 - C. your right size
 - D. your favourite

10. Which part of a bicycle is used for changing direction?
 - A. The front wheel
 - B. The back wheel
 - C. The tyres
 - D. The steering-wheel

11. When is the most dangerous to ride fast?
 - A. When riding along the roads
 - B. When turning corner
 - C. When going down hill
 - D. B and C are right

12. Which part of a bicycle do you use to control the speed?
 - A. The brake
 - B. The lights
 - C. The chains
 - D. None of the above

Passage 5

When you put a letter into the postbox, do you know what will happen to it?

First of all, a postman will come in a van to collect all the mail from it. The mail is collected at fixed times, usually once in the afternoon. These collection times are shown on each postbox. The van will then take the mail to the nearest post office.

The mail going to places in the same district will be put together. A machine will chop the stamps so that they cannot be used again. Then postmen will arrange the letters into bundles and pack them into their postbox.

The work of a postman is not easy. He often has to get up very early. He has to work outdoors in all the weathers. He must be strong in order to carry his heavy postage. He sometimes has to read bad writing. Can you read address on this envelope? It is very difficult for postman to deliver mail quickly and correctly when addresses are not written clearly.

Do you know the proper way to send a letter? If you are writing to someone in Hong Kong, you should use a white envelope. If you want to send a letter to a country outside Hong Kong, you should use an envelope bordered by red and blue stripes. Also you should write the name and address clearly and correctly on the envelope. Letters and small parcels can be posted in postboxes or at a post office. However, you must take larger parcels to a post office. It costs more to send a heavy parcel than a light one. It is also more expensive to send mail overseas.

13. When is mail collected from a postbox?
 - A. Usually twice a day
 - B. At any time in a day

- C. Only once in the afternoon
D. Twice in the morning
14. How do we know the collection times?
A. A policeman will tell us.
B. They are shown outside the mail vans.
C. They are written on the postbox.
D. They are shown on the postboxes.
15. What does a machine do to the mail collected in a post office?
A. It takes the stamps off for use again.
B. It puts a chop on the stamps.
C. It sticks more stamps onto them.
D. It arranges the letters into bundles.
16. What does the writer think about a postman's work?
A. It is really very easy.
B. He has to work in good and bad weather.
C. He has to walk all the time.
D. He often works inside a post office.
17. What kind of envelope should you use when you send a letter to a local address?
A. A white envelope
B. A red envelope with blue stripes
C. A white envelope with red and blue stripes
D. A blue envelope with red stripes

Passage 6

Making a film takes a long time and is a very hard work. Writing the story for the film may take many weeks. Filming the story being acted - or shooting the film, as it is called - often takes at least six months. Actors and cameramen work from very early in the morning until late at night. Each scene may have to be acted twenty or thirty times.

The film studio is like a large factory, and the indoor stages are very big indeed. Scenery of all kinds is made in the studio: churches, houses, castles and forests are all built of wood and cardboard. Several hundred people work together to make one film. Some of these people are the actors and actresses. The director of the film, however, is the most important person in a film studio. He decided how the scenes should be filmed and how the actors should act.

Most people go to see a film because they know the film stars in it. Sometimes the film may be very poor. It is best to choose a film made by a good director. Some famous directors make their films very real. People feel that they themselves are among the people in the film.

18. Shooting the film often takes _____.
A. less than 6 months.
B. at least 6 months.
C. many weeks.
D. from early in the morning until late at night.
19. Before making a film _____.
A. we must look for actors.
B. we must write the story.

- C. we must choose a good director.
D. all of these are correct.
20. We should choose a film which _____.
A. has the actors we know.
B. scenes very real.
C. takes a long time to make.
D. is made by a good director.
21. A film is real _____.
A. when the actors are famous.
B. if the pictures are clear.
C. if the sound is good.
D. when the spectators live the lives of persons in the film.

Passage 7

Human memory, formerly believed to be rather inefficient, is really more sophisticated than that of a computer. Researchers approaching the problem from a variety of points of view have all concluded that there is a great deal more stored in our minds than has been generally supposed. Dr. Wilder Penfield, a Canadian neurosurgeon, proved that by stimulating the brain electrically, he could elicit the total recall of specific events in his subjects' lives. Even dreams and other minor events supposedly forgotten for many years suddenly emerged in detail.

Although the physical basis for memory is not yet understood, one theory is that the fantastic capacity for storage in the brain is the result of an almost unlimited communication of interconnections between brain cells, stimulated by patterns of activity. Repeated references to the same information support recall. Or, to say that another way, improved performance is the result of strengthening the chemical bonds in the memory.

22. With what topic is the passage mainly concerned?
A. Wilder Penfield
B. Neurosurgery
C. Human memory
D. Chemical reactions
23. According to the passage, the capacity for storage in the brain _____.
A. can be understood by examining the physiology.
B. is stimulated by pattern of activity.
C. has a limited combination of relationships.
D. is not inflected by repetition.
24. The word "bonds" in the last sentence of the passage means _____.
A. promises.
B. agreements
C. connections.
D. responsibilities.

Passage 8

People usually sing because they like music or because they feel happy.

They express their happiness by singing. When a bird sings, however, its song usually means much more than that the bird is happy. Birds have many reasons for singing. They sing to give information. Their songs are their languages.

The most beautiful songs are sung by male (cock) birds. They sing well they want to attract a female (hen) bird. It is their way of saying that they are looking for a wife.

Birds also sing to tell other birds to keep away. To a bird, his tree or even a branch of a tree, is his home. He does not want strangers coming near him, so he sings to warn them.

If a bird cannot sing well, he usually has some other means of giving important information. Some birds dance, spread out their tails or made other signs. One bird has a most unusual way of finding a wife. It builds a small garden of shells and flowers.

25. Why do people usually sing?
 - A. They like birds.
 - B. They feel happy.
 - C. They want to tell a story.
 - D. They like studying music
26. What is one of the chief reasons why birds sing?
 - A. They are happy.
 - B. They are in a good temper.
 - C. They want to tell something.
 - D. They can sing many songs.
27. Which birds sing the most beautiful songs?
 - A. Birds in a good temper.
 - B. Cock birds.
 - C. Hen birds.
 - D. Female birds which attract male birds.
28. What warning does a bird sometimes sing?
 - A. A warning to keep away.
 - B. A warning to come quickly.
 - C. A warning about the approach of people.
 - D. A warning to stop singing
29. What do most birds usually do if they cannot sing well?
 - A. Warn other birds to go away.
 - B. Give their information in another way.
 - C. Find a wife.
 - D. Fly high in the sky.

Passage 9

Bison have not always lived in North America, they are relative newcomers. They belong to the Bovidae family, like domestic cattle and the wild buffalo of Africa and Asia. The oldest known bison fossils have been found in China and Himalayan foothills, where an animal with all the essential features of the genus lived a million years ago. They evolved rapidly and spread over most of the northern hemisphere in Europe and Siberia. During one of the Ice Ages, the faunas of Asia and North America began to intermingle. Very early, the steppe bison moved eastward to the North American continent. Much later, men followed the same route.

