

The Development of English Language Learning and Teaching on Tenses Using Flipped-Classroom Approach Affecting Learning Achievement of Tenth-Grade Students

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Abstract

The purposes of this study are (1) to develop the efficiency of the lesson plans on English grammar (i.e., tense) using the flipped-classroom approach for the tenth-grade students to meet the standard criterion set at 75/75, (2) to compare the learning achievements of the tenth-grade students who studied English grammar using the flipped-classroom approach before and after taking a method of teaching, and (3) to study satisfactions of the tenth-grade students who studied English grammar using the flipped-classroom approach. The sample group in this study were 40 tenth-grade students from Thatnaraiwittaya school in the academic year 2021 of the second semester and selected through a random cluster sampling technique. The research instruments were six lesson plans on English grammar using the flipped-classroom approach, achievement tests (pre-test and post-test), and a questionnaire. The statistics for data analysis were percentage, mean (\bar{x}), standard deviation (S.D.), the efficiency of the lesson plans E_1/E_2 , and dependent samples t-test. The results of this research indicated that the efficiency of the lesson plans on English grammar using a flipped-classroom approach for tenth-grade students was 76.84/75.12 which means it was higher than the 75/75 set criteria.

The post-test of grade ten students who studied English grammar using the flipped-classroom approach was higher than the pre-test grades at a significant level of 0.01. Students' satisfaction with English grammar using the flipped-classroom approach was at a high level of ($\bar{x} = 4.40$).

Keywords

Flipped-classroom approach, Learning achievement,
Students' satisfaction

การพัฒนาการเรียนการสอนภาษาอังกฤษ เรื่องกาล
(Tense) โดยใช้รูปแบบการจัดการเรียนรู้แบบ
ห้องเรียนกลับด้าน ที่มีต่อผลสัมฤทธิ์ทางการเรียนรู้
ของนักเรียนชั้นมัธยมศึกษาปีที่ 4

ธีระวุฒิ บุตรสุวรรณ์, อนงลักษณ์ หนูหมอก,

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บทคัดย่อ

การวิจัยครั้งนี้มีวัตถุประสงค์เพื่อ 1. พัฒนาแผนการจัดการเรียนรู้ภาษาอังกฤษ เรื่องกาล (Tense) โดยใช้รูปแบบการจัดการเรียนรู้ แบบห้องเรียนกลับด้าน ชั้นมัธยมศึกษาปีที่ 4 ให้มีประสิทธิภาพตามเกณฑ์ที่กำหนด 75/75 2. เปรียบเทียบผลสัมฤทธิ์ทางการเรียน เรื่องกาล ของนักเรียนชั้นมัธยมศึกษาปีที่ 4 ที่ได้รับการจัดการเรียนการสอนภาษาอังกฤษ โดยใช้รูปแบบการจัดการเรียนรู้แบบห้องเรียนกลับด้าน ก่อนเรียนและหลังเรียน 3. ศึกษาความพึงพอใจต่อการจัดการเรียนรู้ภาษาอังกฤษของนักเรียน ชั้นมัธยมศึกษาปีที่ 4 ที่ได้รับการจัดการเรียนการสอนภาษาอังกฤษ โดยใช้รูปแบบการจัดการเรียนรู้แบบห้องเรียนกลับด้าน กลุ่มตัวอย่างที่ใช้ในการวิจัย ได้แก่ นักเรียนชั้นมัธยมศึกษาปีที่ 4 โรงเรียนราตุนารายณ์วิทยา สำนักงานเขตพื้นที่การศึกษามัธยมศึกษาสกลนคร ภาคเรียนที่ 2 ปีการศึกษา 2564 จำนวน 40 คน โดยคัดเลือกกลุ่มตัวอย่างด้วยการสุ่มแบบแบ่งกลุ่ม เครื่องมือที่ใช้ในการวิจัย คือ แผนการจัดการเรียนรู้ภาษาอังกฤษเรื่องกาล

