

## USING FLIPPED CLASSROOM TO IMPROVE MATTHAYOMSUKSA 4 STUDENTS' ENGLISH READING COMPREHENSION ABILITY

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สาขาวิชาการสอนภาษาอังกฤษสำหรับผู้พูดภาษาอื่น มหาวิทยาลัยราชภัฏอุดรธานี

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### บทคัดย่อ

การวิจัยครั้งนี้มีวัตถุประสงค์เพื่อศึกษาและเปรียบเทียบความสามารถด้านการอ่านภาษาอังกฤษเพื่อความเข้าใจก่อนเรียนและหลังเรียนโดยใช้แนวคิดห้องเรียนกลับด้านของนักเรียนชั้นมัธยมศึกษาปีที่ 4 และศึกษาเจตคติต่อการสอนอ่านภาษาอังกฤษเพื่อความเข้าใจโดยใช้แนวคิดห้องเรียนกลับด้านของนักเรียนชั้นมัธยมศึกษาปีที่ 4 กลุ่มตัวอย่างที่ใช้ในการวิจัยคือนักเรียนชั้นมัธยมศึกษาปีที่ 4/1 โรงเรียนหนองวัวซอพิทยาคม จังหวัดอุดรธานี สำนักงานเขตพื้นที่การศึกษามัธยมศึกษาอุดรธานี ในภาคเรียนที่ 1 ปีการศึกษา 2565 จำนวน 30 คน ซึ่งได้มาโดยการสุ่มตัวอย่างแบบกลุ่ม แบบแผนของการวิจัยเป็นการวิจัยทดลองแบบกลุ่มเดียวสอบก่อนเรียนและหลังเรียน เครื่องมือที่ใช้ในการวิจัยประกอบด้วย แผนการจัดการเรียนรู้ 12 แผน แบบทดสอบวัดความสามารถด้านการอ่านภาษาอังกฤษเพื่อความเข้าใจและแบบวัดเจตคติต่อการสอนอ่านภาษาอังกฤษเพื่อความเข้าใจโดยใช้แนวคิดห้องเรียนกลับด้าน ดำเนินการทดลองใช้ระยะเวลา 12 สัปดาห์ สัปดาห์ละ 2 ชั่วโมง รวมทั้งสิ้น 24 ชั่วโมง สถิติที่ใช้ในการวิเคราะห์ข้อมูล ได้แก่ ค่าเฉลี่ย ร้อยละ ส่วนเบี่ยงเบนมาตรฐาน การทดสอบทีแบบไม่อิสระและการทดสอบทีแบบกลุ่มเดียว ผลการวิจัยสรุปได้ว่า นักเรียนมีคะแนนความสามารถด้านการอ่านภาษาอังกฤษเพื่อความเข้าใจเฉลี่ยก่อนเรียนเท่ากับ 11.47 คิดเป็นร้อยละ 28.67 และคะแนนเฉลี่ยหลังเรียนเท่ากับ 33.67 คิดเป็นร้อยละ 83.83 ซึ่งสูง

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กว่าเกณฑ์ร้อยละ 70 และเมื่อทดสอบความแตกต่างของค่าเฉลี่ยพบว่า ความสามารถด้านการอ่านภาษาอังกฤษเพื่อความเข้าใจของนักเรียนหลังเรียนสูงกว่าก่อนเรียนอย่างมีนัยสำคัญทางสถิติที่ระดับ .01 และนักเรียนมีเจตคติต่อการสอนภาษาอังกฤษเพื่อความเข้าใจโดยใช้แนวคิดห้องเรียนกลับด้านอยู่ในระดับดีมาก

