

การใช้รูปแบบการเรียนรู้แบบห้องเรียนกลับด้าน
แบบร่วมมือกันในรายวิชาการอ่านเพื่อความเข้าใจ

IMPLEMENTING FLIPPED COOPERATIVE CLASSROOM LEARNING
IN A READING COMPREHENSION COURSE

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บทคัดย่อ

วัตถุประสงค์ของการวิจัยครั้งนี้เป็นประเมินผลการใช้และหาแนวทางการปรับปรุงรูปแบบการเรียนรู้แบบห้องเรียนกลับด้านแบบร่วมมือกัน สำหรับรายวิชาการอ่านเพื่อความเข้าใจ รูปแบบการเรียนนี้ดัดแปลงมาจากรูปแบบการเรียนรู้แบบร่วมมือกันเพื่อให้เหมาะสมกับเป้าหมายรายวิชา ลักษณะเด่นของรูปแบบการเรียนนี้คือมีการนำองค์ประกอบด้านการเรียนรู้แบบร่วมมือกันเข้าไปในกิจกรรมการเรียนรู้บนออนไลน์และการเรียนในห้องเรียนและการนำองค์ประกอบด้านระบบบริหารจัดการการเรียนรู้มาช่วยในการเรียนออนไลน์ รูปแบบถูกนำไปใช้กับชั้นเรียนของนักศึกษาภาษาอังกฤษ 32 คนที่มหาวิทยาลัยราชภัฏนครราชสีมา ผลการใช้รูปแบบถูกประเมินโดยใช้คะแนนก่อนการทดสอบ/หลังการทดสอบของนักเรียนและการตอบสนองของนักเรียนต่อแบบสอบถามประสบการณ์การเรียนรู้ แบบสอบถามมีทั้งหมด 36 รายการที่มีความตรงตามเนื้อหาโดยรวมเท่ากับ 0.76 สถิติที่ใช้ในการวิเคราะห์ข้อมูลประกอบด้วย การทดสอบที ความถี่และค่าเฉลี่ย คำตอบจากคำถามแบบปลายเปิดถูกวิเคราะห์โดยใช้วิธีการวิเคราะห์เนื้อหา ผลการประเมินโดยผู้เชี่ยวชาญพบว่า การเรียนรู้แบบห้องเรียนกลับด้านแบบร่วมมือกัน มีความเหมาะสมอยู่ในระดับมาก ผลการใช้งานรูปแบบพบว่านักศึกษาที่เรียนผ่านการเรียนรู้แบบห้องเรียนกลับด้านแบบร่วมมือกัน มีผลการทดสอบก่อนเรียนและหลังเรียนไม่แตกต่างกัน ผลการตอบแบบสอบถามจากการเรียนด้วยการเรียนรู้แบบห้องเรียนกลับด้านแบบร่วมมือกัน พบว่า นักศึกษาส่วนใหญ่มีความคิดเห็นในเชิงบวกกับการเรียนรูปแบบการเรียนรู้แบบห้องเรียนกลับด้านแบบร่วมมือกัน และระบบการเรียนออนไลน์ ผลการศึกษาพบข้อเสนอแนะสำหรับปรับปรุงส่วนต่าง ๆ เพื่อให้การเรียนรู้แบบห้องเรียนกลับด้านแบบร่วมมือกัน เป็นระบบที่มีความเหมาะสมสำหรับการใช้สอนรายวิชาการอ่านเพื่อความเข้าใจบริบทของมหาวิทยาลัยที่นักศึกษาเรียนอยู่ และสามารถนำไปประยุกต์ใช้กับการเรียนการสอนที่มีลักษณะคล้ายกัน

คำสำคัญ : ความเข้าใจในการอ่าน, ห้องเรียนกลับด้าน, การเรียนแบบร่วมมือกัน, การนำรูปแบบไปใช้

