THE IMPLEMENTATION OF FLIPPED CLASSROOM IN EFL CLASS:
A TAIWAN CASE STUDY

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Abstract

This article reports on a case study designed to examine the implementation of flipped classroom in the EFL classroom in Taiwan. In addition, students' perception of flipped classroom was also investigated. Sixty-one senior high school students participated in this study; data were gathered from students' English midterm exam score and questionnaire. The data then were quantitatively analyzed by using T-test and descriptive statistics. The results show that students' English proficiency in flipped classroom was not significantly different with students in traditional classroom. However, the results reveal that students' perception of flipped classroom were generally favorable. Students' contended that flipped classroom enhanced their motivation in learning English, as they liked the self-pace through the course and they stated that flipped classroom gave them more class time to practice English. The results presented here may facilitate improvements in the implementation of flipped classroom in EFL class. Furthermore, suggestions for further research are also presented.

Keywords: Flipped classroom, EFL classroom, English proficiency, students' perception

1. INTRODUCTION

In the recent years, flipped classroom – or also known as flipped teaching – has been one of the major interesting research subjects. Flipping the class is reforming the way in teaching; the events that have traditionally taken place inside the classroom, now take place outside the classroom and vice versa (Johnson, 2013). The reason why it may be complimented and advocated so much is that after the preparation before class (e.g. watching videos, reading texts), students provide meaningful talk and discussion during class. Besides, the students feel more enjoyable and confident when they are able to lead and control their own learning (Gross, 2014). As what flipped classroom is widely expected, a more learner-centered instruction guides students to prepare lessons in advance and engage them in EFL learning environment. Flipped classroom not only minimizes lectures but also maximizes teacher-student and student-student interaction with more collaborative activities or tasks (Sung, 2015).

According to a recent study, Freeman (2014) pointed out that student in class with stand-and-deliver lectures are 1.5 times more likely to fail than those who are in more stimulating and interactive classes. Teachers also spend class time examining the learning progress of students and reviewing the pre-learned content that students actually need help with. Bringing lectures and drills that are considered lower tasks home, students do higher-task learning at school with the assistance from teachers and peers. In a previous research conducted by Dumont (2014), the author indicated that performing interactive activity in the classroom has been proven to be very efficient and well applied to the context.

In a traditional classroom, the instructional lecture material delivered inside the classroom and the follow-up activities are set to be the outside-class activities. Hence, using flipped classroom as an approach, the instructional material delivered online prior to class time, and as a result, in-class time can be allocated more for follow-up activities than those in a conventional lecture. Moreover, compare to that in traditional classroom, students in flipped classroom can have more time to learn individually and freely at home, as they can learn by their own tempo. They also can review the part they missed when they have trouble understanding. Accordingly, students take more responsibility for their own learning and even more effectively arrange their time. As a matter of fact, flipped learning also has a positive effect to students' learning satisfaction as it leads to the improvement of their learning effectiveness as well (Lin & Chen, 2016).

According to Bergmann and Sams (2012), there are five unifying themes of flipped classroom: (1) transferring the ownership of learning to students, (2) personalizing learning for all students, (3) giving teachers time to explore learning opportunities of higher levels with their students, (4) changing a teacher-centered classroom into a student-centered one, and (5) making the face-to-face time in the classroom as much as possible. Furthermore, flipping classrooms by moving lectures and drills from school toward home, teachers with a master of discipline can now provide opportunities for students to develop vital skills, or so called "skills to go" needed in the 21st century, including creativity, appreciation, critical thinking, communication, collaboration, and so forth. Since students received lectures and learning materials prior to the class, teachers can make use of time in class to have students divided into discussion groups or conduct more in-class activities.