- 30 According to the passage, what is true about the evolution of the bison?
 - A. Their ancestors were domestic cattle and wild buffalo.
 - B. They originated in China and in the Himalayas.
 - C. Their beginning was in Africa and Asia.

- D. They evolved from the steppe bison.
31. According to the passage, when did the bison move to North America?
- A. Over a million years ago
 - B. Relative recently in North American history
 - C. During one of the Ice Ages
 - D. Early in man's habitation of North America
32. According to the passage, the bison moved from Asia to North America by _____.
- A. crossing the sea.
 - B. walking over the land.
 - C. traveling through the foothills.
 - D. climbing over a bridge.
33. The passage would most likely be assigned reading for courses in which of the following subjects?
- A. American history
 - B. Anthropology
 - C. Zoology
 - D. Modern science

Passage 10

When you are being interviewed for a job, remember that it's normal for many people to be nervous, particularly in such a stress-producing situation. There are plenty of jobs - indeed, probably most - where a little nervousness isn't looked at askance. It does help to dry a damp brow or a clammy hand just before meeting the interviewer, but otherwise, don't be too concerned about the outward manifestations of your nervousness. Experienced interviewers will **discount** most physical signs of nervousness. The only one that people have a hard time ignoring is a fidgety hand. Interviewees who constantly twist their hands or make movements that are dramatically distracting are calling to their nervousness.

Remember that interviewers talk to people in order to hire, not because they enjoy embarrassing, uneasy applicants. One way to overcome a flustered feeling, or "**butterflies in the stomach**", is to note that interviewers want to hire people who have something to offer the company. If interviewers think you will fit into their organization, you will be the one who is sought after. It's almost as if you are interviewing them to see if they are good enough for you.

34. According to the passage, the outward sign of nervousness that most attracts the attention of interviewers is _____.
- A. a damp brow.
 - B. clammy hands.
 - C. restless hand gestures.
 - D. jittery stomach.
35. "Butterflies in the stomach" means _____.
- A. a nervous feeling.
 - B. feeling of happiness.
 - C. woes.
 - D. sufferings.

36. "Discount" in line 6 means _____.
 A. remember.
 B. ignore.
 C. discontinue.
 D. discharge.

Passage 11

Agriculture in the West and South of the United States has traditionally been supported by migrant workers who migrate or move from area to area according to the crops that need harvesting. Many Chinese, Filipino, and Mexican immigrants became migrant workers when they first arrived in the United States. Often they had problems with the English language or no skills that they could immediately use in the new country. A person looking objectively at the living conditions of these workers might say that their way of life was little better than slavery. They were housed in substandard conditions, received wages far below the minimum, and had no medical or insurance benefits. The migrant workers had no labour unions that could bargain for better wages, better hours, or improved working conditions. They had no money and no power with which to bargain with their employers. Employers were making fortunes by the sweat of their workers' brows. It took an idealistic, determined young man named Cesar Chavez to change the **plight** of the migrant worker forever.

37. Which of the following correctly describes migrant workers?
 A. Only Mexicans were permitted to work on crops.
 B. Living and working conditions were generally poor.
 C. The workers usually stayed in one place for many years.
 D. All the workers were fluent in English.
38. It can be inferred from the final sentence of the passage that _____.
 A. the conditions described are still the same today.
 B. migrant workers will always live like slaves.
 C. conditions for migrant workers are better now than before the work of Cesar Chavez.
 D. there is no longer any need for migrant workers.
39. The next paragraph of this passage will probably be _____.
 A. a history of agriculture in the United States.
 B. a listing of the countries migrant workers come from.
 C. a lesson in English as a foreign language.
 D. the changes brought about Cesar Chavez.
40. "Plight" in the last sentence means _____.
 A. difficult condition.
 B. poverty.
 C. distress.
 D. happiness.

Post-test Answer Keys

Item	A	B	C	D	Item	A	B	C	D
1	X				21				X
2		X			22			X	
3		X			23		X		
4		X			24			X	
5			X		25		X		
6			X		26			X	
7			X		27		X		
8		X			28	X			
9			X		29		X		
10				X	30		X		
11				X	31			X	
12	X				32		X		
13			X		33			X	
14				X	34			X	
15		X			35	X			
16		X			36		X		
17	X				37		X		
18		X			38			X	
19				X	39				X
20				X	40	X			



APPENDIX L

IOC RESULTS FOR QUESTIONNAIRE

No.	Items	Expert's IOC			Mean	S.D.	Meaning
		No.	No.	No.			
		1	2	3			
ส่วนที่ 1: การรับรู้ประสบการณ์การเรียนรู้ผ่านห้องเรียนร่วมมือแบบกลับด้าน Section 1: Perceptions of the flipped cooperative classroom							
1	วิธีการเรียนที่ใช้สำหรับวิชานี้เป็นวิธีที่ดี (Using learning methods in this course is a good way of learning.)	1	1	1	1.00	0.00	Suitable
2	ฉันมีความสุขกับวิธีการเรียนที่ใช้ในวิชานี้ (I enjoyed the teaching approach used in this course.)	1	1	1	1.00	0.00	Suitable
3	ฉันคิดว่าวิธีการเรียนที่ใช้ในวิชานี้เป็นวิธีที่มีประสิทธิภาพ (I think the learning method used in this course is an effective way to learn.)	1	1	1	1.00	0.00	Suitable
4	ฉันรู้สึกอยากเรียนวิชานี้ (I feel motivated in the classroom.)	1	1	1	1.00	0.00	Suitable
5	ฉันอยากมีส่วนร่วมและเข้าร่วมกับการเรียนในวิชานี้ (I participated and engaged myself in learning in the course.)	1	1	1	1.00	0.00	Suitable
6	ฉันกลายเป็นนักเรียนที่กระตือรือร้นในการเรียนวิชานี้ (I became an active learner in this course.)	1	0	1	0.67	0.58	Suitable
7	ฉันคิดว่าเวลาและความพยายามที่ฉันใช้ไปกับวิธีการเรียนของวิชานี้มีความคุ้มค่า (I thought the time and effort I spent in the learning method of this course was worthwhile.)	1	1	1	1.00	0.00	Suitable

