

USING FLIPPED CLASSROOM TO IMPROVE ENGLISH READING COMPREHENSION ABILITY
OF FIRST-YEAR STUDENTS AT SAKON NAKHON RAJABHAT UNIVERSITY

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Abstract

The objectives of this research were to study and compare the English reading comprehension ability of first-year students before and after studying English reading comprehension using flipped classroom and to investigate the students' attitude toward teaching English reading comprehension using flipped classroom. The sample consisted of 52 first-year students at Sakon Nakhon Rajabhat University, Mueang District, Sakon Nakhon Province, in the first semester of 2023 academic year, selected by cluster random sampling. The research was a one group pretest-posttest design. The research instruments included 12 lesson plans, an English reading comprehension ability test, and an attitude questionnaire. The experiment lasted for 12 weeks, with 3 hours per week, totaling 36 hours. For data analysis, the researchers used mean, percentage, standard deviation and t-test for dependent samples. The results of this research indicated that: 1) the students' pretest and posttest mean scores on English reading comprehension ability were 18.12 or 45.29 percent and 31.81 or 79.52 percent respectively. The students' posttest mean score on English reading comprehension ability was significantly higher than that of the pretest at 0.1 level and the mean score on the posttest was higher than the set criterion of 70 percent, and 2) the students' attitude toward teaching English reading comprehension using flipped classroom was at a very good level.

Keywords: Flipped classroom, English reading, English reading comprehension

Introduction

English has played an important role in Thai education for more than a century. The Ministry of Education sought to emphasize on English language skill acquisition to improve education standards in Thailand at all levels in order to prepare the nation to compete with other nations in the era of globalization. Khamkhien (2006: 1) states that Thai government has pushed a lot of efforts to promote various teaching methodology to improve Thai students' level of English proficiency. To succeed in English language learning, reading skill is as important as other skills. Anderson (1999: 53-56) points out that EFL/ESL readers will make greater development in all academic areas with strengthened reading skills. However, although reading is considered as a foundation of English language learning in Thailand, the previous study of Sroinam (2005: 5) indicates that Thai students are rather weak on reading skills. It is recognized that reading ability is essential, but English reading is perceived as a difficult task among Thai students. Mejang (2004: 28) explain that these unsuccessful reading results are from a lot of causes including limited reading strategies and the traditional methods of teaching in Thai classrooms. Hence, teachers should adopt various educational approaches and encourage effective English reading teaching methods.

A flipped classroom might be the effective instructional approaches to enhance students' reading comprehension ability. According to Bergmann & Sams (2012: 13-16), the teacher assigns students to view and learn the lessons from the video before they come to the classroom and do activities or homework in the class. Additionally, teachers can also use the online teaching platform and offline teaching modes to provide students with learning paths and rich resources for independent learning by means of classroom teaching and modern information technology. Shi-Chun, Ze-Tian, & Yi (2014: 17) point out that the flipped model can bring many advantages to EFL learners such as own-pace learning, peer-engaging concepts and reducing traditional classrooms' disadvantages. Several researchers had proven that flipped classroom model was one of the effective teaching models in improving students' reading comprehension on teaching-learning process. For instance, Chung & Phuong (2020: 413) experimented with the flipped model in the classrooms of teaching English reading skills in a high school in the Mekong Delta of Vietnam. The result showed that the students' reading comprehension ability score of the experimental group was significantly higher than the control group. Moreover, the students' attitude toward teaching English reading comprehension using the flipped classroom was at a very good level.

Due to the above-mentioned, the researcher considers that flipped classroom may help students to improve their English reading comprehension ability. Therefore, the researcher would like to investigate whether the flipped classroom could improve the English reading comprehension ability of first-year students at Sakon Nakhon Rajabhat University and at what level the students have positive attitude toward teaching English reading comprehension using the flipped classroom. Moreover, the research findings may be beneficial for students to improve their English reading comprehension ability and be guidelines for teachers to develop the English reading comprehension class by using flipped classroom in the future.

Research Objectives

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

Literature Review

1. Reading comprehension

Reading comprehension is the most important objective of the reading process. It is to understand the text that the writer wants to communicate with the readers. Harris & Hodges (1995: 207) define reading comprehension as intentional thinking during meaning constructed through interactions between text and the reader.

Text comprehension is enhanced when readers actively relate the ideas represented in print to their background knowledge as well as experiences and construct mental representation in memory. Champa-ngoen & Maneekan (2000: 94) also recommend that reading comprehension is reading to get important ideas which cover all other texts. The rest of the ideas in the text are only details or complements of the text. Likewise, Centchaowanich (2008: 101) states that reading comprehension is an ability to infer information or required meanings from what they have read as efficiently as they can do. This understanding is related to individual's various education and experience regarding as the important factors of reading.