ABSTRACT

The objective of this study was to implement and find guidelines for improving a Flipped Cooperative Classroom model in a reading comprehension course. The Flipped Cooperative Classroom model was developed in response to solving problems of low reading comprehension of university students as the results of their lack of reading strategies and low reading motivation. This model was adapted from pre-existing available models to suit the instructional goal. Major features which made the Flipped Cooperative Classroom model differ from other previous ones were the use of cooperative learning and the online learning management system. The model was implemented with a class of 32 English major students at Nakhon Ratchasima Rajabhat University. The implementation results were assessed by means of students' pre- and post-test scores and students' responses to learning experience questionnaires. The questionnaire contained a total of 36 items with the overall content validity of 0.76. Statistics used for data analysis included t-test, frequency, percentage, and mean. Open-ended responses were analyzed using content-analysis method. The results showed that the developed Flipped Cooperative Classroom model was rated at 'Suitable' level, and the students had positive opinions about learning with the Flipped Cooperative Classroom model, although pre-test and post-test scores were not significantly different. The study results suggested some modifications needed with some parts of the Flipped Cooperative Classroom model for better effectiveness.

Keywords : Reading comprehension course, Flipped classroom, Cooperative learning, Model implementation

INTRODUCTION

In language teaching and learning, flipped classroom has been recognized as an approach to increase instructional effectiveness by mean of reversing the instructional order where course inputs are learned outside classroom before the face-to-face class time (Bishop and Verleger, 2013, p. 4). This method is said to maximize the classroom time usage, hence improving learning achievement. Of the many different subject areas, flipped learning has been applied to language course such as reading (Karimi & Hamzavi, 2017, p. 95; Huang and Hong, 2016, p. 175). Although academic improvement has been reported from previous studies, claims made in regards with the effectiveness of foreign language vary according to the design of each study, which differed greatly from one another. Therefore, a different flipped classroom model needs to be developed to suit particular instructional context.

For this study, low reading comprehension of university students has been identified as major problem (Puangmaliwan, 2005, p. 1; Chomchaiya & Dunworth, 2008, p. 97; Uraiman, 2011, p. 3; Chomchaiya, 2014, p. 2 Kasemsap & Lee, 2015, p. 101; Hayikaleng, et al, 2016, p. 84; and Sawangsamutchai & Rattanavich, 2016, p. 54), and there were a number of factors contributing to this problem such as the learners' lack reading skills or strategies, the instructional methods, and the classroom environment (Strauss, 2008, p. 17; Siriphanich and Laohawiriyanon, 2010, p. 2; Tamrackitkun, 2010, p. 3; Boonyapakob, Vivekmetakorn, & Jitpranee, 2012, p. 1; and Todd, 2012, p. 80). Therefore, a new flipped classroom model needs to be designed to solve these problems all together. That is, the model must be designed to provide students with sufficient strategies to facilitate them while interacting with the text, in response to solving the students' lack of reading strategies (Lehr and Osborne, 2006, p. 17). Apart

from that, reading motivation needs to be enhanced by designing cooperative learning activities in the model. In other words, to achieve the maximum potential of flipped learning in solving problems regarding the students' low reading ability, cooperative learning should also be allowed, as in the online and face-to-face modes of learning. This can be achieved by using technology that supports both online learning materials and communication platform.

RESEARCH OBJECTIVES

The objectives of this study were:

1. To implement the Flipped Cooperative Classroom model in a reading comprehension course.
2. To suggest modification guidelines for the Flipped Cooperative Classroom model for a reading comprehension course.

RESEARCH BENEFITS

Research findings of this study would contribute the following benefits.

1. There will be a tested teaching and learning approach for using with a reading comprehension course which integrates the use of educational technology and instructional process for the maximum learning effectiveness.
2. There will be a set of guidelines for model modification in order to make improvement for the best use of the model.

Development of a Flipped Cooperative Classroom Model

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, p. 4) and Liu and Liu (2016, p. 2037). 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, p. 4) who proposed a model called C-FLIP (Cooperative Flipped Classroom). According to this model, the four flipped classroom 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.