No.	Items	Expert's IOC			Mean	S.D.	Meaning
		No. 1	No. 2	No. 3			
8	ฉันเรียนรู้มากขึ้นในวิชานี้ (I learned more in the course.)	1	0	1	0.67	0.58	Suitable
9	ฉันชอบห้องเรียนด้วยวิธีที่ใช้ในวิชานี้เมื่อเทียบกับการเรียนด้วยวิชาที่ใช้การบรรยายเป็นหลัก (I like learning with the method used in this course compared to other lecture-based course.)	1	0	1	0.67	0.58	Suitable
10	ฉันคิดว่าวิธีการเรียนของวิชานี้ช่วยชี้นำฉันให้ไปสู่ความเข้าใจในหัวข้อของรายวิชาได้ดีขึ้น (I think this classroom learning method guided me toward better understanding of the course topics.)	1	0	1	0.67	0.58	Suitable
11	ฉันได้รับความเพลิดเพลินในชั้นเรียนนี้มากขึ้น (I experienced pleasure in the classroom.)	1	0	1	0.67	0.58	Suitable
12	ฉันทุ่มเทตัวเองมากขึ้นกับการเรียนและการทำกิจกรรมในห้องเรียนนี้ (I devoted myself more to the instructional/class activities in the classroom.)	1	1	1	1.00	0.00	Suitable
13	ฉันใช้เวลาและความสำคัญกับกิจกรรมการเรียนในห้องเรียนนี้มากขึ้น (I spent more time and effort than usual on my classroom learning activities.)	1	1	1	1.00	0.00	Suitable
14	โดยทั่วไปแล้ว ฉันมีความสุขและพึงพอใจกับประสบการณ์การเรียนกับห้องเรียนนี้ (Generally, I'm happy and satisfied with this learning experience.)	1	0	1	0.67	0.58	Suitable

ส่วนที่ 2: การรับรู้ประสบการณ์การเรียนด้วยระบบจัดการการเรียนรู้ Moodle

Section 2: Perceptions of Moodle learning platform

ก. ลักษณะของระบบ

A. System characteristics

No.	Items	Expert's IOC			Mean	S.D.	Meaning
		No. 1	No. 2	No. 3			
1	การใช้บทเรียนออนไลน์ทำให้ทำกิจกรรมการเรียนรู้ภาษาอังกฤษในสิ่งแวดล้อมที่เหมือนจริง (Using online lessons provided English learning activities in a realistic environment.)	0	1	1	0.67	0.58	Suitable
2	การใช้บทเรียนออนไลน์ช่วยกระตุ้นให้เกิดสิ่งแวดล้อมในการเรียนรู้ภาษาอังกฤษ (Using online lessons provided a stimulating English learning environment.)	1	1	1	1.00	0.00	Suitable
3	ฉันสามารถใช้บทเรียนออนไลน์อย่างมีประสิทธิภาพในการติดต่อกับอาจารย์ผู้สอนและเพื่อนร่วมห้องเรียนเพื่อเรียนภาษาอังกฤษ (I was able to use online lessons effectively to interact with the instructors and my peers to learn English.)	1	1	1	1.00	0.00	Suitable
4	ฉันรู้สึกไม่กตสันในการใช้บทเรียนออนไลน์ในการให้ข้อคิดเห็นเกี่ยวกับผลงานของเพื่อน เทียบกับการให้ข้อคิดเห็นในห้องเรียน (I felt more comfortable in using online lessons to make comments on the output produced by my peers, compared to a face-to-face comment.)	0	-1	1	0.00	1.00	Not Suitable
5	ฉันสามารถใช้บทเรียนออนไลน์ในการปรับปรุงความสามารถด้านการอ่านจากข้อคิดเห็นและข้อเสนอแนะจากอาจารย์ผู้สอนและเพื่อน (I was able to use online lessons to sharpen my reading proficiency based on the comments and suggestions made by the instructor and my peers.)	0	0	1	0.33	0.58	Not Suitable
ข. ลักษณะของสื่อการเรียน							
B. Material characteristics							

No.	Items	Expert's IOC			Mean	S.D.	Meaning
		No. 1	No. 2	No. 3			
1	สื่อวิดีโอที่สร้างขึ้นโดยอาจารย์ผู้สอนทำให้ฉันเข้าใจกลยุทธ์การอ่านเพื่อความเข้าใจภาษาอังกฤษได้ดีขึ้น (The video materials made by the instructors led to a better understanding of English reading strategies.)	1	1	1	1.00	0.00	Suitable
2	สื่อวิดีโอที่สร้างขึ้นโดยอาจารย์ผู้สอนทำให้ฉันพาตัวเองเข้าสู่บรรยากาศการเรียนรู้ในห้องเรียน (The video materials made by the instructors helped me immerse myself in the learning atmosphere of the class.)	1	-1	1	0.33	1.15	Not Suitable
3	สื่อวิดีโอที่อาจารย์ผู้สอนสร้างขึ้นมีประโยชน์ต่อการเรียนกลยุทธ์การอ่านเพื่อความเข้าใจภาษาอังกฤษ (The video materials made by the instructors were useful for learning English reading strategies.)	1	1	1	1.00	0.00	Suitable
4	วิดีโอที่อาจารย์ผู้สอนสร้างขึ้นช่วยให้ฉันเข้าใจหัวข้อสำคัญในบทเรียน (The video materials made by the instructors helped me understand the important points included in the units.)	1	1	1	1.00	0.00	Suitable
5	ฉันคิดว่าวิดีโอที่อาจารย์ผู้สอนสร้างขึ้นมีประโยชน์ในการพัฒนากลยุทธ์การอ่านเพื่อความเข้าใจของฉัน (I think that the video materials made by instructors were useful for improving my reading comprehension.)	1	1	1	1.00	0.00	Suitable
ค. การรับรู้เกี่ยวกับความง่ายในการใช้งาน							
C. Perceived ease of use							
1	ฉันได้รับคำแนะนำที่ชัดเจนเกี่ยวกับการเรียนผ่านบทเรียนออนไลน์ (I received clear guidance about my school work via online lessons.)	1	1	1	1.00	0.00	Suitable
2	การใช้บทเรียนออนไลน์ไม่ต้องใช้เวลามาก (Using online lessons did not require too much time.)	1	-1	1	0.33	1.15	Not Suitable

No.	Items	Expert's IOC			Mean	S.D.	Meaning
		No. 1	No. 2	No. 3			
3	การเรียนรู้การใช้บทเรียนออนไลน์สำหรับกิจกรรมห้องเรียนเป็นเรื่องง่าย (Learning to use online lessons for my class activities was easy.)	1	0	1	0.67	0.58	Suitable
4	การติดต่อกับอาจารย์ผู้สอนและเพื่อนผ่านบทเรียนออนไลน์มีความสะดวกและไม่กดดัน (Interacting with my instructors and peers via online lessons was convenient and not stressful.)	1	0	1	0.67	0.58	Suitable
จ. การรับรู้ด้านประโยชน์							
D. Perceived usefulness							
1	การเรียนรู้ผ่านบทเรียนออนไลน์ช่วยพัฒนาความสามารถการอ่านภาษาอังกฤษของฉัน (Learning through online lessons improved my English reading comprehension.)	1	1	1	1.00	0.00	Suitable
2	การเรียนรู้ผ่านบทเรียนออนไลน์ช่วยส่งเสริมให้ฉันต้องการใช้กลยุทธ์การอ่านเพื่อความเข้าใจภาษาอังกฤษ (Learning through online lessons enhanced my desire to use English reading strategies.)	1	-1	1	0.33	1.15	Not Suitable
3	การเรียนรู้ด้วยบทเรียนออนไลน์ทำให้ผลลัพธ์ที่เป็นประโยชน์ต่อวิชานี้ (Learning through online lessons provided a beneficial outcome to this class.)	1	-1	1	0.33	1.15	Not Suitable
4	ข้อคิดเห็นและข้อเสนอแนะของอาจารย์ผู้สอนและเพื่อน ๆ ผ่านบทเรียนออนไลน์ มีประโยชน์ต่อการพัฒนางานของฉัน (The comments and suggestions made by the instructors and my peers through online lessons were useful for improving my work.)	1	1	1	1.00	0.00	Suitable
5	การเรียนรู้ผ่านบทเรียนออนไลน์ทำให้ความคิดเชิงวิเคราะห์ของฉันดีขึ้นเพราะฉันได้พิจารณางานของเพื่อน (Learning through online lessons	0	0	1	0.33	0.58	Not Suitable