Moreover, the most common underlying principle in applying flipped classroom is that they support experiential learning and facilitate an active knowledge building. According to Awidi and Paynter (2019), experiential learning and knowledge building means "learning through interaction with others, developing the capacity to apply or transfer one's knowledge and skills to other contexts, and acquiring deepened understandings" (p.270). Furthermore, it is also said that many teachers and faculty at various levels are using flipped classroom format since they can interact with students more, and eventually help students become more self-directed and responsible for their learning even though it requires teachers much time to carefully prepare for lessons (Bergmann & Sams, 2012).

Although there were many researches about flipped classroom implementation, few of them focus on second language learning. To address this gap, it is thus necessary to do a research about flipped learning in EFL class. Therefore, the primary goal of this study was to investigate the implementation of flipped classroom in the EFL Class. Two research questions are addressed: (1) Is there any significant difference of students' English proficiency between flipped and traditional classroom? (2) What are students' perceptions of flipped classroom? The findings of this study will give more insight in the flipped classroom implementation especially in EFL class.

2. METHODS

Participants

The focus of the study was to examine Taiwanese EFL students' improvements of English proficiency after applying flipped classroom. Sixty 11th graders, majoring in English at a vocational high school in southern Taiwan, participated in this study. They then were divided into two groups: control group and experimental group. The control group includes 29 participants, while the participants of experimental group were 31 students. Both groups of participants are all aged between 15 and 16 years old. All of the participants have been lived in Taiwan without any experience of living or studying overseas.

Instruments

With the aim of gaining the required results based on the two research questions, the mid-term exam school from their English class was used as an instrument to examine participants' proficiency after receiving either the flipped classroom or the traditional one. For answering the second research question, a questionnaire about perception toward flipped classroom was conducted only to the experimental group who received flipped classroom as a treatment. The questionnaire was written in Chinese in case that there would be any misunderstanding happening. All the items were four-point Likert-scale, ranging from 4 for "Strongly Agree" to 1 for "Strongly Disagree".

Data Collection Procedure

Throughout the research, authors acted as outsider researchers, in which there were neither involvement in any classroom treatments nor engagement in any classroom activities. All of the treatments for both classes – flipped class and traditional class – were done by the original teacher. For the experimental group, first of all, the format of the treatment – flipped classroom will be introduced in detailed before conducted; while the control group received the traditional instruction which students were so used to. The instructions in both classes are presented in Table 1.

Table 1 Summary of the Instruction Given in Both Classes

Flipped Classroom	Traditional Classroom
1. Before Class	1. Before Class
Students were given the lesson materials and they need to learn and review the material at home by themselves.	Students were not given any lesson materials before the class.
2. In Class	2. In Class
Students discussed about the lesson topic and did engaging activities about the topic. No lecture for the teacher and the teacher only acted as a facilitator.	Students received the lesson and the teacher gave the entire lecture.
3. After Class	3. After Class
Students were given the lesson materials for the next class topic.	Students were given the homework and materials to be reviewed about that day's topic.

After the duration of experiment which lasted for 1.5 month, both groups of the participants took mid-term exam as a manner of investigating the results of their learning effectiveness. After all, questionnaire of perception toward flipped classroom was conducted to only experimental group with an aim of answering the second research question.

Data Analysis

This study implemented a quantitative approach for data analysis. An independent samples t-test was used to examine the difference in students' English proficiency between control group and experimental group. The data from questionnaire in this study was treated as ordinal data. As a result, median and mode were the two nonparametric procedures that were used to analyze the data. The data will be presented in a bar graph and the percentage of students selecting each response will also be presented.

3. RESULTS AND DISCUSSION

This study was aimed to examine the implementation of flipped classroom in high school and to investigate students' perception toward flipped classroom. Quantitative analyses were used to answer the research questions, making a total of two sections. The first section presents the results of the students' English proficiency. In this section, the comparison of students' English midterm exam score between two groups was analyzed. The second section reveals the general opinion of the students surveyed toward flipped classroom. In this section, the results are presented in four themes, including: General Flipped Classroom, Videos and Social Media, Time, and Pacing.