โดยใช้การรูปแบบจัดการเรียนรู้แบบห้องเรียนกลับด้าน จำนวน 6 แผน
แบบทดสอบวัดผลสัมฤทธิ์ทางการเรียนภาษาอังกฤษก่อนเรียนและหลังเรียน
และแบบวัดความพึงพอใจ สถิติที่ใช้ในการวิเคราะห์ข้อมูล ได้แก่ ร้อยละ^c
ค่าเฉลี่ย (\bar{x}) ส่วนเบี่ยงเบนมาตรฐาน (S.D.) ประสิทธิภาพของแผนการจัดการ
เรียนรู้ E_1/E_2 และการทดสอบค่าที่ (t-test) แบบ Dependent Samples
ผลการวิจัยพบว่า ประสิทธิภาพของแผนการจัดการเรียนรู้ภาษาอังกฤษเรื่อง
กาล (Tense) โดยใช้รูปแบบการจัดการเรียนรู้แบบห้องเรียนกลับด้าน ชั้น
มัธยมศึกษาปีที่ 4 มีประสิทธิภาพ $76.84/75.12$ ซึ่งมีประสิทธิภาพสูงกว่า
เกณฑ์ $75/75$ ที่ตั้งไว้ ผลสัมฤทธิ์ทางการเรียนภาษาอังกฤษหลังเรียนของ
นักเรียนหลังจากได้รับการจัดการเรียนรู้แบบห้องเรียนกลับด้าน เรื่องกาล
สูงกว่าก่อนเรียนอย่างมีนัยสำคัญทางสถิติที่ระดับ 0.01 ความพึงพอใจของ
นักเรียนต่อการจัดการเรียนรู้ภาษาอังกฤษ เรื่องกาล โดยใช้รูปแบบการ
จัดการเรียนรู้แบบห้องเรียนกลับด้าน อยู่ในระดับมาก ($\bar{x} = 4.40$)

คำสำคัญ

การจัดการเรียนรู้แบบห้องเรียนกลับด้าน, ผลสัมฤทธิ์ทางการเรียน,
ความพึงพอใจต่อการจัดการเรียนรู้

Introduction

Given that English is a widely used language, teachers must provide students with a chance to master this language and provide learners with the ability to use English, as it is an important tool for accessing contemporary knowledge and keeping abreast of world changes. (Ministry of Education, 2014, p. 4) English grammar is an important part of learning English, as grammar can help learners to improve the four communicative skills: listening, speaking, reading, and writing. Grammatical ability also helps learners to acquire the language more quickly and helps promote the use of language more effectively (Conradie, 2013 as cited in Sa-e-dee & Charumanee, 2020, p. 320). English grammar is difficult for many learners because it requires an understanding of complex concepts, and it is something intangible for use in everyday communication. (Abdulmajeed & Hameed, 2017, p. 40) Lacking abilities in English grammar may cause learning difficulties and unsuccessful communication in English. Effective communication in English requires the learners to have a basic knowledge of accurate grammar so they can communicate in various situations precisely and quickly, i.e., English Grammatical Ability. (Purpura, 2004 as cited in Suriyarattanaporm et al, 2018, p. 162)

Currently, our world is progressing rapidly because of technology which connects various information around the world. With the current social change that occurs in this 21st century, teachers must be alert and prepared to organize learning techniques that can contend to the rapid changes in the 21st century (Upper secondary education (OBEC), 2017). Moreover, educational institutions around the world have organized instruction by using technology its basis, and Thailand has also recognized the importance of preparing learners for the 21st century. (Panit, 2013, p. 46)

The 21st century has changed the way of organized learning activities by shifting the role of the teacher from lecturer to designer and facilitator of learning activities. This process is known as student-centered active learning. The flipped-classroom approach is the most mentioned in teaching methods recently. It enables learners to develop learning skills in the 21st century. (Sithsungnoen, 2017, p. 171) The flipped-classroom is a student-centered instructional

management approach applying a learning channel from information technology as a tool for students to learn by themselves at home, and emphasize learning activities with friends and teachers in the classroom. (Outamung, 2015, p. 53)

According to the researchers' experience in teaching present perfect tense to tenth-grade students in the English basic course of the academic year 2021 in the first semester at Thatnaraiwittaya school, we found that students' learning achievements are mostly low. Students enrolled in the English course presently learn through teacher-led lectures. This leads students to lose self-learning abilities and it is often seen as a boring learning situation. In other words, this methodology is a traditional teaching method that results in low achievement. Since the current situation with the COVID-19 pandemic, students have been encouraged to study online at home. Consequently, there must be an approach to learning activities in English using an approach that is flexible in every context of teaching and learning that affects students' achievements and satisfaction and assists in reaching the expected learning outcomes.

The current study, therefore, encouraged researchers' attempt to develop lesson plans by using the flipped-classroom approach to enable learners to have better learning achievements and that can make the students more motivated and enthusiastic to study English courses further.