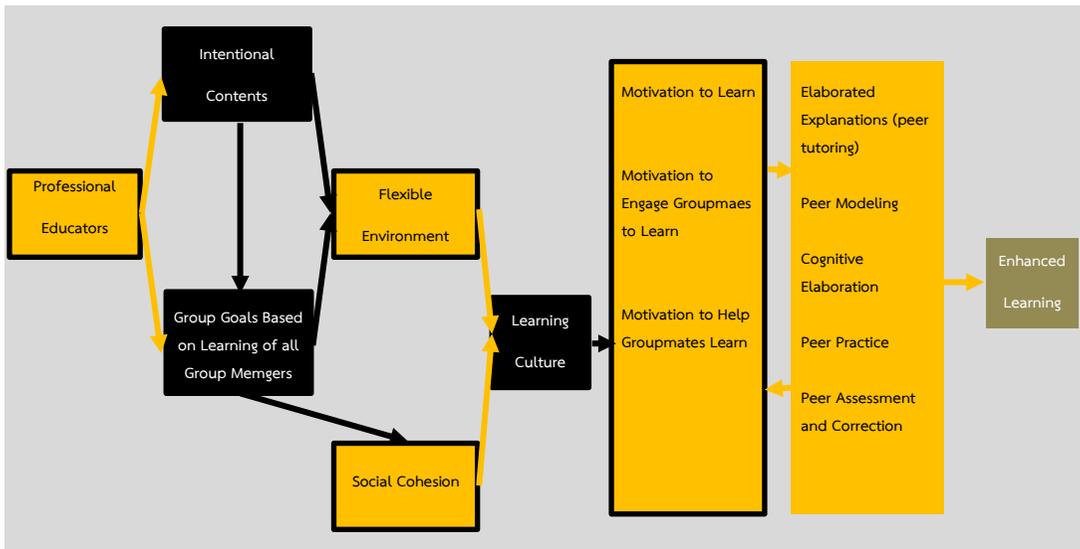


Figure 1 C-FLIP model

Source : Erbil & Kocabas, 2016, p. 4

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, p. 2037), the FCM Model, was consider.

The Liu and Liu' (2016, p. 2037) 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.

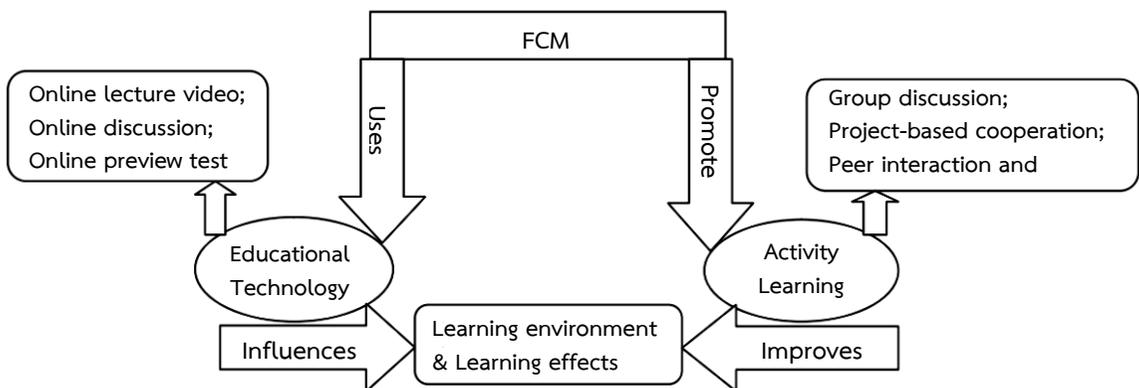


Figure 2 The theoretical framework of flipped classroom and interactive relationships of its elements

Source : Liu & Liu, 2016, p. 2037.

As illustrated in Figure 2, 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, p. 2038) 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, p. 4) C-FLIP model. Therefore, adding more specific technology type and giving more details on cooperative learning environment would make the FCM a better model.

To integrate a flipped cooperative classroom model to a reading course, instructional design process is needed. One specific model that provides such process has been proposed by in Lee, Lim, & Kim (2017, p. 434). The course contents and learning activities were developed to a reading comprehension course according to the developed model of flipped cooperative classroom learning model. This study was conducted as to cover the stages of developing, evaluating, and piloting the implementation process of the Flipped Cooperative Classroom model with a Reading Comprehension course for university students.

RESEARCH METHODOLOGY

Methodology of this study covered three main steps-Model development, Model Validation, and Model Use, based on the three steps of the Instructional Design (ID) (Lee and Jang, 2014, cited in Lee, et al 2017, p. 434). The first two steps involved creating and checking the model quality, while the third step aimed at implementing the model in order to find guidelines for improving the model.

1. Model Development

The FCC model was developed from initial models. After that, details in each element were developed into the complete useable instruction. The resulted instruction according to the flipped cooperative classroom learning included lesson plans and online lessons.