2. Flipped Classroom

The flipped classroom asserts students to construct knowledge and their own understanding at home while learning and interacting with friends and teachers in the class. As states by Mazur (1997: 10-22), the key point of flipping classroom is to assign students to do

part of the work ahead of the lecture, and the lectures should include elaborating on the reading, addressing potential difficulties, deepening understanding, building confidence, and adding additional examples. The new technology allows students to study by their own before coming to class, it could also increase interaction between teachers and students because they have more time to discuss the points that they don't understand in the classroom. In addition, Bergmann & Sams (2012: 62) state that flipped classroom is an individualized learning. In flipped classroom, teachers are implementing differentiated instruction, problem/project-based learning, inquiry-based study, so flipped learning fundamentally learner-centric. It is an environment where students take responsibility for their own learning and are engaged in their learning and get a personalized education.

3. Advantages and Disadvantages of Flipped Classroom

There are both advantages and disadvantages of flipped classroom that some researchers have experienced. Some researchers who conducted research studies in order to investigate the effectiveness of flipped classroom suggest the advantages of the method are that students with special needs can be monitored by the teachers. Logan & Waugh (2014: 924) suggest that flipped classroom activities are more effective when they learn by doing things that not just sit still and listen to the teachers. Students' autonomy and creativity are developed by the teacher's encouragement. If there are some problems, students can access the provided self-learning texts at the comfortable location and time to be more challenging curriculum and individualized learning spaces. Likewise, Strayer (2017: 1) indicates that with the delivery of course content secured via technology of flipped classroom, professors feel freer to introduce activities inside the classroom that would give students the opportunity to engage material in an environment where other students and the professor are present to aid in the learning process. However, some researchers find that there are some disadvantages of flipped classroom are also a matter of concern. Missildine, Fountain, Summers & Gosselin (2013: 597–599) point out that the increased amount of out-of-class preparation time of flipped classroom may negatively influence students' satisfaction levels. The heavy workload of pre-class activities may overwhelm students' time at home. Moreover, Doman & Webb (2014; 69) claim that in the flipped classroom teachers have to be well prepared in terms of the content knowledge and the activities that they utilize in their flipped lesson. Teachers must carefully design a lesson plan that fits the flipped classroom framework. Students may lose attention when learning by themselves if the reading texts are not so attractive. Students' time working

in front of a computer screen increase, consequently they might not familiar with this new teaching style.

Research Methodology

1. Research Design

This research was experimental research with a one group pretest-posttest design. It was a quantitative research method (Campbell & Stanley, 1963): T1 X T2 (T1 means Pretest, T2 means Posttest, and X means Teaching English reading comprehension using flipped classroom).

2. Population and Sample

The population in this study was 1,900 first-year students who enrolled in the first semester of 2023 academic year at Sakon Nakhon Rajabhat University, Mueang District, Sakon Nakhon Province, Thailand. The samples were selected by cluster random sampling using classroom as the sampling unit. The sample of this study was 52 of the first-year students studying General English Reading Course (31551134) in the first semester of 2023 academic year at Sakon Nakhon Rajabhat University, Mueang District, Sakon Nakhon Province, Thailand.

3. Research Instruments

3.1 The lesson plans of teaching English reading comprehension using flipped classroom consisted of 12 units, 3 hours a unit, 36 hours in total and were adapted from Bergmann & Sams (2012: 13-16) and integrated with stages of teaching reading from Brown (2001: 315). The value of the Index of Item Objective Congruence (IOC) was 1.00 for every item of the lesson plans.

3.2 The English reading comprehension ability test consisted of 40 items with four multiple-choices. This test was used to examine students' English reading comprehension ability as the pretest and posttest. The value of the Index of Item Objective Congruence (IOC) was 1.00 for every item. The difficulty value of the items a from the pilot study was between 0.26 to 0.73 and the discrimination value was between 0.22 – 0.78 for every item. The reliability of the test was 0.91.

3.3 The students' attitude questionnaire toward teaching English reading comprehension using flipped classroom consisted of 20 items related to the contents using a five-point Likert's rating. The value of the Index of Item Objective Congruence (IOC) was 1.00 for every item. The scores of attitude questionnaire toward teaching English reading

comprehension using flipped classroom were analyzed in order to conclude and interpret the data based on Saiyos & Saiyos (2000: 13).

4. Data Collection

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, 36 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 examine the students' attitude toward teaching English reading comprehension ability using flipped classroom.

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

5. Data Analysis

5.1 The researcher analyzed data to study the English reading comprehension ability of first-year students using mean (\bar{X}), percentage, and standard deviation (S.D.).

5.2 The researcher analyzed data to compare the English reading comprehension using flipped classroom using t-test for Dependent Samples.

5.3 The researcher analyzed data to compare the English reading comprehension ability of first-year students before and after studying English reading comprehension using flipped classroom and the set criterion of 70 percent using One Sample t-test.