Students' English Proficiency

An independent sample T-test was conducted to compare the students' midterm exam score between control group and experimental group. Table 1 provides a summary of the independent sample t-test. The results showed that there was no significant difference in English midterm exam score between students' in flipped classroom and students' in traditional classroom, as shown by the result, (t (59) = 1.864, p > .05). These results suggested that, the implementation of flipped classroom does not have an effect on students' achievement in their English midterm exam. It revealed that flipping the class mode from the traditional one is not necessarily improved students' proficiency, specifically in their test achievement.

Table 2 Summary of Independent T-test between Flipped Classroom and Traditional Classroom

Group	n	M (SD)	t-value	df	p-value
FC	31	82.31 (16.44)	1.864	59	.067
TC	29	75.00 (13.94)			

Although the result was not significantly different, it still can be said that the student who were in flipped classroom instruction performed slightly better than student who got conventional instruction, in which has shown in the mean score. A possible reason lays on the limited 'treatment' time. The flipped class instruction had only been implemented for two months at the time this study was conducted. As widely known, commonly the "result" of an instruction can be seen after the treatment have been done for at least six months of

instruction. It thus explains the result that the students might not be accustomed with the instruction, which is very different with the traditional one. Therefore, the significant different in terms of students' proficiency may hardly be found in the current study.

Students' Perception toward Flipped Classroom

To explore students' perception toward flipped classroom, the fifteen items of four-point Likert scale questionnaire was used. The questionnaire was administered only to students in flipped classroom.
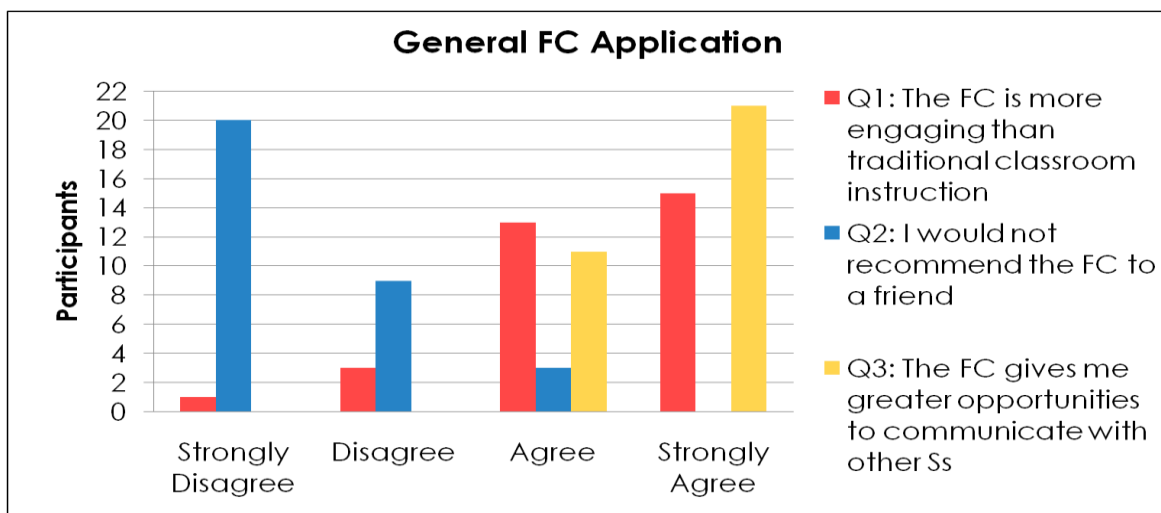
General flipped classroom

Students' general opinion of the flipped classroom was assessed using six items in the questionnaire. These items: 1, 2, 3, 8, 14, and 15 all addressed statements about the implementation of flipped classroom. For item 1, twenty eight of thirty two (87.5%) students contended that flipped classroom is more engaging than traditional classroom (See Figure 1). The median and mode scores support a strong agreement with the statement (See table 3). Item 2 stated: *I would not recommend the Flipped Classroom to a friend.* Twenty nine of thirty two (90.6%) students believed the flipped classroom was worth recommending to a friend. Furthermore, all of students agreed that the flipped classroom gives them more opportunities to communicate with other students (item 3).