1.1 The Initial Models

The initial thought about the model was that cooperative learning activities should not be restricted to only in the face-to-face part, but also in the online part as well. Such feature has been described in the definition of flipped classroom by Kim, Kim, Khera and Getman (2014, p. 38)

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. Later, two models which explicitly includes cooperative activities in both learning modes with the support from educational technology were introduced by Liu and Liu (2016, p. 2037) and Erbil and Kocabas (2016, p. 4), known as the Flipped Classroom Model (FCM) and the Cooperative-Flipped model (C-FLIP), respectively. In these models, apart from group activities in the face-to-face part, online interaction was also included in the online mode of learning. Although details of how to implement such online interaction were not included, the FCM model contributed a great starting point for further expansion to suit the instructional use.

1.2 The Final FCC Model

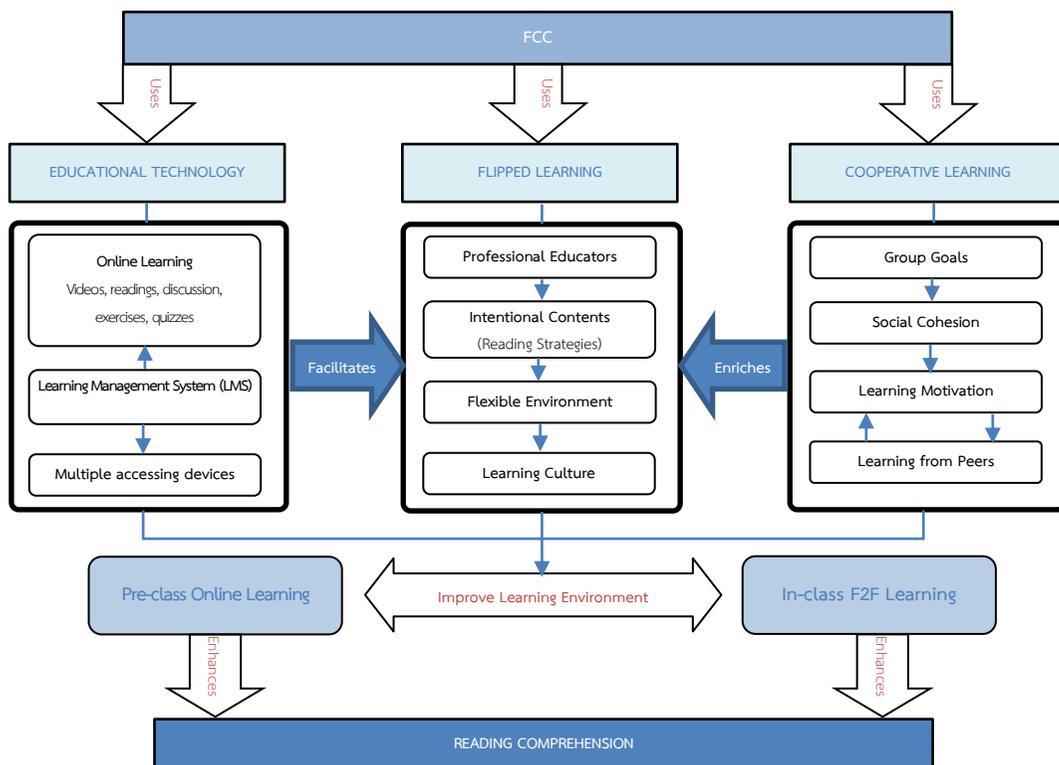


Figure 3 The Flipped Cooperative Classroom Model (FCC Model)

2. Model Validation

The validation of the flipped cooperative classroom learning was conducted with the lesson plans and the online lessons. Each of which was assessed by three experts using content validity assessment forms. Each form 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: very suitable (4.51-5.00), suitable (3.51-4.50), moderately suitable (2.51-3.50), unsuitable (1.51-2.50), very unsuitable (1.00-1.50).