**คำสำคัญ:** ห้องเรียนกลับด้าน, การอ่านภาษาอังกฤษ, การอ่านภาษาอังกฤษเพื่อความเข้าใจ

### Abstract

The purposes of this research were to study and compare Matthayomsuksa 4 students' English reading comprehension ability before and after studying using flipped classroom and to investigate students' attitude toward teaching English reading comprehension using flipped classroom. The sample consisted of 30 Matthayomsuksa 4 students at Nongwasopittayakhom School, under the Secondary Educational Area Office Udon Thani, in the first semester of the academic year 2022, selected through cluster random sampling. The research was a one-group pretest-posttest design. The research instruments were 12 lesson plans, an English reading comprehension ability test and an attitude questionnaire toward teaching English reading comprehension ability. The experiment lasted 12 weeks, 2 hours a week, and 24 hours in total. The mean, percentage, standard deviation, t-test for dependent samples, and one sample t-test were used for data analysis. The findings indicated that the students' pretest and posttest mean scores on English reading comprehension ability were 11.47 or 28.67 percent and 33.67 or 83.83 percent, respectively. The students' posttest mean score on English reading comprehension ability was higher than that of the pretest, and it was higher than the required criteria of 70 percent. The comparison of the mean scores showed that the students' English reading comprehension ability in the posttest was significantly higher

than that of the pretest at the .01 level. The students' attitudes toward teaching English reading comprehension was rated at a very good level.

**Keywords:** flipped classroom, English reading, English reading comprehension

## Introduction

Language is a tool that people use to communicate with other people to improve international relations. English is the universal language of communication in the 21<sup>st</sup> century for everyone and more interested in learners because it is crucial to communicate with people from many cultures. As Gunderson et al. (2010) state that English is a language in the world and it is also a major feature associated with access to knowledge, technology, and the internet. Understanding English as a foreign language enables learners to understand and be aware of diversity of cultures, the way to convey the messages through ideas and knowledge with other people and cooperation with many countries. Furthermore, Kachru and Smith (2008) define that the natural language in many countries and regions of the world has resulted in variation as a consequence of nativization and acculturation of the language in different communities.

The English reading comprehension ability is crucial for further studies and working life in the progression of innovative societies. People who know how to read can educate themselves in any fields of study to effectively gain the new and updated knowledge and innovative information. Therefore, English reading comprehension ability is the major part to take advantages. Gunderson et al. (2010) suggest that there appears to be the belief around the world that is foundational to become a contributing, participating member of global society. In the same way, Ruddell (1997) mentions that the importance of reading is to develop the language learners' reading comprehension ability and reinforce

the experiences of learners to get a higher level of reading proficiency. Zwiers (2010) defines that reading is a process to construct meaning from the letters to make sounds, build words, and make sentences for understanding. However, even a basic understanding of text depends on countless invisible thought processes that work together at lightning speed. According to Alptekin (2003), he also claims that most English information available is in the form of reading materials. Therefore, learners need to comprehend the English messages through real-life authentic texts.

Flipped classroom is an individualized learning that language learners self-study outside the class with the delivered instructional materials and switch to collaboratively do the active learning activities in class. This might be one of pedagogical designs that helps students enhance their reading comprehension ability. It has been gained social impacts of educational fields until the present time. Moreover, Pyzdrowski and Shambaugh (2014) indicate that flipped classroom is a pedagogical design that replaces a face-to-face lecture with engaging activities and assigns tasks as homework for students to complete autonomously outside of class. Walker et al. (2020) state that flipped classroom has grown in popularity in the last decade. Flipped lessons have become a more consistent and accepted pedagogical practice from K-12 to university settings. According to Bergmann and Sams (2012), flipped classroom arises when the content lesson is recorded for the students in video format or using other information resources. It is essential for the students who want to be well-prepared themselves outside the classroom. When the students come to classroom, the lecture is switched for the activities in class with the instructor as a facilitator who can assist the learners in the classroom. As the study of Khamchoo (2018), he studies the development of English reading comprehension ability using flipped classroom of Matthayomsuksa 6 students at Yungthongpittayakhom School. The findings showed that the posttest

mean score was higher than the required criteria of 70 percent. The students' attitudes toward teaching English reading comprehension was rated at a very good level.

