

Original Paper

The Impact of a Flipped Classroom on Student Learning Achievements in EFL Classrooms

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Abstract

The Flipped Classroom (FC) is one of the developing ideas of educating students. In a FC, students watch instructional videos at home in advance and do assignments or engage in activities during the class time. Classroom time can be applied to more interactive tasks. This research was to identify the effect of the FC on student learning achievements and gain insights into the students' perceptions towards the FC. This study was conducted with 60 EFL students in the course Grammar 3 of their BA program in Kien Giang University, Vietnam. The participants were divided into a traditional class and a flipped class. The study consisted of both quantitative and qualitative research. The quantitative research design was to determine if there was a statistically significant difference in student learning results between two groups of participants. The qualitative research design with an open-ended question was to know students' perceptions towards the effect of the FC. Findings indicated that (1) the students in the FC got higher scores than the students in the traditional one; and (2) the students in the FC stated that the FC model helped improve their learning results, develop their self-regulation, self-confidence and other soft skills.

Keywords

flipped learning, English language teaching, student achievements

1. Introduction

Teachers and students will agree that there is not enough time in the school day to complete what needs to be done. Students do not receive any benefit from being overwhelmed with information. They have passive way of learning, lack preparation for and engagement in their lessons and lack autonomous learning skills. This situation does not create the student-centered learning environment which is being encouraged now. This situation makes it difficult to achieve the millennium education goal that is to

train a global citizen with lifelong self-study skills, critical thinking, working skills in teamwork. Therefore, Vietnamese education is aiming at modern teaching methods with learner-centered model, promoting cognitive abilities, independent capacity, discovering and solving learners' problems and develop lifelong learning capabilities.

Meanwhile, in many countries in the world, the FC model has been proved to enhance students' engagement, motivation, and improves academic performance (Tucker, 2012). In a FC, students watch instructional videos at home before going to the classroom and do assignments or engage in activities during the class time. With this model, classroom time can be applied to more interactive tasks. This model has been used in Europe and America recently. The main goal of flipping the classroom is to increase the face-to-face time between teachers and students (Gross, 2014) and devote class time for discussing topics, answering questions and practicing exercises (Mehring, 2015). Flipped instruction is considered an effective tool for enhancing thinking and learning (Strohmyer, 2016).

In spite of its benefits, the FC model has not been used in higher education in Vietnam. Very few studies were mentioned and aimed to investigate the effectiveness of the FC method of instruction in EFL classes in Vietnam. With my research, I hope that the implementation of the FC model in tertiary education will help solve the current situation. The benefits of the FC model will provide students with time and opportunities for better participation in class and focus on developing higher-order thinking skills among students.

1.1 Defining Flipped Classrooms

According to Bergmann and Sams (2012), a FC is a setting where that "which is traditionally done in class is now done at home, and that which is traditionally done as homework is now completed in class" (p. 13). In other words, the sequence is inverted. Lage, Platt, and Treglia (2000) stated that "inverting the classroom means that events that have traditionally taken place inside the classroom now take place outside the classroom and vice versa" (p. 32). However, this definition is incomplete. The FC is mainly perceived as students receiving video lectures for instruction, but in fact, in-class activities are more important than videos. In this model, classroom time can be used for engaging in activities, discussing hard concepts, and investigating questions related to content. The videos allow time in class for problem solving and interactive activities.

Bergmann et al. (2011) also revealed the myths and reality around FC. They mentioned that most people think flipped class is all about the videos. It's a backward design because students watch videos for lecture assignments the day before. Students can get lecture knowledge before getting to class. Face-to-face time can be used to personalize meaningful activities and help increase interaction between students and teachers. FC isn't an online course, and videos cannot replace teachers. The authors define FC as a blend between direct instruction and constructivism. Students can watch the videos anytime, and teachers are facilitators who guide students on their own learning.