As item 8 stated: *I regularly watch the video assignment,* there were twenty seven students (84.3%) either agreed or strongly agreed with this statement (See figure 2). In terms of motivation, thirty of thirty two students (93.7%) concluded that flipped classroom instruction enhances their motivation in learning English (item 14). In line with students' responses about motivation, students' responses on item 15 also indicated that the flipped classroom helped improve their English learning. The responses demonstrated that 90.6% of the students either disagreed or strongly disagreed with this statement. This result supports the assumption that the Flipped Classroom has a positive impact on students' perceptions of learning English.

Table 3 Summary of Descriptive Analysis for the Items under General Flipped Classroom Theme

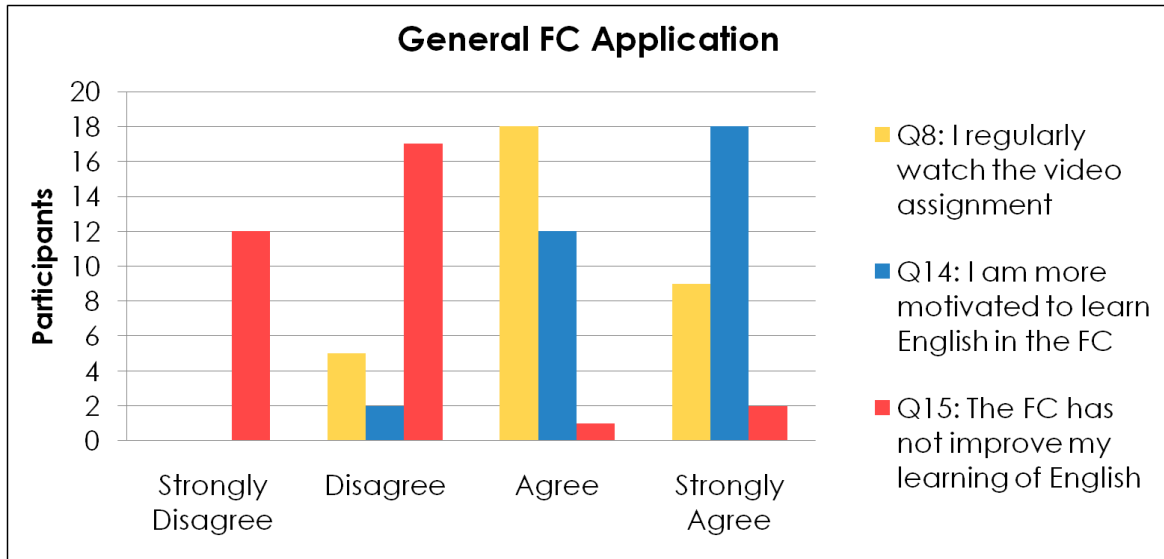|	Q1	Q2	Q3	Q8	Q14	Q15
Median	3.00	1.00	4.00	3.00	4.00	2.00
Modes	4	1	4	3	4	2

General FC Application

Figure 1 Student responses on the items under General Flipped Classroom theme

These findings are consistent with the finding from previous study by Crouch and Mazur (2001) which stated that collaborative activities engage students in learning progress more effectively. By employing collaborative resources and activities, students may feel motivated to engage in the lesson, since they see it as a fun way to learn (Roach, 2014). In addition, promoting students' engagement in online problem-solving activities is reported to be successful by preparing a plentiful set of online resources and providing online interaction activities. Students' high engagement then affected their achievement in the online class (Wang, 2017).

Videos and Social Media

Items 4, 7 and 10 examined the role that video and media play in the flipped classroom (See figure 2). Twenty three of thirty two students (81.9%) stated that they like watching the lesson on video (item 4). When it comes to the importance of social media in their learning (item 7), 84.4% students responded that they did not think social media like *YouTube* and *Facebook* is important in their learning. Item 10 was the last item of the theme addressing video and social media. It stated: I *would rather watch a traditional teacher-led lesson than a lesson video*. Only six students responded that they preferred the traditional lesson, while the rest of students (81.2%) preferred to watch a lesson video. The median and mode of these items will be shown in Table 4.