2.1 Lesson Plans

The lesson plans were based on the instructor-created materials for the Reading Comprehension course. The contents covered seven reading strategies, and they derived from the course description. Activities in the lessons took place in the pre-class and in-class time. Additionally, the instructional activities were based mainly on cooperative learning and student/learner-centered. The instructions in the online pre-class session were designed for cooperative learning activities where students need to complete the assigned tasks on the group basis. Therefore, the students needed to work in an online environment cooperatively through communication tools provided in the course. The students had options to access the course materials and activities either through a web browser on their personal computers or notebooks, or an application on their mobile devices. For the in-class session of the, the lessons were organized into steps of classroom discussion, group learning activities, and individual and group practice. Students were also assigned project work to do throughout the semester. The overall content validity of the lesson plans was at the ‘Suitable’ levels, with the mean score of 3.86 (S.D.=0.72). Results for the content validity of the lesson plans are summarized in Table 1.

Table 1 Content Validity of the Lesson Plans

Statements	Mean	S.D.	Validity
1. Learning objectives are related to contents of lesson plans.	3.67	0.58	Suitable
2. The contents are suitable for learning objectives.	4.00	1.00	Suitable
3. The contents are suitable for flipped classroom method.	4.00	1.00	Suitable
4. Learning activities are suitable for flipped classroom method.	3.67	0.58	Suitable
5. Learning activities are suitable for learning objectives.	4.00	1.00	Suitable
6. Learning activities are suitable for the concept of cooperative learning.	3.67	0.58	Suitable
7. Learning activities are suitable for the contents.	4.00	1.00	Suitable
8. Learning activities are suitable for each time period.	3.67	0.58	Suitable
9. Learning materials are related to learning activities.	4.00	1.00	Suitable
10. Learning materials are suitable for students.	4.00	1.00	Suitable
11. Evaluation and assessment are suitable for learning objectives.	3.67	0.58	Suitable
12. Evaluation and assessment are suitable for the contents and learning activities.	4.00	1.00	Suitable
13. Instruments of evaluation are suitable for the contents.	4.00	1.00	Suitable
14. On the overall, the lesson plans are suitable.	3.67	0.58	Suitable
Total	3.86	0.72	Suitable

2.2 The online Lessons

The online lessons were created in an online course hosted in the Moodle learning management system run by the instructor at <http://alls.gnomio.com>. The course consisted of seven topics according to the reading strategies. The content of the online course was based on the lesson plans, focusing on the pre-class and in-class activities. The online course was the host for lesson videos, exercises, assignments, and quizzes covering a 12-week period. The first week was reserved for the course introduction, and the preparation for using online lessons. The next seven weeks covered topics on Predicting, Generating Questions, Identifying Main Idea, Identifying Text Structures, Visualizing, Inferring, and Summarizing. Each topic began with videos related presenting to the topic content. The videos were in English with the optional English sub-titles. In addition to the videos, a webpage containing lesson contents was also provided for students to learn through a text mode. Learning activities included studying the unit contents through watching the lecture video and/or reading the content and doing the quizzes about the lesson. After viewing the videos, students worked in group to make a summary of the lesson. They were required to use the Group Chat function as their online discussion platform. By using the chat function, their discussion records were kept as the evidence of how they share ideas and how they came up with their lesson summary. In each online lesson, students needed to complete the quiz on the individual basis as to make sure that every student was responsible for their own learning. The lessons' overall content validity was at the 'Suitable' level, with the mean score of 3.87 (S.D.=0.73). The assessment results of online lessons content validity are summarized in Table 2.

Table 2 Content Validity of the Online Lessons

Statements	Mean	S.D.	Validity
1. The video clip contents are suitable for learning objectives.	3.67	0.58	Suitable
2. The video clip contents are suitable for flipped classroom method.	4.00	1.00	Suitable
3. The quizzes are suitable for learning objectives.	3.67	0.58	Suitable
4. The quizzes contents are suitable for flipped classroom method.	4.00	1.00	Suitable
5. The group chat activities are suitable for learning objectives.	3.67	0.58	Suitable
6. The group chat activities are suitable for flipped classroom method.	4.00	1.00	Suitable
7. The group chat activities are suitable for the concept of cooperative learning.	3.67	0.58	Suitable
8. The group project activities are suitable for learning objectives.	4.00	1.00	Suitable
9. The group project activities are suitable for flipped classroom method.	3.67	0.58	Suitable
10. The group project activities are suitable for the concept of cooperative learning.	4.33	1.15	Suitable
Total	3.87	0.73	Suitable

3. Model Use

The flipped cooperative classroom learning was piloted with a class of 32 English major students at Nakhon Ratchasima Rajabhat University enrolling the Reading Comprehension course in semester 1 of the academic year 2017 from August to November 2017. The results were assessed by means of students' pre-test/post-test scores and students' responses to learning experience questionnaires. Students were also asked to respond to the open-ended questions of the questionnaire on what problems they encountered during their study along with suggestions for improvement.