1.2 Why FC Teaching Method Is Important in 21st Century Learning

Bergmann and Sams (2012) identified many benefits in flipping one's classroom. FC helps busy or absent students catch up or get ahead. The approach allows teachers to reach all students, not just for the bright students who dominate the conversation in in-class activities. FC is a method to personalize contents for all students. With this model, students can pause, replay the videos to help them understand better on the important concepts. Students have more control over their learning. Advanced students don't have to wait for slow students to catch up and slow students don't have to ask for more time. The speed is appropriate for all. Flipping allows teachers to promote interaction between teacher and students, students and students. Small groups work on interactive activities and can help and learn from one another. The FC is pedagogically sound because it serves the principles of personalized-differentiated learning, student-centered instruction, and constructivism.

The literature indicates that a FC is effective in terms of increasing the grades of students when compared to a traditional, lecture-based class (Day & Foley, 2006; Flumerfelt & Green, 2013). DeGrazia, Falconer, Nicodemus, and Medlin (2012), also suggests that with video lectures outside the classroom, students come to class more prepared. When used properly, interaction between students and teachers actually increases in a FC (Roehl et al., 2013). Millard (2012) has suggested that the FC can contribute to student engagement, team-based skills and classroom discussion. In one flipped instruction study, Enfield (2013) found that this model "was effective in helping students learn the content, and increased self-efficacy in their ability to learn independently" (p. 14). Bergmann and Sams (2012) stated that parents love the videos because they can watch along with their children. Parents can access the content through the videos and this makes teaching transparent. This eliminates incorrect perspective of parents to the school.

1.3 Related Studies on the Use of the FC Model

Previous research investigating the use of the FC model in different subject areas usually showed positive feedback of learners and brought a number of benefits (Gaughan, 2014). Few studies were conducted to examine the effectiveness of the flipped foreign language classroom. Some studies supported flipping classrooms and stated that there were improvements in students' performance and while others reported no improvements in their students' achievement. In this concern, Baranovic (2013) reported some positive results when he investigated the effectiveness of a FC for a composition course with first-year students. The findings of this study also revealed that, students' writing skills improved and benefitted from the FC method. Grimsley (2013) also investigated perceptions of 19 college students toward the flipped method in a writing classroom. Most of the participants stated that they liked the videos before class and were in favor of the FC method over the traditional teaching method.

Recently, Basal's study in 2015 investigated the perceptions of 47 prospective English teachers towards the flipped language classroom and showed that the participants had positive perceptions towards the use of the FC. Additionally, in his mixed-method study in 2016, Oki investigated students' perceptions

towards the impact of the FC method. Qualitative results indicated that student participants tended to prefer the FC over traditional instruction; however, quantitative data did not reveal statistically significant differences. Similarly, Yang (2017) examined the use of a FC in the English language subject in secondary classrooms in Hong Kong. The study involved 57 students from two secondary classes and two teachers teaching these two classes and revealed that the students in general had positive attitudes towards the implementation of the FC.

In Vietnam, few research have been conducted in the Vietnamese context tackling the effectiveness of using the FC model in EFL classes. Nguyen (2014) presented the theoretical grounds for flipped learning, synthesized research about the model of FCs and discussed the strengths and weaknesses of this model, and had some suggestions for its implementation in universities and colleges in Vietnam. In their case study in 2016, Nguyen and Le applied FC model in teaching digital to improve students' capacity of creative thinking. The results of studies indicated that applying the FC course not only inspired students to learn, enhanced their learning results, but also helped them improve their capacity of creative thinking.

Le and Bui (2017) used the FC model in teaching Biology in Ha Noi with the aid of the Edmodo tool. Experimental results showed that this method was highly effective in teaching and developing students' self-learning competence. In their research in 2017, Nguyen and Vu addressed the definition of flipped learning based on learning theories and suggested the proper flipped learning approach to develop ICT skills for students in Ha Noi University of Education.

Almost no research in Vietnam has applied the FC model to English classes and the effect of this model on developing soft skills and the abilities among EFL students. Therefore, this study is conducted to investigate the efficacy of the model and to see what skills or abilities Vietnamese learners can gain from using the FC model in EFL classes.