No.	Items	Expert's IOC			Mean	S.D.	Meaning
		No. 1	No. 2	No. 3			
	strengthened my critical thinking as I considered the work of my peers.)						
จ. ทักษะคิดเกี่ยวกับการใช้งาน							
E. Attitude about use							
1	ฉันชอบการใช้บทเรียนออนไลน์ในการเรียนภาษาอังกฤษ (I liked using online lessons to learn English.)	1	1	1	1.00	0.00	Suitable
2	ฉันมีทัศนคติที่ดีต่อการใช้บทเรียนออนไลน์ในชั้นเรียนนี้ (I have a positive attitude about using online lessons in this class.)	1	1	1	1.00	0.00	Suitable
3	ฉันรู้สึกว่าการใช้บทเรียนออนไลน์ในการเรียนภาษาอังกฤษเป็นความคิดที่ดี (I feel that using online lessons to learn English is a good idea.)	1	0	1	0.67	0.58	Suitable
4	ฉันเฝ้ารอที่จะใช้บทเรียนออนไลน์ในชั้นเรียนนี้ (I looked forward to using online lessons in this class.)	1	0	1	0.67	0.58	Suitable
ฉ. ความตั้งใจในการใช้งานต่อ							
F. Behavioral intension							
1	ถ้าฉันสามารถเข้าถึงบทเรียนออนไลน์ได้ ฉันต้องการใช้บทเรียนออนไลน์ต่อไปเพื่อการเขียนติดต่อกับเพื่อเป็นภาษาอังกฤษนอกเหนือจากภาษาไทย (If I have access to online lessons, I will continue to write in English, in addition to my own language.)	1	0	1	0.67	0.58	Suitable
2	ถ้าฉันสามารถเข้าถึงบทเรียนออนไลน์ได้ ฉันต้องการใช้บทเรียนออนไลน์ต่อไปเพื่อทักษะภาษาอังกฤษอื่น ๆ (If I have access to online	1	0	1	0.67	0.58	Suitable

No.	Items	Expert's IOC			Mean	S.D.	Meaning
		No. 1	No. 2	No. 3			
	lessons, I will continue to use it to improve other English skills.)						
3	ถ้าฉันสามารถเข้าถึงบทเรียนออนไลน์ได้ ฉันจะมีความสุขในการใช้กลยุทธ์การอ่านที่ฉันได้เรียนมา (If I have access to online lessons, I will be happy to use the reading strategies I have learned.)	1	0	1	0.67	0.58	Suitable
4	เมื่อฉันใช้บทเรียนออนไลน์ ฉันจะมีความมั่นใจเวลาที่ฉันร่วมกิจกรรมสนทนาเป็นภาษาอังกฤษ (When I use online lessons, I will have confidence when I participate in conversations in English.)	1	0	1	0.67	0.58	Suitable
Total					0.76	0.52	Suitable



APPENDIX M

ASSESSMENT FOR CONTENT VALIDITY FOR SEMI- STRUCTURED INTERVIEW

Interview items	Expert's IOC			Mean	S.D.	Validity
	-1	0	+1			
1. คุณคิดอย่างไรด้วยวิธีเรียนของวิชานี้อย่างไรเมื่อเทียบกับรายวิชาที่ใช้การบรรยายเป็นหลักวิชาอื่น ๆ (What do you think about learning with FCC compare to other lecture-based teaching courses?)	1	0	1	0.67	0.58	Suitable
1. วิธีการเรียนของวิชานี้ทำให้ผลการเรียนของคุณเป็นอย่างไร (How did the teaching method in this course affect your learning outcomes?)	1	1	1	1	0.00	Suitable
2. วิธีการเรียนของวิชานี้ส่งผลต่อการเรียนรู้ด้วยตนเองของคุณอย่างไร (How did the teaching method in this course influence your learning autonomy?)	1	1	1	1	0.00	Suitable
3. วิธีการเรียนการสอนของวิชานี้มีส่วนช่วยให้คุณเรียนรู้ตามความถนัดอย่างไร (How did the teaching method in this course support your learning preference?)	1	0	1	0.67	0.58	Suitable
4. คุณชอบการใช้เครื่องมือของบทเรียนออนไลน์ในการสื่อสารและการเรียนรู้กลยุทธ์การอ่านภาษาอังกฤษหรือไม่ เพราะเหตุใด (Did you like using online communication tool and learning platform for English reading strategies? Why or why not?)	1	0	1	0.67	0.58	Suitable
5. คุณคิดว่า การออกแบบการสอนนี้ ควรได้รับการปรับปรุงอย่างไรบ้าง เช่น สื่อการเรียน วิธีการสอน เนื้อหาวิดีโอ เครื่องมือสื่อสาร กิจกรรมการเรียน (ทั้งในบทเรียนออนไลน์และ ในห้องเรียน) (In what areas do you think this instructional design could be improved? Learning materials, teaching method, video contents, communication tool, activities (both online and in-class))	1	0	1	0.67	0.58	Suitable
Total				0.78	0.43	Suitable

APPENDIX N

RESPONSES FROM INTERVIEWS

A. Positive responses

Questions	Responses	Sample explanations
1. What do you think about learning with FCC compare to other lecture-based teaching courses?	1.1 Learning with FCC on mobile phone is better.	I think, if we learn with books as usual, I can say that 90% of the students will not open the books because nowadays they are stick to mobile phones, yes, and if there is an app [for learning], they would go in [and learn]. (G4, S2)
	1.2 FCC helps students to prepare before class.	We can do homework in advance. (G9, S2)
		If we don't have to study the lesson and prepare before class, we don't have to do it by ourselves, you are force to prepare. (G3, S1)
		We learn first, we know before class because it requires us to prepare. (G3, S1)
		It's like being prepared before coming to study in class. (G9, S1)
		Just the same. That is, we can learn online before learning with the teacher. Something like that. The teacher explains more and we understand better. (G9, S2)
	It's good that the teacher gives you first and then you find more. (G2, S1)	
1.3 FCC make students become responsible.	FCC Makes us become responsible. (G4, S1)	