Research Objectives

The objectives of this research are, as follows:

1. To develop the efficiency of the lesson plans on English grammar using the flipped-classroom approach for the tenth-grade students to meet the standard criterion set at 75/75,
2. To compare the learning achievements of the tenth-grade students who studied English grammar using the flipped-classroom approach before and after taking a method of teaching, and
3. To study the satisfaction of the tenth-grade students who studied English grammar using the flipped-classroom approach.

Literature Review

In this section, it covers the flipped-classroom approach.

1. Flipped-classroom Approach

The flipped-classroom approach is a model born at Woodland Park High School in Woodland Park, Colorado, USA by two Science teachers: Jonathan Bergmann and Aaron Sams. (Bergmann & Sams, 2012, as cited in Ruengkul & Jaiprasong, 2021, p. 32) The concept of the flipped-classroom approach is predicated on teachers encountering problems in learning activities, as many students cannot come to class on time and some being absent due to many reasons, including problems caused by the content in the course that cannot be completed within the class time. They applied technology to learning activities by recording a video of a chemistry lesson for the absent students. Their students like the recorded video because they could study while travelling or in their spare time using devices or other tools, such as computers, tablets, smartphones, or laptops. (Hongkhunthod, 2014)

The flipped-classroom approach requires that students study online from home, and teachers facilitate and design learning activities in the classroom to enable students to be more involved in their self-learning and to stimulate an atmosphere for doing collaborative activities and exchanging their knowledge in the classroom. (Piyawat, 2015, p. 14)

In the flipped-classroom approach, teachers should flip the classroom to follow four pillars: a flexible environment, learning culture, intentional content, and professional education. The first pillar, flexible environment, implies that learning should have many styles which may be related to group work or self-study, time, and place where the flipped-classroom occurs. The second pillar, learning culture, refers to a student-centered approach in which the students can build knowledge through participation in classroom activities. The third pillar, intentional content, indicates that the teacher should intend to study the content, have a strong understanding of the content matter, and have a plan to use any materials to teach that content, including various materials that allow students to search if they wish

to learn more. Finally, the fourth pillar: professional educator, emphasize the role of teachers in designing excellent lessons, videos and materials, interactive classroom activity, evaluating and providing feedback to the students. (Bergmann and Sam, 2014)

The four essential elements of the flipped-classroom can be derived from Schoolwires (2013), Brame and, Director (2013): The first, is prior exposure of the students to content (e.g., recorded lectures, and notes). Second, prompting students to prepare for school (e.g., discussion board, and quizzes). Third, methods for measuring and evaluating students' understanding. Finally, in-class activities which focus on higher-level cognitive activity: active learning, collaborative, and peer learning.

Bergmann and Sams (2012, as cited in Panit, 2013, p. 15) referred to the learning process of the flipped-classroom as follows: designing teaching materials, accessing the media of the students, checking students' viewing videos, and assessing and evaluating the students' performance.

The flipped-classroom approach has various benefits in teaching. According to Dansakul (2015, pp. 30-31) and Piyawat (2015, p. 15), the flipped-classroom approach is suitable for learners in the present age. It provides flexible time to learn, it is a student-centered approach with classroom interaction between teachers, students, and among the students. It considers the individual differences of each student, increases student learning responsibility, develops cognitive thinking skills, develops lifelong learning skills, and encourages self-discipline of the students.

2. Effectiveness of Flipped-classroom

Several recent studies about English teaching have paid attention to the efficiency of flipped-classroom approach. Sakulprasertsri (2017, p. 30) studied the effects of English instruction using the flipped learning approach on English oral communication abilities and motivation in English learning of upper secondary school students. His results indicated that the participants' English oral communication ability improved significantly and the participants' motivation in English learning was higher than before experiencing this instruction. Denprapat & Chuaychoowong (2016, p. 226) also

used the flipped-classroom model to develop English competency and independent attributes for Grade 7 students at Mengrai Maharajwitthayakhom school. Their research indicated that there was significant difference between the mean scores of post-tests ($t (65) = 3.126, p < 0.05$) among the students who took part in the control group than those who were taught by a traditional instruction ($M = 28.91, SD = 6.887$) and experimental group ($M = 33.59, SD = 5.149$). Moreover, Thongwas and Meesuwan (2020, p. 40) developed learning activity packages with flipped-classroom learning processes to develop English listening and speaking skills for Grade 8 students. The findings showed that students' satisfaction in learning with the learning activity packages was at a high level ($\bar{x} = 4.35, S.D. = 0.77$). Empirical research conducted in Arabia, Albaahuoth (2020, p. 12) studied the effectiveness of the flipped-classroom in developing 11th graders' grammatical competencies in Arabic. Their analysis revealed statistically significant differences between the mean scores of the post-test of the two groups in favour of the experimental group ($M = 21.64, SD = 6.10$) over the control group ($M = 14.54, SD = 3.82$).