Table 4 Summary of descriptive analysis for the items under Video and Social Media theme

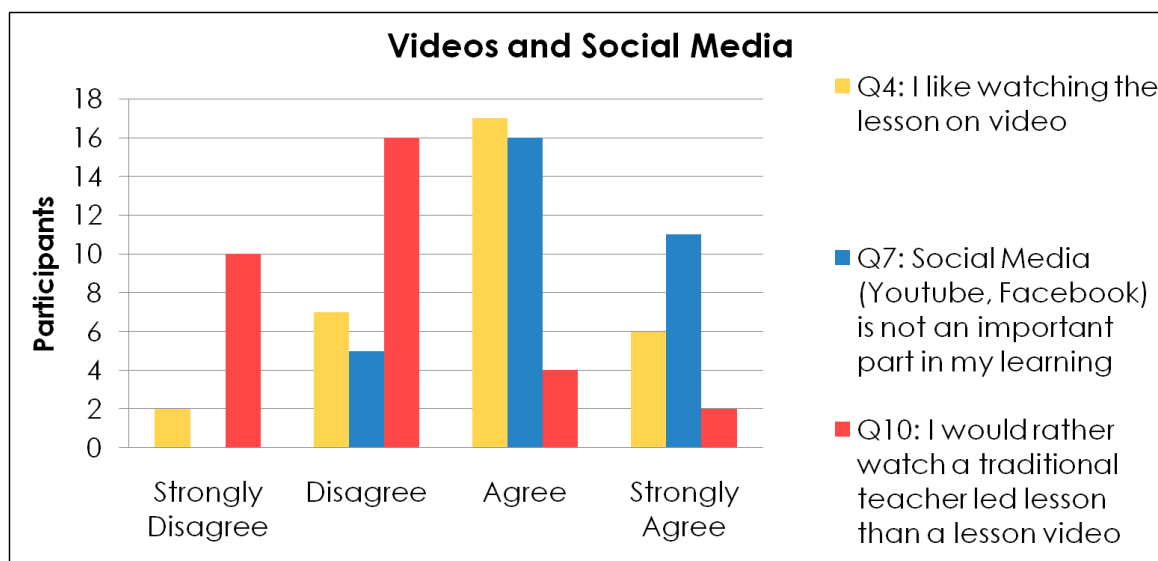|	Q4	Q7	Q10
Median	3.00	3.00	2.00
Modes	3	3	2

Figure 2 Student responses on the items under Video and Social Media theme

A number of studies revealed that online education has increased the chance for the integration of multimedia and students' learning experience. The finding is consistent with finding of past study by Steele and Mandernach (2018), which suggests that instructor-personalized audio lectures improve students' engagement into the course. The study found that student-instructor connections are fostered by using instructor-personalized audio lectures, thus in turn, significantly impacted to students' engagement to the course material. Moreover, the video lectures also found to be helpful, as students can easily access the material and rewind it anytime they need. The video lectures that employed in flipped class were found to help students learning (Roach, 2014).

Time

The third theme, Time, was addressed in items 6 and 13. These items investigated how much time students spent their time at home doing English-related work and how students spent their additional classroom time (See figure 3). Item 6 stated: I *am spending less time working on traditional English homework.* Thirty out of thirty two students (93.7%) contended that they spent less time on traditional English homework. In line with these responses, 93.7% students stated that flipped classroom did not give them less time to practice English (item 13). Both the median and mode are strongly showed disagreement with the statement (See table 5).