Questions	Responses	Sample explanations
	1.4 Translation can be done easily with FCC.	For me, learning through videos is OK for me. It's good because I don't understand when learning with that a teacher talking, talking, and talking. But with videos, there are vocabularies or something. If there if anything I don't know, I will keep it, and translate with Google, see what the words mean. I think this method is OK. Better than just a teacher talking. (G4, S2)
	1.5 FCC helps student to become unity.	For me, it's OK to learn with FCC. We did group work. It make us become unity. (G3, S1)
2. How did the teaching method in this course affect your learning outcomes?	2.1 By adding some more understanding in class	Even though we didn't understand what we read, we could add some more in class. We can understand before we come to class. (G5, S1)
	2.2 By receiving comments from friends	One person makes a summary, and then shares to the group. After that, all the friends make comments. (G5, S1)
	2.3 By attending group discussions	My reading get better. Better than before. Yes, because we give one lesson to one of use to do the summary. Then we discuss whether it's OK. (G8, S1)
	2.4 By checking understanding from doing exercises	The exercise is to check our understanding for how much we understand. Something like that. (G9, S2)
		Exercises did help us. Because they [exercises] can be done many times. If we got them wrong, we could come back and redo. (G7, S1)
		For me, it improves. (G2, S1)
		Just a little better. (G3, S1)
	2.5 By using copy and paste method for translation	For me, it did improve. In the lesson, they are all in English. Then when I don't know the meaning of some words, I will copy them to translate, and read along. (G4, S2)
I look for meaning of that words, do some reading, and then understand. (G5, S2)		

Questions	Responses	Sample explanations
		<p>If the teacher, for example, speaks someone may not catch or remember. But it is on the app, we can go to the web and do the translation, in case we don't catch up the teacher. (G4, S3)</p>
		<p>I understand because I can just translate. (G5, S1)</p>
		<p>English foundation of some friends is not firm, and the lesson contents are in English. So some of them have hard time studying. They have to read and translate into Thai. Something like that. (G9, S3)</p>
	<p>2.6 By making preparation class information</p>	<p>It's that we don't know the information before [if there is no preparation]. (G5, S2)</p> <p>We don't know the information for what we have to learn. But with this method, we read and understand some lessons and come to class. (G5, S1)</p>
	<p>2.7 By Repeat learning</p>	<p>Because there are both texts to read and the videos to watch, if we don't understand any of this, we can go back and make a second study. (G8, S1)</p> <p>I rewind and watched them [videos] again. This make me understand more. (G5, S2)</p>
	<p>2.8 By sharing information and knowledge</p>	<p>We shared. (G5, S1)</p> <p>It's like when we learn individually, we don't know other people's information. Doing group work is about sharing information. (G8, S1)</p> <p>That's right. It's like we share knowledge to each other, and we help one another. We will get better. (G8, S1)</p>
	<p>2.9 By making summaries</p>	<p>We summarized first on each one's part and then put them together. (G9, S2)</p>
	<p>2.10 By watching videos</p>	<p>Yes, this helps. I think videos are OK. (G7, S1)</p>
	<p>2.11 By sharing Vocabulary</p>	<p>It's like we share vocabularies together. It does help. It helps me to understand because we can see the vocabulary. (G5, S1)</p>
<p>3. How did the teaching method in</p>		<p>Each of us needs to do it [learn the lesson] and then discuss. (G3, S1)</p>

Questions	Responses	Sample explanations
this course influence your learning autonomy?	3.1 FCC makes students learn in group.	Mostly, we came and talked like this, rearranged and typed before submitting. (G9, S2)
		FCC help us understand by working in group. In my group, I don't think that I'm better off. I just help coordinate the group, remind friends. "Hey, we will do the summary for this part." Sometimes I just make a summary by myself first, and give it to friends, asking them whether it's OK. If not, then find some more. Something like that. (G2, S1)
	3.2 FCC makes students learn independently.	We can learn by myself. (G4, S1)
		By learning online, we understand it by ourselves. (G5, S1)
		This [learning with FCC] helps improve our independent learning. (G8, S1)
	3.3 Students read more on websites.	We read more in other websites very often. But we didn't go to just only one website. I don't believe that everything in the web is all correct. We read many webs and come together to see whether the web contents were in the same direction. Then, we made a summary. (G2, S1)
	3.4 Students make repeat learning with FCC.	When you get 0, did you go back and read more. (G4, S1)
		Yes. We wrote again. Everyone rewrote and typed, then submitted. (G9, S2)
	3.5 Learning with FCC allows student to search more from Google	Like I told you before, it help me search for more in Google. It does help. (G2, S1)
	3.6 Students learn by making summaries	We read all, and everyone makes their own summary. (G7, S1)
It makes each of us read and summarized. (G7, S1)		

Questions	Responses	Sample explanations
		<p>If I say that everybody study everything in the lesson, then everyone came and summarized the lesson together. (G9, S2)</p> <p>When we watch the videos, there are data which is OK. We then summarize the data again. (G9, S2)</p>
4. How did the teaching method in this course support your learning preference?	4.1 By providing environment for learning anywhere	Because it [the course] is already in the phone. The app can go anywhere. We don't have to carry books everywhere. (G4, S3)
	4.2 By providing online learning which is better than learning from books	Yes, learning online is better than books. (G4, S2)
	4.3 By providing instant learning with mobile phones	<p>For me, I prefer learning on a mobile phone, because it is convenient. I have it with me all the time. (G5, S1)</p> <p>When I have free time I can pick it [my phone] up and use it instantly. (G4, S1)</p>
	4.4 By being able to translate while doing exercises	Play with the phone, and translate in the computer, and then do the exercises. (G3, S1)
	4.5 Students have freedom of learning	We have more freedom in learning. We don't have to sit down and have to do this, do that, something like that. (G4, S3)
	4.6 By making multiple viewings of videos	If I don't understand, I watch again. Contents can be watched again if it's a video. (G4, S3)
	4.7 By providing non-pressure learning environment	It's like it's not quite serious. The teacher doesn't put pressure on us. (G4, S3)
5. Did you like using online communication tool and learning	5.1 Not needing to have book is convenient and save on books	It's good in some way. One is that we don't have to buy books. We don't have to spend on that. Everybody is already using the Internet. (G4, S3)

Questions	Responses	Sample explanations
platform for English reading strategies? Why or why not?		Yes. We don't have to carry the heavy books with us. We only carry our phone. When the teacher tell use to open it, we can look at the lesson in the phone. (G4, S3)
		I only want the system to be better, then everything will be OK. It is saver than the cost of books. (G9, S1)
5.2 Learning with Moodle is convenient		I think it's convenient, not hart and not easy. (G2, S1)
		I think it's convenient. (G3, S1)
		OK. It [the system] is OK. It's convenient when we learn through mobile phone. We use it through anything. I think it is good, really. (G5, S1)
		It is quite fast. I think it's OK. Fast is convenient. (G7, S1)
		Submitting homework [is convenient]. (G7, S1)
		Convenient and fast, teacher. Just after we submit work, it goes straight to the teacher. (G7, S1)
		Yes, it is useful, convenient, and easy to use. It's convenient. The phone is always with us. Easy to carry. (G8, S1)
		Using mobile phone is easier, more convenient. (G3, S1)
		If I can get in, I can use the lessons straight away. (G4, S1)
		When logging into the system, we want to see Lesson 1, Lesson 2 right away. This is more OK. (G4, S2)
5.3 By providing interactive, self-checked exercises		Exercises are not really hard, because they followed what were given [the lesson contents]. (G9, S2)
		Exercises are not difficult. (G8, S2) (G7, S1)
		Exercises are also OK. Can be done many times. (G8, S1)