3. Students' satisfaction with the flipped-classroom

Several studies attempted to gauge students' satisfaction with flipped-classroom approaches. Diawtrakoon (2018, p. 137) used a flipped-classroom in teaching English at the tertiary level. His results indicated that the learners were satisfied with their education, they were more committed to English language learning, had a good attitude toward English language learning, and had more interaction with the teacher and other learners. Similarly, Al-Naabi (2020, p. 60) explored the impact of the flipped-classroom on EFL students' grammar. His research indicated that flipped learning had a positive impact on students' understanding and usage of English grammar. Students' perceptions of the flipped approach were positive. In another study, Choe & Seong (2016, p. 71) conducted a case study of the flipped-classroom in a Korean university general English course to explore the satisfaction of students with the flipped-classroom approach by using a research questionnaire. They found that students felt the flipped-classroom gave them more chances to communicate in English, in addition to greater participation, preparedness, and

feedback. Students also reported that the flipped-classroom helped them have a deeper understanding of the course content.

Methodology

1. Research design

The procedures of the research with one group pre-test and post-test design in this research are described as follows:

1. Administering a pre-test (O_1) which proposed to measure students' achievement in English grammar before being given the treatment.
2. Applying an experiment that used a flipped-classroom approach (X) to teach.
3. Administering a post-test (O_2) which proposed to measure students' achievement in English grammar after being given the method.

Table 1 One group pre-test and post-test design.

Pre-test	Treatment	Post-test
O_1	X	O_2

Investigating one group pre-test and post-test, the researchers wanted to find out whether there was any significant difference in students' achievement before and after being taught using flipped-classroom approach.

2. Participants

The participants of this study were the 13 classes of tenth-grade student from Thatnaraiwittaya school. There were 5 classes of Science-Math, a class of Science-Computer, Chinese-English, Japanese-English, Korean-English, Vietnamese-English, Thai-Social studies, Enrichment Science, and English program. They were in the second semester of the academic year 2021 with a total of 495 students. There were 180 male and 315 female students. The sample group in this study were 40 tenth-grade students in Korean-English program from Thatnaraiwittaya school in the second semester of the

academic year 2021 selected through a random cluster sampling technique because each class was divided into 3 groups according to the learner's ability.

3. Research Instruments

In this study, three research instruments were used for teaching, including (1) lesson plans, (2) achievement tests, and (3) questionnaires. Six lesson plans were designed based on the flipped-classroom approach principles for English teaching. The lesson plan consists of 6 parts as follows: 1) the teacher prepares the videos, 2) the teacher prepares the students to know about flipped-classroom approach, 3) the students study the videos, 4) in the classroom, the teacher warms up the students by asking them about the lessons that they had studied, 5) the teacher presents the lesson by reviewing the contents and then the students do the activities, 6) the teacher sums up the lesson. The achievement tests (pre-test and post-test) which were multiple choice (4 options) consisted of 20 items. The questionnaire investigated students' satisfaction after being given the treatment.

4. Data Collection

Before starting the experiment, the researchers sought participants' participation in data collection in order to create a book. Then the researchers met the adviser of tenth-grade room nine students to discuss the "Flipped-classroom Approach" and the procedures for conducting the study. Next, the researchers met the participants for a briefing about the flipped-classroom approach. They received the videos through Google Classroom, and they contacted the researchers through their Line group application. After that, the researchers asked them to conduct a pre-test. In the experiments, the participants were taught by using flipped-classroom lesson plans. There was an hour for Present Simple Tense, two hours for Present Continuous Tense, two hours for Present Perfect Tense, and an hour for Simple Future Tense. While they were learning, one of the researchers observed students' learning as a team by taking down notes. After the experiment, students were asked to do the post-test and asked to do a students' satisfaction questionnaire.