Therefore, the researcher would like to employ flipped classroom with Matthayomsuksa 4 students at Nongwuasopittayakhom School whether it could improve their English reading comprehension ability and the students have positive attitudes toward teaching English reading comprehension. In addition, the research findings may be a guideline for teaching English reading comprehension in schools in the future.

### **Purposes of the Study**

The purposes of the study were:

1. To study and compare the English reading comprehension ability of Matthayomsuksa 4 students before and after studying English reading comprehension using flipped classroom.
2. To investigate students' attitude toward teaching English reading comprehension using flipped classroom.

### **Hypotheses of the Study**

1. The English reading comprehension ability of Matthayomsuksa 4 students using flipped classroom is higher than the required criteria of 70 percent.
2. English reading comprehension ability of Matthayomsuksa 4 students after studying English reading comprehension using flipped classroom is higher than before the studying.

## Methodology

### 1. Research Design

This study was an experimental research with a one group pretest – posttest design. It was a quantitative research method (Campbell & Stanley, 1963).

	$T_1$	X	$T_2$
$T_1$	means	Pretest,	
$T_2$	means	Posttest	
X	means	Teaching English reading comprehension using flipped classroom	

### 2. The Sample

The sample in this study consisted of 30 students of Matthayomsuksa 4/1 students studying English Reading and Writing (E31221) in the first semester of the academic year 2022 at Nongwasopittayakhom School, Nongwaso District, Udon Thani, under the Secondary Educational Service Area Office Udon Thani. These students were selected through cluster random sampling.

### 3. Research Instruments

Three research instruments were employed as follows.

3.1 The lesson plans of teaching English reading comprehension using flipped classroom consisted of 12 units, 2 hours a unit, 12 weeks, 2 hours a week and 24 hours in total. Twelve lesson plans were developed in an English version including three stages of teaching reading (pre-reading, during-reading and post-reading) of Brown (2001) and flipped classroom (at home and in the classroom stage) of Bergmann and Sams (2012). Index of Item Objective Congruence (IOC) was 1.00 for every aspect of each lesson plan. The reading texts used in this study for teaching English for Reading and Writing (E31221) of Matthayomsuksa 4 students were selected from Reading the World Now Students' Book 1 based on the Basic Education Core Curriculum A.D. 2008 of

the Foreign Language Department (English). There are twelve reading texts including: 1) Adventures on the Mississippi 2) The Travels of Swift's Satire 3) Come Rain or Come Shine 4) Breaking Plates Can Break Plates 5) How the Red River Flows 6) Study Suggests Sitting Less Can Extend Life 7) Looking at Babies Learning to Speak 8) The Big Deal about Small Talk 9) The Rise and Fall of the Mongol Empire 10) The Spanish Conquests of Mexico 11) Internet Fundraising Helps Farmers Flourish and 12) How Technology Shook up the Music Industry.

3.2 The English reading comprehension ability test was developed by the researcher based on the expert's suggestions to examine the students' English reading comprehension ability as the pretest and posttest. It was a multiple-choice test consisted of 40 items with four possible answer choices for each item. The value of the Index of Item Objective Congruence (IOC) was 1.00 for every item. The difficulty value of the items was between 0.40-0.70 and discrimination value was between 0.70 - 0.90. The reliability of the test was 0.98.

3.3 The attitude questionnaire toward teaching English reading comprehension consisted of 20 items related to stages of teaching English reading comprehension which helps students understand the reading text better, using five-point Likert's rating scales ranging from strongly agree, agree, neutral, disagree and strongly disagree based on Likert (1932). The value of the Index of Item Objective Congruence (IOC) was 1.00 for every item. The scores from the attitude questionnaire toward teaching English reading comprehension were analyzed in order to summarize and interpret the data based on Saiyos and A. Saiyos (2000) as follows; the average scores 4.50 - 5.00 means Very good, the average scores 3.50 - 4.49 means Good, the average scores 2.50 - 3.49 means Fair, the average scores 1.50 - 2.49 means Poor, the average scores 1.00 - 1.49 means Very poor.