5.4 The researcher analyzed data to investigate students' attitude toward teaching English reading comprehension using flipped classroom using mean (\bar{X}), and standard deviation (S.D.).

Research Results

The results of this research according to the objectives were as follows.

1. To study and compare the English reading comprehension ability of first-year students before and after studying English reading comprehension using flipped classroom

Table 1: The results of the study and comparison of the first-year students' English reading comprehension ability mean scores before and after studying English reading comprehension using flipped classroom

Test	n	\bar{X}	S.D.	Percent	t
Pretest	52	18.12	3.23	45.29	
Posttest	52	31.81	2.08	79.52	63.55

$p \leq .01$

From Table 1, it showed that the students' pretest mean score on English reading comprehension ability was 18.12 or 45.29 percent and the posttest was 31.81 or 79.52 percent. The results explain that the posttest mean score of students' English reading comprehension ability after studying English reading comprehension using flipped classroom was significantly higher than the pretest at the .01 level.

Table 2: The results of the students' posttest mean score on English reading comprehension ability after studying English reading comprehension using flipped classroom with a set criterion of 70 percent

Test	n	\bar{X}	S.D.	70 percent (28 point)	t
Posttest	52	31.81	2.08	79.52	13.15

$p \leq .01$

From Table 2, it showed that the students' posttest mean score on English reading comprehension ability was 31.81. The results of the students' English reading comprehension ability after studying English reading comprehension using flipped classroom were significantly higher than the set criterion of 70 percent.

2. To investigate the students' attitude toward teaching English reading comprehension using flipped classroom

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

Questionnaire	n	\bar{X}	S.D.	Interpretation
Students' attitude toward teaching English reading comprehension	52	4.88	0.15	Very good

using flipped classroom

From Table 3, it showed that the mean score of students' attitude toward teaching English reading comprehension using flipped classroom was at 4.88. It indicated that the students' attitude toward teaching English reading comprehension using flipped classroom was at a very good level.

Conclusion

A study and comparison of pretest and posttest scores on English reading comprehension ability and an investigation of students' attitude toward teaching English reading comprehension using flipped classroom can be summarized as follows.

1. The students' pretest and posttest mean scores on English reading comprehension ability were 18.12 or 45.29 percent and 31.81 or 79.52 percent respectively. The students' posttest mean score on English reading comprehension ability was significantly higher than that of the pretest at 0.1 level and the mean score on the posttest was higher than the set criterion of 70 percent.
2. The students' attitude toward teaching English reading comprehension using flipped classroom was at a very good level at 4.88.

Discussion

According to the results of the study, the students' pretest mean score on English reading comprehension ability was 18.12 or 45.29 percent and the students' posttest mean score was 31.81 or 79.52 percent respectively. The results of the related researches were as follows. Sittirach (2022) who conducted a study of flipped classroom on the English reading comprehension ability of Grade 10 students at Nongwuaopittayakhom School, Udon Thani. The result of her research showed that the students' posttest mean score was higher than that of the pretest, and it was significantly higher than the set criteria of 70 percent. The students' attitude toward teaching English reading comprehension using the flipped classroom was at a very good level. In addition, the results were also consistent with the study of Karimi (2017), who 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 that the students' posttest score was not less than 70 percent. The students' reading comprehension ability after the experimental was significantly higher than that of pretest.

Moreover, the students' attitude towards teaching English reading comprehension using the flipped classroom was at a very good level. The results of the study can be discussed as follows:

1. The results of the study and comparison of English reading comprehension ability of first-year students at Sakon Nakhon Rajabhat University before and after studying English reading comprehension using flipped classroom showed that the students' pretest mean score on English reading comprehension ability was 18.12 or 45.29 percent and the students' posttest mean score was 31.81 or 79.52 percent respectively. These may be caused by the following reasons:

Firstly, learning English reading comprehension using flipped classroom allowed the students to prepare themselves to read previously at home with independent learning strategies before the in-class lesson time. This finding supported the idea of Bergmann & Sams (2012: 119 - 110), who mention that flipped classroom is centered around the students responsible for preparing themselves before class. Moreover, students with different levels of language competency could learn English reading comprehension at their own speed and independently learn outside the classroom by using technology tools at their own time, pace, and place to search for related reading text to the lesson, which helped students connect their background knowledge and the new information. In this study, students learned to read and understand the reading text at home by accessing Google Classroom, an online class created by the teacher. Then, they wrote the key points of the reading text and summarized it in their notebooks. As a result, they preferred to read the text on their own before studying in the classroom because they could take time to read at their speed, learn to understand the key points of the text and search for the meaning of vocabulary that they had never known before. Hence, they were more confident to have time to prepare themselves before doing active and collaborative activities in the classroom.