5. Data Analysis

1. Quantitative Data

Descriptive statistics were used to analyze the quantitative data and included the following: 1) review the quality of research instruments before applying them to the sample group. 2) review the efficiency of the lesson plans on English grammar using the flipped-classroom approach consisting of six lesson plans. 3) review the quality of achievement tests (pre-test and post-test) which were multiple choice (4 options) and consisted of 20 items. The achievement tests were reviewed for content validity by experts for considering the Index of Consistency (IOC) between objectives and test items. Then they analyzed the Difficulty Index ($p = 0.20-0.80$) and Discrimination Index ($r = 0.20-1.00$) and analyzed for Reliability by using KR-20 of Kuder Richardson. 4) review the quality of a questionnaire investigating students' satisfaction with the flipped-classroom approach of the tenth-grade students who studied English grammar by considering the IOC between questions and nomenclature.

Analyzing the data to examine the hypothesis are as follows: 1) Analyze the efficiency of the lesson plans on English grammar using the flipped-classroom approach consisted of six plans to meet the standard criterion set at 75/75 was first done. 2) Compare the learning achievement of the tenth-grade students who studied English grammar using the flipped-classroom approach before and after taking the treatment by using t-test dependent samples were then performed. 3) Analyze the satisfaction of the tenth-grade students who studied English grammar using the flipped-classroom approach by using the average score (\bar{x}) and standard division (S.D.) was finally done.

2. Qualitative Data

This study used a content analysis approach to determine the presence of certain words, themes, or concepts within some given qualitative data while teaching and learning.

Results

The results are presented in terms of the quantitative data and the qualitative data.

1. Quantitative data

1. The efficiency of the lesson plans on English grammar using the flipped-classroom approach for the tenth-grade students is shown in table 2 below:

Table 2 The result of developing the efficiency of the lesson plans on English grammar using the flipped-classroom approach for the tenth-grade students.

Items	N	Full Score	\bar{X}	S.D.	Percentage
Scores during learning activities	40	64	49.17	1.63	76.84
Post-test	40	20	15.02	1.52	75.12
The efficiency of the lesson plans (E1/E2) = 76.84/75.12					

From Table 2, the result found that the lesson plans on English grammar using the flipped-classroom approach for the tenth-grade students had a process efficiency value (E1) of 76.84, the efficiency of the result (E2) of 75.12, efficiency (E1/E2) of 76.84/75.12. It means that the expected value is higher than the standard criterion set at 75/75.

2. The comparison of the learning achievements of tenth-grade students who studied English grammar using the flipped-classroom approach before and after being given a method of teaching is shown in Table 3 below.

Table 3 The comparison of the learning achievements of tenth-grade students who studied English grammar using the flipped-classroom approach before and after being given the treatment.

Test	N	Full Score	\bar{X}	S.D.	t
Pre-test	40	20	6.25	2.32	21.620**
Post-test	40	20	15.02	1.52	

** significant difference 0.01

From Table 3, a simple comparison of average scores of both groups indicated that students' scores in the post-test ($\bar{x} = 15.02$, S.D. = 1.52) was higher than pre-test ($\bar{x} = 6.25$, S.D. = 2.23). The results showed that the dependent t-test was a statistically significant difference of 0.01 in pre-test and post-test.

3. The investigation of the satisfaction of tenth-grade students who studied English grammar using the flipped-classroom approach is shown in Table 4.

Table 4 The result of investigating the satisfaction of tenth-grade students who studied English grammar using the flipped-classroom approach.

NO.	Items	Result		Satisfactions' Level
		\bar{X}	S.D.	
1.	Teaching and learning atmosphere	4.34	0.67	high
2.	Teaching and learning activities	4.37	0.68	high
3.	Teaching and learning materials	4.45	0.67	high
4.	Assessment and evaluation	4.48	0.64	high
5.	The benefits from learning with flipped-classroom	4.38	0.79	high
Total		4.40	0.68	high

From Table 4, the results found that the satisfaction of tenth-grade students who studied English grammar using the flipped-classroom approach was at a high level ($\bar{x} = 4.40$, S.D. = 0.68). When sequencing each item, three items from the most to the lower satisfaction were: an assessment and evaluation ($\bar{x} = 4.48$, S.D. = 0.64), teaching and learning materials ($\bar{x} = 4.45$, S.D. = 0.67), and the benefits from learning with flipped-classroom approach ($\bar{x} = 4.38$, S.D. = 0.79) respectively.