Table 5 Summary of descriptive analysis for the items under Time theme

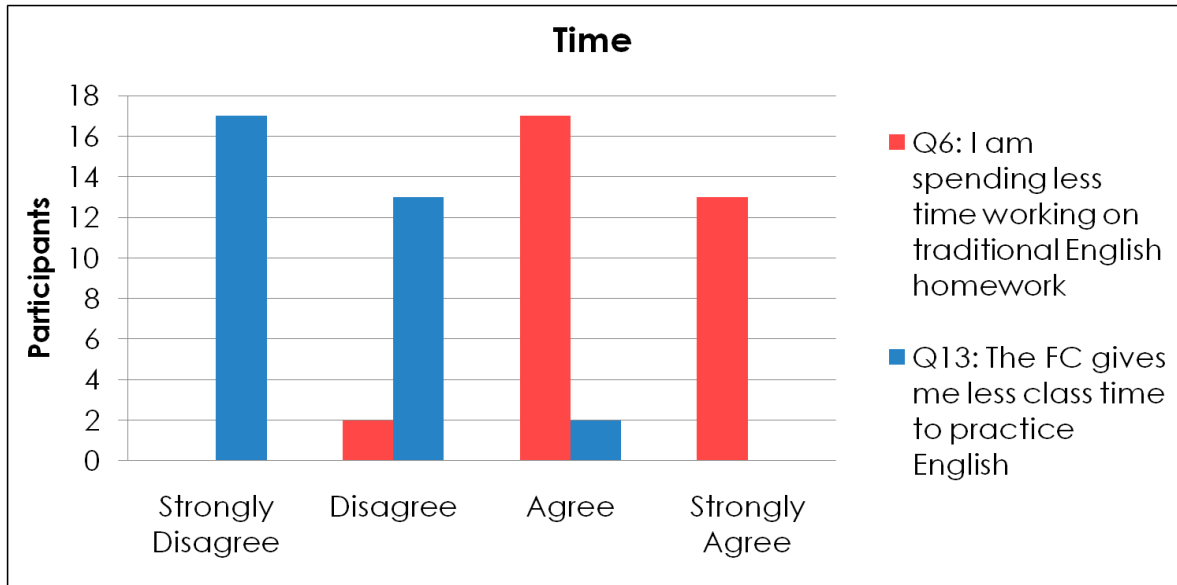|	Q6	Q13
Median	3.00	1.00
Modes	3	1

Figure 3 Student responses on the items under Time theme

Pacing

The fourth theme, consisting of items 5, 9, 11 and 12, examined how students felt about being in a classroom that was self-paced. Specifically, if they liked self-pacing, if they found it easy to self-pace themselves, and how they felt about taking quizzes at their own pace (See figure 4). Items 5 and 11 were similar. Sixty-nine percent of students preferred to not have the entire class moving at the same pace in the course (item 5) while 93.7% students showed disagreement to the item 13 which is stated: *I dislike self-pacing myself through the course.*