Questions	Responses	Sample explanations
		I think exercises are OK because I can practice for myself. (G9, S2)
		I like when I do exercises. It's good that there are answer keys [instant marking]. I know which is correct and which is wrong. I like that. (G2, S1)
	5.4 By not having to come to classroom	It's like everything is in the Internet, but we don't have to come to class. (G4, S3)
6. In what areas do you think this instructional design could be improved -Learning materials, teaching method, video contents, communication tool, activities (both online and in-class)?	6.1 Exercises may be arranged from easy to difficult.	I want them [exercises] to have levels from easy to difficult. (G4, S1)
	6.2 Chat function needs to be improved	I want it to improve about sending messages. (G5, S1)
		I want the chat to be able to view and read previous messages. (G8, S1)
		Only improve the Chat function. Sometimes we forgot where we were up to since the last time we talked. (G9, S1)
		I want something [a chat program] like Facebook. (G5, S2)
	6.3 Reading pages should be shorter	The articles are too long. (G7, S1)
	6.4 Thai language should also be used in the lessons	I think if the lessons are also in Thai, it would be OK. (G9, S1)
Yes. If this app has Thai language, I think it will be OK. (G9, S3)		

B. Negative responses

Questions	Responses	Sample explanations
4. How did the teaching method in this course support your learning preference?	4.1 Learning with phone does not give feeling like real learning	[Learning with mobile phone] doesn't seem like learning. (G1, S1)
	4.2 Students preferring books.	Actually, I can read on anything because I like reading everything as required, but in fact I want to read book better. (G1, S2)
		Sometimes we don't use Internet all the time. We in fact use mobile phone, but we don't use the app that much. For me, I will only swipe left and right and then close it, not continuing any more. I seem to prefer looking up information for book better. I am used to using book better. (G1, S2)
		It also like we have references in the book. (G1, S2)
		Learning with mobile phone, I don't quite understand. With books, we can take some notes. (G7, S1)
5. Did you like using online communication tool and learning platform for English reading strategies? Why or why not?	5.1 Getting into lessons takes too many steps	Yes. It takes too long to get into each lesson. It's too complex. (G4, S2)
	5.2 Group chat function have some problems.	No. But there are problems when using the group chat. We cannot sent pictures. For example, when we make a summary and want the friends to see it, we have to type instead. (G8, S1)
		In the chat, when one of us came in, other friends didn't know. It's not like we are using Facebook. With the teacher's chat, we didn't know who came in at what time. It also didn't give notices about changes to us. (G9, S1)
	5.3 Students prefer learning from book than online	But I prefer reading books. (G7, S2)

APPENDIX O

SAMPLE LESSON PAGES ON THE MOBILE APP

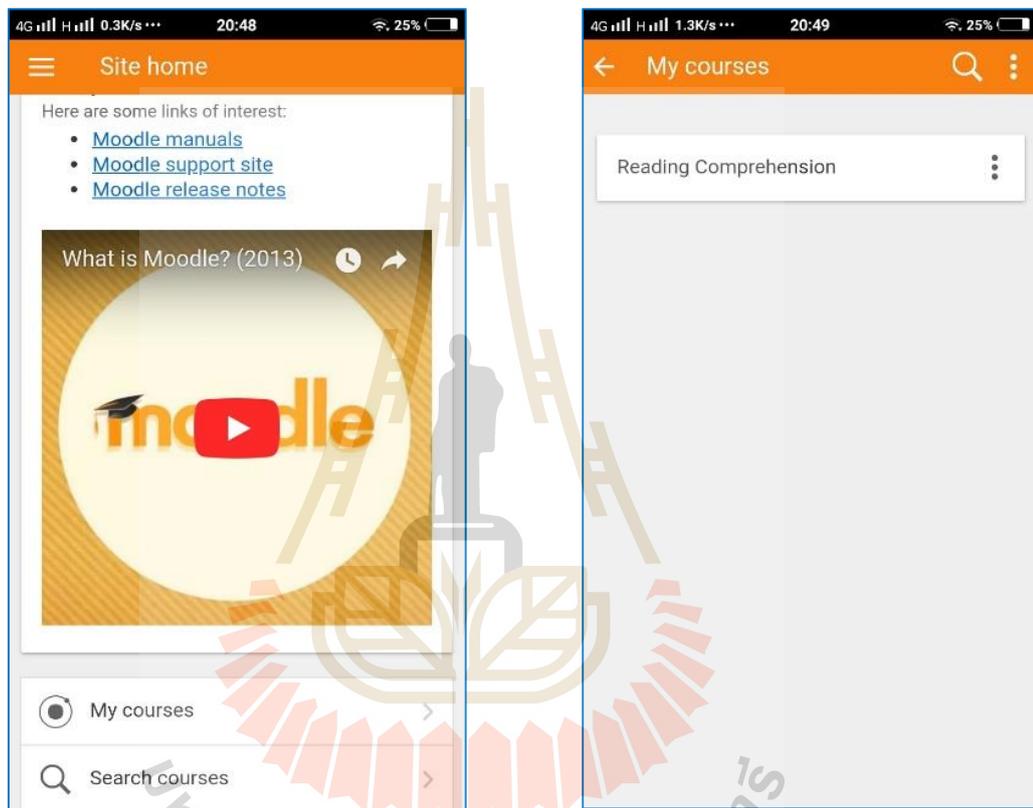


Image 1: Site homepage

Image 2: Available course(s)



Image 3: First page of the course (outline mode)

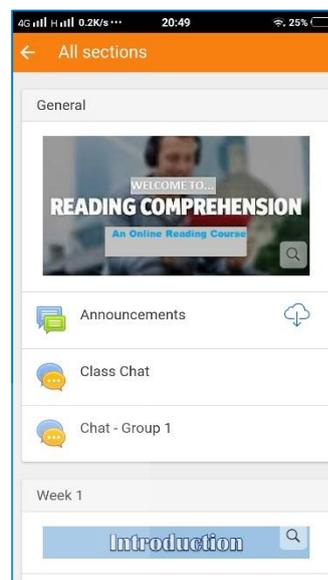


Image 4: First page of the course (detail mode)

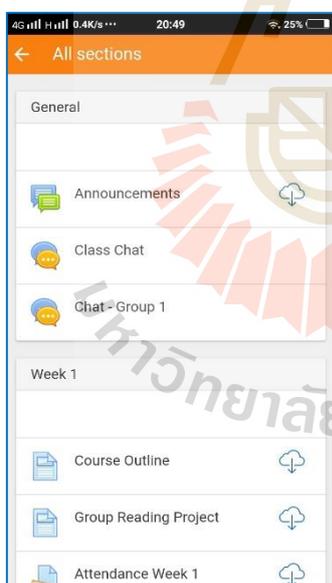


Image 5: General Section and Week 1 section used for course introduction

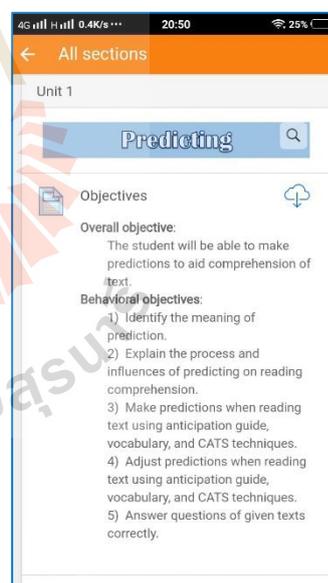


Image 6: Objectives of Unit 1 (Predicting)