Qualitative data

1. The development of teaching and learning by using flipped-classroom approach.

From observations and informal interviews, the results indicated that students learned the lessons from the videos by themselves before doing activities in the class. They could complete all activities as well because they had learned the lesson before coming to the class. They can apply knowledge to do activities and explain some lessons to their friends when their friends do not understand. As seen from the interview, student 1 explained that “I can pause and reverse the video and get more understanding”. Student 2 stated that “I learn the lesson from the video, and I can do activities as well in the class”. Student 3 commented that “Flipped-classroom approach increased my responsibility because I have to learn by myself”. Student 4 stated that “I am excited with this approach because it is a new learning approach, and it is different from the traditional learning approach”.

2. The development of students' group work.

From observations and informal interviews, the result indicated that the members in each group helped each other with activities, exchanged their knowledge, and divided duties according to the person's ability to work in a group to complete their work. There were leaders and followers in each group as well. As seen from interviews, student 5 stated that “My group divided our members to do each task, then we come together and explain it to each other in the group. I think this is easy to understand and did not waste time to do it one by one”. Student 6 explained that “Group work help me to respect other opinions. Some topics I do not understand, my friends can explain them to me clearly”. Student 7 commented that “I can talk to other members, exchange my knowledge, know the other perspectives and learn group work skills”.

Discussion and Conclusion

The purposes of this research were 1) to develop the efficiency of the lesson plans in English grammar using the flipped-classroom approach for the tenth-grade students to meet the standard criterion set at 75/75. 2) to compare the learning achievement of the tenth-grade students who studied English using the flipped-classroom approach before and after taking a method of teaching and 3) to study the satisfaction of the tenth-grade students who studied English grammar using the flipped-classroom approach.

The results indicated that the efficiency of the lesson plans in English grammar using the flipped-classroom approach for the tenth-grade students showed an efficiency standard criterion at 76.84/75.12. It means that students who earned points for completing worksheets during class accounted for 76.84 percent and received an average score from the post-test after studying accounted for 75.12 percent. So, the efficiency of the lesson plans on English grammar using the flipped-classroom approach for the tenth-grade students was higher than the standard criterion set at 75/75. This result is consistent with Chaiwech (2018, p. 98) who reported that the constructed instructional design had an efficiency level of 88.83/87.79 which was higher than the set criteria. Similar findings were reported in Wongsrikaew et al. (2021, p. 321) who found that the flipped-classroom for students in grades 1-3 had a process efficiency value (E1) of 75.07, the efficiency of the result (E2) of 80.71, efficiency (E1/E2) of 75.07/80.17 high which had the threshold at 75/75. Also, the result of this study matches the results obtained by Phumphanit et al. (2021, p. 1) who showed that the efficiency (E1/E2) was 83.03/78.54 which was higher than the pre-set criteria. In addition, this study further supports the study of Ponsa et al. (2021, Abstract) who reported that the efficiency (E1/E2) was 82.74/84.3, which was higher than the pre-set criteria. This study also corresponds with those of Wisitthipong et al. (2021, p. 11) who demonstrated that the flipped-classroom for students in grade 4 had a process efficiency value (E1) of 80.08, an efficiency of the result (E2) of 73.98, efficiency (E1/E2) of 74.28/76.26, higher than the set threshold of 70/70.

The results of this study indicated that the post-test of tenth-grade students who participated in English grammar using the flipped-classroom approach was higher than the pre-test at a significant level of .01. This result is consistent with those of Denprapat and Chuaychoowong (2016, p. 226) who reported that there was a significant difference between the mean scores of post-tests ($t (65) = 3.126, p < 0.05$) among the students who took part in the control group ($M = 28.91, S.D. = 6.887$) and experimental group ($M = 33.59, S.D. = 5.149$). Similar findings were reported in Sakulprasertsri (2017, p. 30) who found that participants' English oral communication ability improved significantly and participants'

motivation in English learning was higher than before experiencing this instruction. Also, the result of this study matches the result obtained by Siriprasert and Kongmanus (2021, Abstract) who showed the achievements of Mathayom 2 students studying through the flipped-classroom approach with Kahoot game in the English subject had post-test higher than pre-test at 0.05 of significance. Similarly, Al-Harbi and Alshumaimeri (2016, p. 60) showed that adopting the flipped-classroom strategy appeared to play a role in enhancing the students' grammar performances, as the mean score of the experimental group was higher than that of the control group, but this difference was not statistically significant. Moreover, the findings of this study are in line with Albahuoth (2020, p. 12) who reported that the analysis revealed statistically significant differences between the mean scores of the post-test of the two groups in favour of the experimental group ($M = 21.64$, $SD = 6.10$) over the control group ($M = 14.54$, $SD = 3.82$)