#### 4. Data Collection

Before collecting data, the proposal of the research and the research instruments were submitted for ethics in human research. Then, the researcher handed in the research instruments to three experts in order to examine the correctness, and relation between the objectives and learning activities and evaluation. After that, a lesson plan of teaching English reading comprehension using flipped classroom and the English reading ability test were tried out in a pilot study with 30 Matthayomsuksa 4 students in Nongwasopittayakhom School who did not take part in this study in the first semester of the academic year 2022. Then, the researcher edited the lesson plans based on the information obtained from the pilot study and selected 40 items of the test with the difficulty value between 0.40-0.70, the discrimination value between 0.70-0.90, and the reliability of the test was 0.98. The researcher collected data as the following steps.

4.1 Students took the pretest using an English reading comprehension ability test with 40 items before studying English reading using flipped classroom in 60 minutes.

4.2 The teaching process was carried out according to the 12 lesson plans for 12 weeks, 24 hours in total.

4.3 Students took the posttest which was the same test as the pretest. The test consisted of 40 multiple-choice items with four possible answers. Students had 60 minutes to finish the test.

4.4 The attitude questionnaire was used to investigate the students' attitudes.

4.5 The collected scores from the pretest and posttest and students' attitude data were statistically analyzed and interpreted later on.



5. Data Analysis

The data from the English reading comprehension ability test and the attitude questionnaire was statistically analyzed as follows.

5.1 The data were analyzed to study the English reading comprehension ability of Matthayomsuksa 4 students using mean ( $\bar{X}$ ), percentage, and standard deviation (S.D.).

5.2 The data were analyzed to compare the English reading comprehension ability using t-test for dependent samples.

5.3 The data were analyzed to compare the English reading comprehension ability of Matthayomsuksa 4 students before and after studying English reading comprehension and the required criteria of 70 percent using One Sample t-test.

5.4 The data were analyzed to investigate students’ attitudes toward teaching English reading comprehension using mean ( $\bar{X}$ ) and standard deviation (S.D.).

Results

Results of the study and comparison of scores on English reading comprehension ability before and after teaching English reading comprehension using flipped classroom were as follows.

**Table 1** Comparison of the students’ English reading comprehension ability before and after studying English reading comprehension ability of Matthayomsuksa 4 students

Test	n	$\bar{X}$	S.D.	Percent	t
Pretest	30	11.47	3.05	28.67	47.15**
Posttest	30	33.67	2.85	83.83	

\*\*p ≤ .01

Table 1 showed that the students' pretest mean score on English reading comprehension ability was 11.47 or 28.67 and the posttest was 33.67 or 83.83 percent. The results explained that the posttest mean score of students' English reading comprehension ability after studying English reading comprehension was significantly higher than the pretest at the .01 level.

**Table 2** Comparison of the students' English reading comprehension ability after studying English reading comprehension using flipped classroom and the set criterion of 70 percent

Test	n	$\bar{X}$	S.D.	70 Percent (28)	t
Posttest	30	33.67	2.85	83.83	10.86**

\*\* $p \leq .01$

Table 2 showed that the students' posttest mean score on English reading comprehension ability was 33.67. The results of the students' English reading comprehension ability after studying English reading comprehension using flipped classroom were significantly higher than the required criteria of 70 percent at the .01 level.

**Table 3** The results of the students' attitude toward teaching English reading comprehension using flipped classroom

Questionnaire	n	$\bar{X}$	S.D.	Interpretation
Students' attitude toward teaching English reading comprehension using flipped classroom	30	4.90	0.18	Very good

Table 3 showed that the mean score of students' attitudes toward teaching English reading comprehension was at 4.90. It indicated that the

students' attitudes toward teaching English reading comprehension was at a very good level.

## Conclusion

The results of the study can be summarized as follows.

1. The students' pretest and posttest mean scores on English reading comprehension ability were 11.47 or 28.67 percent and 33.67 or 83.83 percent respectively. The students' posttest mean score on English reading comprehension ability was higher than the required criteria of 70 percent and the students' English reading comprehension ability after the experiment was significantly at .01 level higher than the pretest.