Table 6 Summary of descriptive analysis for the items under Pacing theme

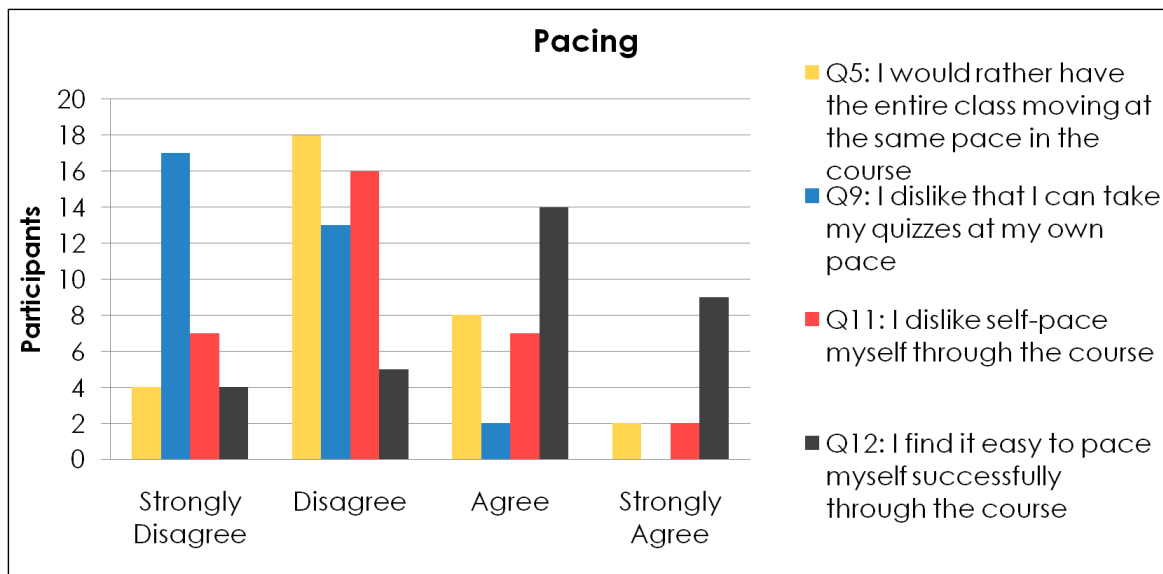|	Q5	Q9	Q11	Q12
Median	2.00	1.00	2.00	3.00
Modes	2	1	2	3

Figure 4 Student responses on the items under Pacing theme

Item 9 stated*: I dislike that I can take my quizzes at my own pace.* Similar to most of the items in this theme, it was clear that students favored self-pacing. Ninety-four percent respondents showed disagreement with this statement. Both the median and the mode strongly disagreed with the statement that they disliked taking quizzes at their own pace (See table 6). For the last item, 72% students showed agreement with this statement. Students contended that it was easy to pace themselves successfully through the course (item 12).

4. CONCLUSION

The first aim of the present study investigates whether the implementation of flipped classroom could enhance students' English proficiency. Referring to the results of the data analysis revealed that students in flipped classroom and students in traditional classroom did not differ significantly in terms of their English proficiency. However, the student in flipped classroom still performed better than student in traditional classroom. It was showed by the mean score of student in flipped classroom which is higher than student in traditional classroom. This might be due to the lack of intervention time. When the data was collected, students only had two months engaging in flipped classroom instruction. They might not be familiar with the instruction which is very different with the traditional one. Therefore, it is impossible to find significant difference during the short period of time.

The second aim of this study concerned to students' perceptions of the flipped classroom. The result from the survey supported the assumption that the majority of students enjoyed the flipped classroom experience. Each questionnaire item that examined students engagement and enjoyment showed positive responses concerning the flipped classroom. The majority of students contended that flipped classroom was more engaging than traditional classroom. They also felt that received flipped classroom instruction made them more motivated in learning English and had more time to practice English. However, in terms of video and social media used in flipped classroom, the findings are interesting. Even though the majority of students responded positively regarding these items, some students contributed different opinion. One-third students felt that social media are not an important part in their learning, they also did not like to watch the lesson video and preferred to have a traditional teacher led a lesson rather than a lesson video. This opinion might be led by students' living hood condition. The participants who involved in this study are students in rural area. They were not easy to get access to the internet or any mobile devices at home. Furthermore, the learning material that the teacher provided mostly was a paper-based material. Due to this reason, it was not surprisingly if students thought that social media are not important part in their learning.

Moreover, certain limitations of this study need to be addressed. Due to the lack of implementation time, the finding in this study may not whole fully represent the effect of implementation of flipped classroom in students' achievement. More intervention time is needed for further research in the same field. The second limitation is that the data for this study only analyzed through quantitative approach. It is suggested to implement qualitative approach such as classroom observation and interview in order to get more depth understanding of students' perceptions.

In summary, the current study unveils just the tip of iceberg of the flipped classroom implementation. As stated earlier, flipped classroom is a shift in the way students traditionally instructed in a classroom. The implementation of flipped classroom was generally favorable perceived by students, which means the flipped classroom instruction is worth to apply in English classroom.

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