The results of this study indicate that the satisfactions of tenth-grade students who studied English grammar using the flipped-classroom approach were at a high level ($\bar{x} = 4.40$). This finding confirms previous research by Diawtrakoon (2018, p. 137) who found that the learners were satisfied with their learning, were more committed to English language learning, had a positive attitude toward English language learning, and had more interaction with the teacher and other learners. Similarly, Thongwas and Meesuwan (2020, p. 40) reported that students' satisfaction in learning with the learning activity packages was at a high level ($\bar{x} = 4.35$, $S.D. = 0.77$). Also, the result of this study matches the results obtained by Choe & Seong (2016, p. 71) who showed that students felt the flipped-classroom gave them more chances to communicate in English, in addition to greater participation, preparedness, and feedback. Students also reported that the flipped-classroom helped them have a deeper understanding of the course content. Moreover, the findings of this study are in line with Al-Naabi (2020, p. 64) who found that flipped learning had a positive impact on students' understanding and usage of English grammar and that students' perceptions of the flipped approach were positive.

References

Abdulmajeed, R. K., & Hameed, S. K. (2017). Using a linguistic theory of humour in teaching English grammar. *English Language Teaching*, 10(2), 40-47.
<http://doi10.5539/elt.v10n2p40>

Albahuoth, H. (2020). Effectiveness of flipped-classroom in developing 11th graders' grammatical competences in arabic. *Interactive Learning Environments*, 1-17.
<https://doi.org/10.1080/10494820.2020.1821714>

Al-Harbi, S. S., & Alshumaimeri, Y. A. (2016). The flipped-classroom impact in grammar class on EFL Saudi secondary school students' performances and attitudes. *English Language Teaching*, 9(10), 60-80.
<http://dx.doi.org/10.5539/elt.v9n10p60>

Al-Naabi, I. S. (2020). Is it worth flipping? The impact of flipped-classroom on EFL students' grammar. *English Language Teaching*, 13(6), 64-75.
<https://doi.org/10.5539/elt.v13n6p64>

Bergmann, J., & Sams, A. (2014). *Flipped learning: Gateway to student engagement*. International Society for Technology in Education.

Brame, C., & Director, C. A. (2013). *Flipping the classroom*. Vanderbilt University: Center for teaching. Retrieved from <http://cft.vanderbilt.edu/teaching-guides/teaching-activities/flipping-the-classroom/>

Chaiwech, T. (2018). *Instructional design of the flipped-classroom for phrasal verb reading*. (Master's thesis). Chiang Mai University Digital Collections. Retrieved from <https://cmudc.library.cmu.ac.th/frontend/Info/item/dc:126835>

Choe, E., & Seong, M. H. (2016). A case study of the flipped-classroom in a Korean University general English course. *Journal of Pan-Pacific Association of Applied Linguistics*, 20(2), 71-93.

Conradie, C. J. (2013). Grammar-internal mimicking and analogy. *Iconic Investigations*, 12, 63.
<https://doi.org/10.1075/ill.12.07con>

Dansakul, L. (2015). *Effect of flipped-classroom teaching with Podcast using self-regulated strategies on structured programming achievement and self-regulation of enrichment science classroom students* (Thesis). Web OPAC KMITL Central Library.
<https://opac.lib.kmitl.ac.th/catalog/BibItem.aspx?BibID=b00194015>

Denprapat, O., & Chuaychoowong, M. (2016). Using flipped-classroom model to develop English competency and independent attributes of Mathayom Suksa 1 students at Mengrai Maharajwitthayakhom School. *Journal of Social Academic*, 9(2), 225-239.

Diawtrakoon, N. (2018). Using flipped-classroom in teaching English in tertiary level. *Sripatum Review of Humanities and Social Sciences*, 17(2), 137–145.

Hongkhunthod, A. (2014). (2021, December, 22). *Flipped-classroom*. Porntippalacheewa. Retrieved from <https://porntippalacheewa.wordpress.com/>

Ministry of Education. (2014). *Policy for reforming English language teaching*. Retrieved from http://www.phatthalung2.go.th/myoffice/2557/data/tkk2/25570408_114829_9281.pdf

Outamung, S. (2015). Flipped-classroom: a dream come true in teaching Thai language. *Journal of Educational by, Faculty of Education, Srinakharinwirot University*, 16(1), 51-58.
<http://ejournals.swu.ac.th/index.php/jedu/article/view/6667/6289>

Panit, W. (2013). *Flipped Classroom*. (2nd ed.). S. R. printing mass-produces company limited.