2. The student' attitudes toward teaching English reading comprehension using flipped classroom was at a very good level at 4.90.

## Discussion

The results of the study can be discussed as follows.

1. The results of the study of English reading comprehension ability of Matthayomsuksa 4 students at Nongwuasopittayakhom School before and after studying English reading comprehension using flipped classroom showed that the students' pretest and posttest mean scores were 11.47 or 28.67 percent and 33.67 or 83.83 percent, respectively. The finding was accordance with the second hypothesis. The results of the pretest mean score indicated that the students' English reading comprehension ability was at a low level. The reasons revealed that students not have reading skills to find the main idea and understand the text efficiently and had no time for out-of-class learning experience and prepare themselves before the class. This finding supported the idea of Bergmann and Sams (2012) who mentioned that flipped classroom is centered around the students to be responsible for preparing themselves

before class. After the students learned English reading comprehension, they could improve their English reading comprehension ability. Teaching English using flipped classroom motivates students to success in reading comprehension. Luehan (2020) studied about the use of flipped classroom on English reading comprehension ability of Grade 7 students. The study showed that students gained significantly higher scores on the English reading ability posttest at the .01 level. It can be stated that flipped classroom influenced students' reading comprehension ability and it could improve students' English reading comprehension ability.

2. The result of the comparison of the students' scores on English reading comprehension before and after studying English reading comprehension was higher than the required criteria of 70 percent. These findings were in accordance with the first hypothesis. According to the results of the study, the conclusions are presented as follows.

Firstly, after the students learned English reading comprehension using flipped classroom, the results presented that the students have significant improvement in their posttest score. One of the reasons might be the learning processes of students in Thai EFL classrooms take responsibilities on their own learning especially for secondary-level students with different levels of language competency. The findings were in line with the idea of Khan (2011) who suggested that teaching English using flipped classroom had developed the students' English reading comprehension effectively because students took the responsibility outside-classroom activities through reading the texts before class, visiting course-related website, and reading related references. It is also consistent with the idea of Pyzdrowski and Shambaugh (2014) who stated that flipped classroom is a pedagogical design that replaces what typically took place during a face-to-face lecture with engaging activities and assigned the tasks as homework for students to complete homework outside of class. These

findings showed that students' posttest mean score was 33.67 or 83.83 percent. It was higher than the pretest because English reading was trained through various activities in two main stages of flipped classroom and three stages of teaching reading comprehension.

Secondly, learning English reading comprehension through activities based on flipped classroom could develop the students' reading ability efficiently. Flipped classroom was encouraged students' English reading comprehension ability. The learning activities were provided with opportunities for learners to read the texts at home and prepare themselves before class. In this study, Matthayomsuksa 4 students at Nongwasopittayakhom School studied English reading comprehension using flipped classroom and they were taught to prepare themselves to read the texts before class. The finding results were in line with Walker et al. (2020) stated that flipped classroom had become a more consistent and accepted pedagogical practice. Therefore, the main elements of flipped classroom are supplements of the knowledge of the teacher while the students were given chances to learn and did the activities with their own responsibility to construct their own knowledge of fully self-learning.

Finally, the students learned English reading comprehension using flipped classroom through the stage of following stages integrated according to teaching English reading comprehension using flipped classroom based on the ideas of Bergmann and Sams (2012) and the stages of teaching reading of Brown (2001). As at home stage, students read the text uploaded in KruFai's Class created by the teacher. Then, students write down the key points and write three questions and summarize the reading text using Cornell note-taking method. As in the classroom stage in pre-reading, students had to share, discuss and correct the key points they wrote at home via PowerPoint using ClassPoint add-on. As during-reading stage, students worked in pairs to reorder the sentences in Worksheet 1, worked in groups to find the main idea,

supporting details, reference and inference in Worksheet 2 and worked in the same group in Worksheet 3 to draw a word map. In post-reading stage, the students did the reading comprehension quiz via KruFai's Class. Then, the teacher and the students discussed the answers and summarized the lesson together orally. The results were consistent with the study of Khamchoo (2018), who conducted a study about flipped classroom on English reading comprehension ability and attitudes of Grade 12 students. The research finding of the study showed the mean score of the post-test on learning achievement was significantly higher than the required criteria of 70 percent.