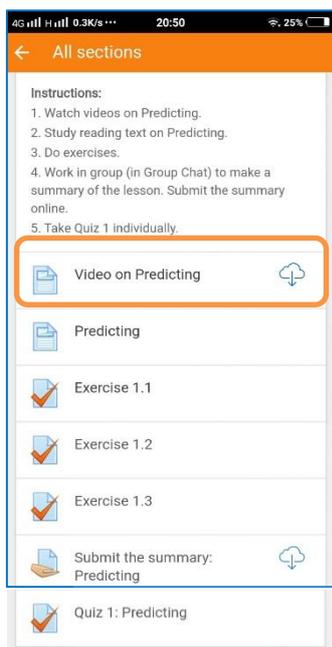


Image 7: Instruction for Unit 1

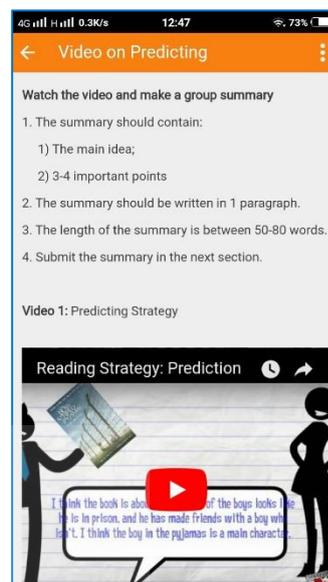
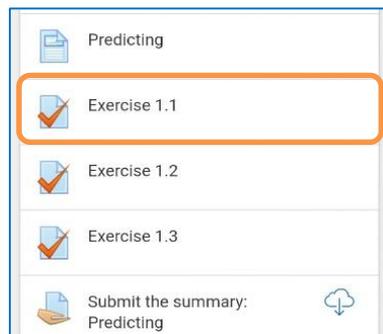