Secondly, learning English reading comprehension using flipped classroom through cooperative and active learning activities in the classroom stage helped the students improve their reading ability. By assigning a pair work or group work based on the expertise level and learning style of individual group members, individual students can use other learners' strengths, and learn from others. This supported the idea stated by Bishop & Verleger (2013: 4) in that flipped classroom allows students to work collaboratively and generate active learning atmosphere. They share their ideas among their classmates. At the same time, students could help each other with mutual learning, and for those of different skill levels to support one

another. In this study, the students did various activities with their classmates in the classroom such as sharing the key points from the assigned reading text that they wrote at home, giving opinions on the given topic or questions by the teacher in pairs and groups, identify the main idea and supporting details and summarizing the reading text in groups, presenting the tasks in front of the classroom, and discussing among peers. Therefore, the students' posttest mean score on English reading comprehension ability after studying English reading comprehension using flipped classroom was higher than the pretest mean score.

Lastly, learning English reading comprehension using flipped classroom encouraged students to develop their autonomy and creativity and to learn by doing things in a real context. This supported the idea stated by Logan & Waugh (2014: 924), who suggest that flipped classroom activities are more effective when they learn by doing things that do not just sit still and listen to the teachers. Students' autonomy and creativity are developed by the teacher's encouragement. In this study, students read texts that related to their daily lives and general situations in society, which inspired them to develop new ideas and to create artwork through individual tasks at the end of the lesson. Moreover, they could search for more information about the topics they are interested in and share it with their classmates. In this way, they gained more knowledge about English vocabulary and structure, decreased their stress on study, and helped them increase their posttest scores in English reading comprehension.

2. The result of the investigation of students' attitude toward teaching English reading comprehension using flipped classroom indicated that the student's attitude toward teaching English reading comprehension using flipped classroom was at a very good level (4.88). It can be discussed as follows:

Before studying, students liked to read the reading text uploaded in Google Classroom from their mobile phones, ipads, and laptops at their own place because they could take time to understand the text and tried to write the key points and summarize it by themselves. A considerable number of students found that the flipped classroom was effective and useful because it provided them to be able to read on their own speed and encouraged them to be ready before doing the activity in the classroom. Flipped classroom also enhanced them intensively to increase more learning responsibilities when they had to self-study the reading text by themselves.

In the classroom, at the pre-reading stage, students discussed the key points and summaries from the assigned reading text that they wrote at home and the teacher took the

role of facilitator and explained the misconceptions about the key points to students after the discussion. According to the survey, it found that this step helped students understand the text more and clearly. They also enjoyed sharing the questions that they wrote at home on the board and other students could participate by answering those questions and correcting them together. This created environments where students learned from peer to peer.

Linking content

At the during-reading stage, it found that students also enjoyed doing the various activities in pairs and groups in the classroom. For the pair work activity, each student could discuss the text and answer the questions from the worksheet with their partner without pressure, enhancing each student's opportunity to give an opinion. For the group work activity, they found that identifying the main idea, supporting details, references and summarize the reading text in group helped them understand the reading text better. When a few students had any problems while doing activities as a couple or a group, the members of the group helped those students to have a chance to give an opinion without anxiety.

The outcomes align with Savignon's (1983: 111) assertion that among various factors affecting second language learning, learners' attitudes play a paramount role by aiding and supporting their learning endeavors. Similarly, Ellis (1994: 198-199) contends that learners' attitudes significantly impact the level of proficiency they attain in a second language. Consequently, learners possessing positive attitudes are more likely to achieve success and reinforce these attitudes. Language learners with positive attitudes are more likely to excel in the acquisition of a second language.

Recommendations

1. Recommendations from the Study

1.1 From the research results, it was found that the students' posttest mean score on English reading comprehension ability was higher than the set criterion of 70 percent and the students' posttest score of reading comprehension ability was higher than the pretest score. This improvement stemmed from students having the chance to engage in pre-class reading practice at home. Additionally, they were afforded the opportunity to participate in group activities focused on identifying main ideas, supporting details, references, and drawing inferences from the text. Consequently, students were able to enhance their comprehension

of English reading. It is advisable for researchers to share these findings with English teachers so they can incorporate these study practices into their teaching methods.

1.2 From the research results, it was shown that the students' attitude toward teaching English reading comprehension using flipped classroom was at a very good level because flipped classroom contributed students to do enjoyable activities. Especially, the activities that they could do with their classmates and the teacher. The individual work at the end also gave them a space to create an art work or a writing as a following-up to reading. These encouraged them to feel more confident in reading the English text. Therefore, the English teacher should implement flipped classroom in teaching English reading comprehension to develop their students' reading ability.

2. Recommendations for Further Study

2.1 Researchers should investigate using flipped classroom to develop other English language skills.

2.2 Researchers should investigate teaching English reading comprehension ability using flipped classroom to integrate with other subjects for students of various 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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