It can be concluded that especially the research instruments including the twelve lesson plans of teaching English reading comprehension using flipped classroom, an English reading comprehension ability test and an attitude questionnaire toward teaching English reading comprehension using flipped classroom were effective. They were analyzed by three experts in teaching English to examine the correctness and relation between the objectives and learning activities and evaluation. The Index of Item Objective Congruence (IOC) was 1.00 for every item of twelve lesson plans, 1.00 for every item of an English reading comprehension ability test and 1.00 for every item of an attitude toward teaching English reading comprehension using flipped classroom.

3. The result of students' attitude toward teaching English reading comprehension using flipped classroom was found that the mean score of the student's attitude toward teaching English reading comprehension was rated at 4.90. It was interpreted that students' attitudes toward teaching English reading comprehension using flipped classroom was at a very good level. The students enjoyed sharing the questions from home stage via PowerPoint using ClassPoint add-on. They also liked ordering sentences in pairs because it could help them understand consequences of the reading text better. In the reading

comprehension process, reading comprehension and reading skills were enhanced when good attitude was activated.

The results were consistent with the idea of Savignon (1983), the learners' attitudes are the most significant among many factors in learning a second language since it helped and supported learners' learning. Furthermore, the findings correspond with the concept of Sroinam (2012) stated that attitude is an individual's feeling toward something or someone, or symbol with degree of favor or disfavor. Language learners with positive attitudes will be more proficient in second language learning. In line up with Karimi (2017) conducted a study on developing English reading comprehension ability using the flipped classroom model of EFL learners at a private language institute in Isfahan, Iran. The finding showed the students' attitudes toward teaching English reading comprehension using the flipped classroom was at a very good level.

In summary, teaching English reading comprehension using flipped classroom could enhance the students to enjoy collaborating and doing activities at home as an extra-learning time for students' self-preparation reading step. They interactively learned both in and out of the classroom successfully in order to improve their reading ability through the use of technology. The students had positive attitude towards teaching English reading, they can actively engage in the learning process. Flipped classroom enabled students to lower their stress to increase a positive impact on their daily life reading ability effectively.

## Recommendations

### 1. Recommendations from the Study

In order to make use of this study, the researcher proposes the following recommendations as follows.

1.1 The students' posttest mean score on English reading comprehension ability was higher than the required criteria of 70 percent and the students' posttest score of reading comprehension ability was higher than the pretest score. It cased from the students had opportunities to practice reading at home before learning the lesson in class. They also had a chance to practice reading in groups to find main ideas, supporting details, references and made the inferences. Therefore, students could improve their English reading comprehension. Researchers should provide the results to English teachers to follow this study.

1.2 It was shown that the students' attitudes toward teaching English reading comprehension using flipped classroom was at a very good level because flipped classroom contributed students to do enjoyable activities. Especially, they could do activities with their classmates and the teacher such as sharing their questions they wrote at home via PowerPoint using ClassPoint add-on, ordering sentences in pairs and discussing the answers on the TV screen. As a result, English teacher should implement flipped classroom in teaching English reading comprehension to develop their students' reading ability.

## **2. Recommendations for Further Study**

According to the results discussed earlier, some suggestions are proposed here for further studies.

2.1 Researchers should investigate using flipped classroom to develop other English language skills: listening, speaking and writing because the students are also engaged in these skills while learning through these activities.

2.2 Researchers should investigate teaching English reading comprehension ability using flipped classroom with other subjects for students of different levels, for instance, primary students or higher educational levels.



2.3 Researchers should promote and apply other autonomous learning methods with the use of flipped classroom to develop the students' language proficiency and students' motivation and learning styles.

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