Image 8: Video page and instructions



Image 9: Example lesson page on Predicting strategy



Example pages for exercises

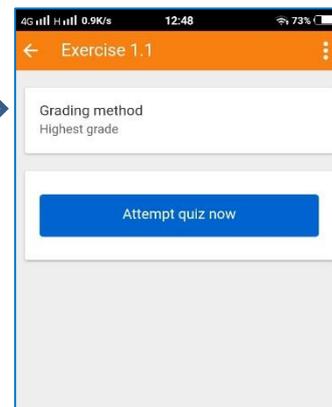


Image 10: Starting quiz

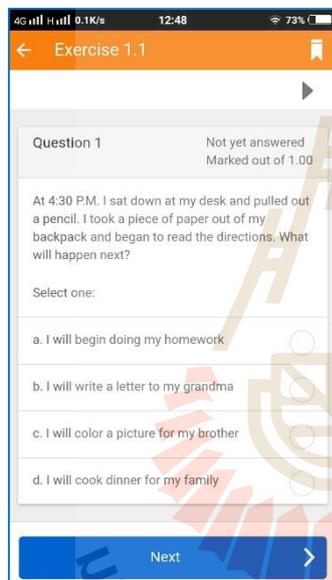


Image 11: Sample question and choices

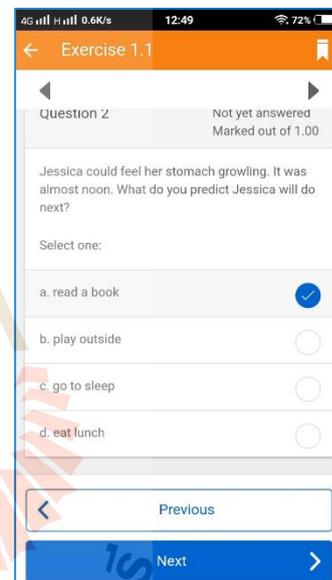


Image 12: Navigation of the question page

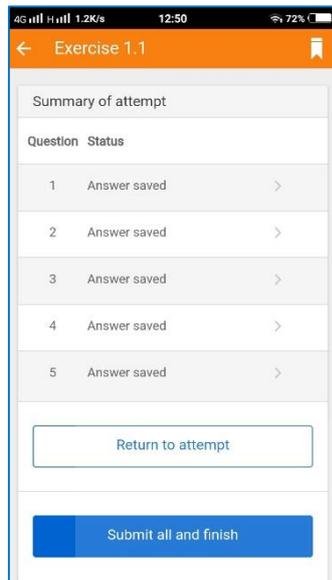


Image 13: Summary and submission page

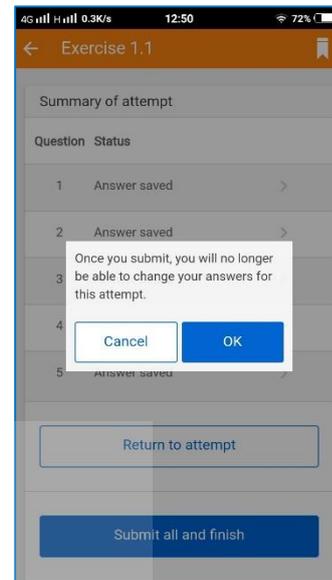


Image 14: Conformation for submission

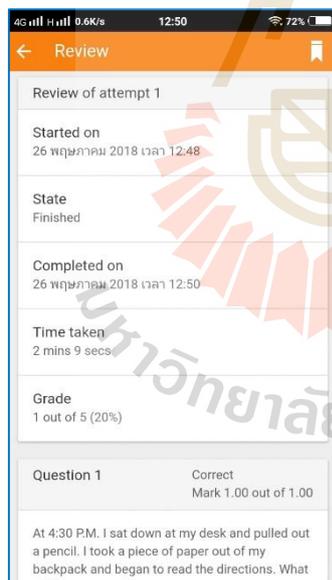


Image 15: Result page

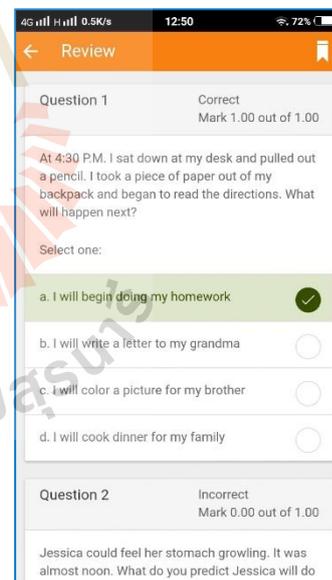


Image 16: Feedbacks on correct answer

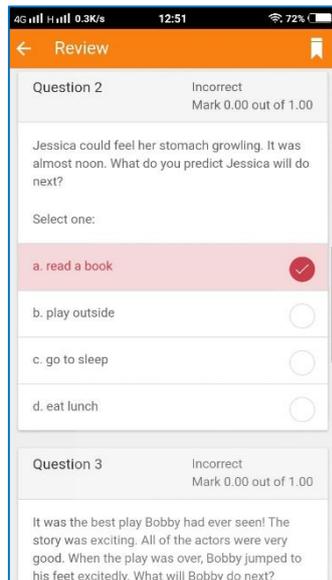


Image 17: Feedback on incorrect answer

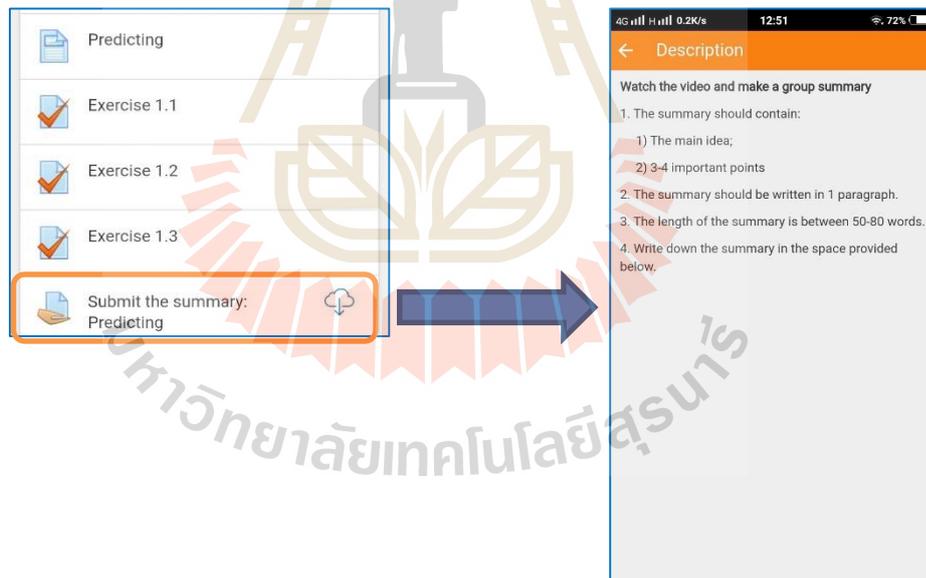


Image 18: Example summary submission assignment

Image 19: Explanation page for the assignment submission

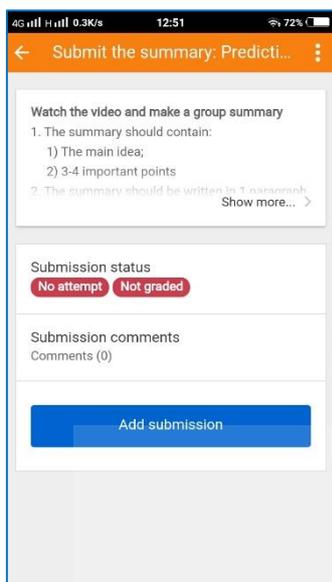


Image 20: Add submission page

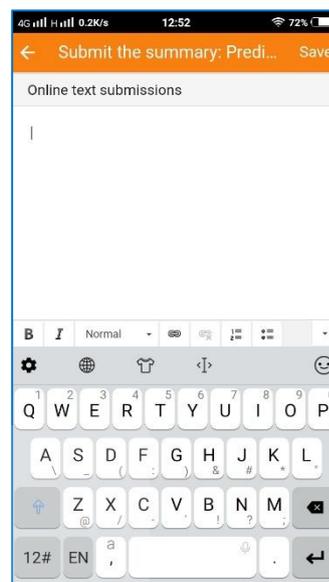


Image 21: Submission window for text submission type

APPENDIX P

EXPERTS FOR STUDY TOOL EVALUATION

Asst. Prof. Dr. Lawarn Sirisrimangkorn

Expert Details	Research Tools Evaluated
<p><i>Qualification:</i> Doctor of Philosophy (English Language Studies), Suranaree University of Technology</p> <p><i>Current position:</i> Lecturer at Graduate School, Department of Business English, Nakhon Ratchasima Rajabhat University</p> <p><i>Related fields of expertise:</i> Teaching English through Drama, Teaching drama through video using Moodle LMS</p> <p><i>Sample academic work:</i></p> <ul style="list-style-type: none">- The effects of drama-based role play structured by stad on university students' speaking skill, motivation, and self-esteem (2012)	<ol style="list-style-type: none">1. Pre-test/Post-test items2. Conventional/FCC lesson plans3. FCC online lessons4. Questionnaire5. Semi-structured interview

2. Dr. Samorn Suthipiyapathra

Experts Details	Research Tools Evaluated
<p><u>Qualification:</u> Doctor of Philosophy (English as an International Language), Chulalongkorn University</p> <p><u>Current position:</u> Lecturer at Department of Educational English, Nakhon Ratchasima Rajabhat University</p> <p><u>Related fields of expertise:</u> English language (Study and teaching, Hearing impaired, Inclusive education)</p> <p><u>Sample academic work:</u></p> <ul style="list-style-type: none"> - Development of an English instructional management model based on differentiated instruction and universal design to enhance English learning achievement, social skills, and learning engagement of undergraduate students with and without hearing impairment in inclusive English classrooms (2015) 	<ol style="list-style-type: none"> 1. Pre-test/Post-test items 2. Conventional/FCC lesson plans 3. FCC online lessons 4. Questionnaire 5. Semi-structured interview

3. Asst. Prof. Onsiri Wimontham

Experts Details	Research Tools Evaluated
<p><u>Qualification</u>: Master of Education</p> <p><u>Current position</u>: Lecturer at Department of Educational English, Nakhon Ratchasima Rajabhat University</p> <p><u>Related fields of expertise</u>: Technology Enhanced Language Learning, Online course development.</p> <p><u>Sample academic work</u>: Supplementary</p> <ul style="list-style-type: none"> - Creating curriculum of English for conservative tourism for junior guides to promote tourist attractions in Thailand (2018) - Instructional Materials for the Course of children's Literature. (2011) 	<ol style="list-style-type: none"> 1. Pre-test/Post-test items 2. Conventional/FCC lesson plans 3. FCC online lessons 4. Questionnaire 5. Semi-structured interview

CURRICULUM VITAE

Thanaset Chavangklang, born on 19 July, 1972, is currently an English lecturer of the Business English Curriculum of the Faculty of Humanities and Social Sciences at Nakhon Ratchasima Rajabhat University in Thailand. He received his Bachelor of Sciences in Environmental Sciences (Honor) from Charles Sturt University, Australia in 1997. He obtained his Master of Arts in English Language Studies from Suranaree University of Technology in 2007. His research interests include English Language Teaching, Business English, Project-based Instruction, Blended-learning, and Flipped Learning.