The questionnaire contained 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.

Statistics used for data analysis included the followings: 1) Comparing between scores of the pre-test and the post-test of Experimental Group using paired sample t-test; and 2) 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 (strongly agree), 4 (agree), 3 (neutral), 2 (disagree), and 1 (strongly disagree). Open-ended responses were analyzed using content-analysis method.

RESEARCH RESULTS

The model was evaluated using students' pre-test/post-test scores and opinions.

1. Results from students' test scores

1.1 Students' reading comprehension

Table 3 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		

As shown in Table 3, the pre-test mean score was 25.73 (S.D.=7.97) and the post-test score was 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.

1.2 Students' responses on learning experiences with FCC

Table 4 Students responses in the questionnaire on learning FCC learning experiences.

No.	Items	Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
1	Using learning methods in this course is a good way of learning.	0.00	3.10	37.50	37.50	21.90
2	I enjoyed the teaching approach used in this course.	0.00	0.00	31.30	43.80	25.00

Table 4 (Cont)

No.	Items	Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
3	I think the learning method used in this course is an effective way to learn.	0.00	0.00	37.50	40.60	21.90
4	I feel motivated in the classroom.	0.00	0.00	34.40	34.40	31.30
5	I participated and engaged myself in learning in the course.	0.00	0.00	18.80	43.80	37.50
6	I became an active learner in this course.	0.00	0.00	18.80	50.00	31.30
7	I thought the time and effort I spent in the learning method of this course was worthwhile.	0.00	0.00	31.30	28.10	40.60
8	I learned more in the course.	0.00	3.10	15.60	46.90	34.40
9	I like learning with the method used in this course compared to other lecture-based course.	0.00	0.00	28.10	43.80	28.10
10	I think this classroom learning method guided me toward better understanding of the course topics.	0.00	0.00	40.60	31.30	28.10
11	I experienced pleasure in the classroom.	0.00	0.00	21.90	50.00	28.10
12	I devoted myself more to the instructional/class activities in the classroom.	0.00	0.00	21.90	50.00	28.10
13	I spent more time and effort than usual on my classroom learning activities.	0.00	0.00	31.30	34.40	34.40
14	Generally, I'm happy and satisfied with this learning experience.	0.00	0.00	18.80	50.00	31.30
Section 1 Total		0.00	0.40	27.70	41.70	30.10

Data in Table 4 shows that, on the overall basis, the majority of the students (41.70 percent) agreed with the positive statements about the flipped cooperative classroom. The majority of the students (34.40-50.00 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 'Unsure' 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. Obviously, students agreed with most statements, and no students 'strongly disagree' with any statement. Only a small number of students (3.10 percent) 'disagreed' that using learning methods in this course is a good way of learning and that they learned more in the course.

1.3 Students' responses on the online lessons

Students also responded on the overall experiences about online lessons. Results are presented in Figure 4.