Piyawat, J. (2015, August 17). *Flipping Your Class*. GoToKnow. <https://www.gotoknow.org/posts/612478>

Phumphanit, Y., Rohmawati, A., & Simpol, W. (2021). Effect of applying flipped-classroom on English achievement of primary 5 students in Covid-19 situation. *Journal Universitas Muhammadiyah Gresik Engineering, Social Science, And Health International Conference (UMGESHIC)*, 1(2), 1-10.
<http://dx.doi.org/10.30587/umgeshic.v1i2.3361>

Ponsa, T., Tasya, A., & Simpol, W. (2021). The development of English-speaking skills of primary 3 students in Covid-19 through flipped-classroom concept integrating with classroom action research. *Journal Universitas Muhammadiyah Gresik Engineering, Social Science, And Health International Conference (UMGESHIC)*, 1(2), 198-206.
<http://dx.doi.org/10.30587/umgeshic.v1i2.3382>

Purpura, J. E. (2004). *Assessing grammar* (Vol. 8). Cambridge University Press. Retrieved from <https://books.google.com/books?hl=th&lr=&id=DPeBDh3CN34C&oi=fnd&pg=PA63&dq=Grammar->

Ruengkul, A., & Jaiprasong, S. (2021). Flipping English classrooms as learning in the 21st century. *Manutsat Paritat: Journal of Humanities*, 43(1), 29-48.

Sa-e-dee, Y., & Charumanee, C. (2020). Achievement on English grammar and opinion towards the use of teacher-fronted instruction and peer teaching strategy. *Journal of Yala Rajabhat University*, 15(3), 319-327.

Sakulprasertsri, K. (2017). *Effects of English Instruction Using the Flipped Learning Approach on English Oral Communication Ability and Motivation in English Learning of Upper Secondary School Students*. (Doctoral dissertation, Chulalongkorn University). Retrieved from <https://www.researchgate.net/publication/328449142>

Schoolwires. (2013). *The Flipped-classroom: A New Way to Look at Schools*. Retrieved from <http://offers.schoolwires.com/flippedclassroomanewway>

Siriprasert, K., & Kongmanus, K. (2021). The effect of flipped-classroom approach with Kahoot game for the English subject on achievement and self-regulation of Mathayom 2 students. *Journal for Research and Innovation, Institute of Vocational Education Bangkok*, 4(2), 157-180.

Sithsungnoen, C. (2017). Flipped-classroom: Learning skill in century 21st. *Journal of MCU Social Science Reviews*, 6(2-05), 171-182.

Suriyarattanaporn, R., Jirasawad, S., & Panawas, S. (2018). Using Computer Assisted Instruction (CAI) to develop English grammar of Prathomksa 6 students. *Suan Dusit Graduate School Academic Journal (GRAD)*, 15(1), 161-174.

Thongwas, P., & Meesuwan, W. (2020). Development learning activity packages with flipped-classroom learning process to develop English listening and speaking skill for grade 8 students. *Santapol College Academic Journal*, 6(1), 39-47.

Upper secondary education (OBEC). (2017). *Driving Secondary Education in Thailand 4.0 for 21st Century Employment*. *The Agricultural Co-operative Federation of Thailand, Ltd. (ACFT)*. <https://secondary.obec.go.th/newweb/wp-content/uploads/2017/12/367-aw-all-e-Book.pdf>

Wisitthipong, W., Rahmawati, Y., & Simpol, W. (2021). Applying of the flipped-classroom development learning achievement in English language of grade 4 students in Covid-19 situation. *Journal Universitas Muhammadiyah Gresik Engineering, Social Science, And Health International Conference (UMGESHIC)*, 1(2), 11-19. <http://dx.doi.org/10.30587/umgeshic.v1i2.3362>

Wongsrikaew, W., Dewi, L. K., & Simpol, W. (2021). Effect of English instruction using the flipped-classroom concept to develop speaking skill of grade 1-3 in Covid-19 situation. *Journal Universitas Muhammadiyah Gresik Engineering, Social Science, and Health International Conference (UMGESHIC)*, 1(2), 313-322.
<http://dx.doi.org/10.30587/umgeshic.v1i2.3398>

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