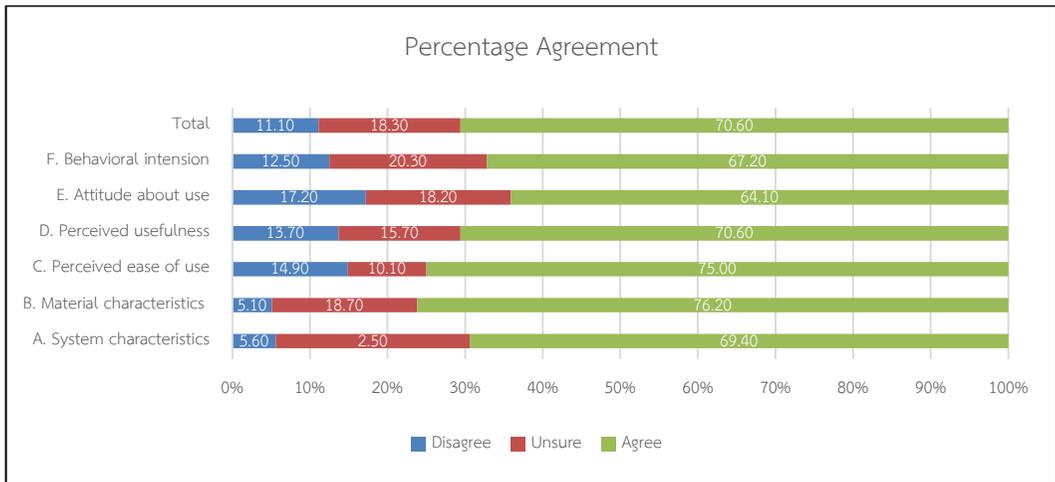


Figure 4 Students' responses on the online lessons

As shown in Figure 4, students expressed positive opinions about learning experiences with online lessons. Percentages of positive agreement were relatively high at all the six issues, ranges from 64.1 to 75.00 percent. The issue with the highest percentage of positive agreement is on perceived ease of use (75.00 percent). Overall, students had positive opinions on the system in all issues, indicating that students were happy learning with online lessons.

2. Suggestions for Model Modification

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 in order to be more effective.

2.1 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. Students' responses in the questionnaire and the interviews suggested that video contents need to be readily available and easy to understand.

2.2 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.

2.3 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 lesson summary.

2.4 There needs to be more and clearer explanations on the instructions of each online activity. 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.

CONCLUSION

This study was the development and evaluation of the FCC model to use with a Reading comprehension course. Two distinctive features of the FCC model were the lesson plans and the online lessons. These elements differentiated the FCC from other FC models.

Firstly, the lesson plans were designed to integrate cooperative learning in both the online and face-to-face modes. For this particular reading comprehension course, cooperative online learning activities included making a group summary for each lesson. Students were assigned to do individual learning activities through watching video and studying reading materials on individual basis. However, in making a group summary of the lesson, students were required to share ideas and understanding through either online or face-to-face interaction. To support such interaction, the model included learning management system (LMS) which could be used through both on a personal computer or a mobile device. Group interaction was also supported by the use of the Group Chat function of the LMS system. In the face-to-face classroom learning mode, cooperative activities were designed in the form of group reading tasks in each lesson. All these activities were created to support students to take advantage of group learning which could provide extra understanding of the course in addition to individual learning. Cooperative learning helped create a more learner-centered atmosphere (Sharan, 1994, p. 336) and academic skills (Jacob et al., 1996, p. 253; Stahl, 1995, p. 1).

The second distinctive feature of the FCC model was the use of LMS as the online learning platform, particularly with the mobile learning mode. This refers to the FCC online lessons which provided interactive online learning materials such as videos, reading materials, interactive self-checked exercises and quizzes. Results from the students' responses in the questionnaire would be an indication that adding cooperative learning element makes the FCC an effective instructional model, especially the use of LMS. Positive opinions toward learning through a flipped classroom had also be reported by other studies. The study by Jing (2016, p. 336) revealed that that students viewed an online platform as providing rich learning materials, presenting learning resources such as video, audio, pictures and texts that attract learners' attention by providing chances for learners to practice language skills and supporting interaction and communication between peers, and improve their autonomous learning ability. The study by Gulbinskienė, et al (2017, p. 176) also found that, apart from fostering students' metacognitive awareness, a LMS could be an online learning environment that promote a sense of autonomy by learning how to learn, making choices indecisions, and evaluating students' own learning. The study of Al-Harbi and Alshumaimeri (2016, p. 70) 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's (2013, p. 14) study which found that 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.

In conclusion, this study attempted to develop a new flipped classroom model and evaluate its use with a reading comprehension course. Using pre-existing models of the Flipped Classroom Model (FCM) and Cooperative Flipped (C-FLIP) as the original models, the researcher incorporated

two main elements of cooperative learning and a learning management system platform which together facilitate students' learning through online environment in the form of group cooperative activities. After working through the stages of instructional development based on the flipped learning design model of Lee, et al (2017, p. 427), the resulted flipped cooperative classroom lesson plans and the online lessons were validated as suitable. The results of piloting the model revealed positive responses from students. Findings of the study suggested that some modifications need to be made to improve the flipped cooperative classroom learning for the most effective use of this instructional model before applying to a reading comprehension course. It is recommended that the implementation of this course with students in different fields of study might be possible with some modifications to suit the course context.

SUGGESTIONS

Suggestions for future research

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.

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