2. Method

2.1 Research Aims

This study consists of two main purposes: (1) investigating the effect of the FC model on improving EFL student learning achievement; and (2) finding the effect the FC model on students' skills and abilities.

2.2 Research Questions

- 1) To what extent did the FC model improve EFL student learning achievement compared to the traditional method?
- 2) How did the students perceive the effect of the FC model on their learning achievement and other skills or abilities?

2.3 Research Design

The research consisted of an experimental study based on a pretest-posttest design. This study was made up of a pre-test, an implementation of the FC model (in the experimental group) and traditional method (in the control group), a post-test and an open-ended question to the experimental group.

2.4 Research Participants

2.4.1 Students

The participants of the study were 60 EFL English major students of Kien Giang University in Vietnam. All participants of this study studied the same syllabus. They studied Grammar 3 Course in the second year of their BA program. Prior to this study, the participants had studied English for 7-10 years. Their levels were identified as A2-B1 according to the CEFR (Common European Framework of Reference for Languages). They were divided into two groups: the control group (30 students) and the experimental group (30 students).

The researcher employed purposive sampling in determining the students to be included in each of the research groups. The 60 students chosen got similar grades in grammar knowledge (according to the average test grade of the previous grammar course in the previous semester).

2.4.2 Teachers

One experienced teacher in Kien Giang University was invited to teach both the control group (traditional method) and the experimental group (FC method). She got a master degree in TESOL. She was able and willing to use FC model. Two experts from the same university were invited to help the researcher choose the content for the flipped class meetings; design videos and activities for in-class activities; and help validate the content of the instruments.

2.5 Research Instruments

The treatment measures used in this study consisted of a pre-test, a post-test, and an open-ended question.

Instruments	t-test (pre/post-test)	Open-ended question
Function	To measure effects of the FC model on EFL student learning achievement	To gauge students' perceptions of the effects of FC model on their learning achievement and other abilities or skills
Elicitation format	Written 30 multiple choice questions, 8 sentence transformation questions, and 10 gap-fill questions	Written "How did FC contribute to your ability to learn Grammar 3 and other abilities or skills (e.g. self-regulation, self-confidence, critical thinking and autonomous learning skills...)?"

2.6 Data Collection and Analysis

The quantitative data were analyzed using SPSS. To access the internal consistency reliability of the questions on the test, Cronbach's Alpha was calculated. The alpha for the test was found to be .81.

To analyze Research Question 1 for the test, an independent samples t-test was run to determine whether there was a statistically significant difference between the control group taught in the traditional lecture method and the intervention group taught in the flipped method.

At the end of the semester, in order to learn the opinions of the participants, the following research question was asked: "How did FC contribute to your ability to learn Grammar 3 and other abilities or skills (e.g., self-regulation, self-confidence, critical thinking and autonomous learning skills...)?"

Qualitative data were collected through an open-ended question. Responses were subjected to content analysis with thematic categorization. The replies were coded and grouped by two researchers to determine common themes. Next, the two researchers from the field of English language teaching compared and discussed their content analysis to determine the final versions. The validity of the common themes was achieved by the agreement of multiple classifiers upon the common themes by working independently of each other.

3. Results and Discussion

3.1 The Effect of the FC on Students' Learning Achievement

The traditional and flipped groups had a statistically significant difference on common final exam scores ($p < .05$) with a calculated Cohen's $d = 0.61$.

The mean control group score ($M = 5.57$, $SD = 1.671$) was lower than the mean intervention group score ($M = 7.67$, $SD = 1.830$), for a mean difference of 2.1, $p = .00$. This produced a p -value in which one should conclude a statistically significant difference between the groups. This showed that the mean score of the experimental group was higher than that of the controlled group and that the FC model had a positive effect on students' learning achievement.

Compared to the results obtained in the traditional course, students in the flipped course were able to make more gains. The result supports the results from Deslauriers, Schelew, and Wieman's study in 2011 that students in the flipped course scored more than twice as well as students in the control group on a multiple-choice test measuring comprehension of the content in the final week. Training students to transition from passive learners to active learners may promote success in the FC.

3.2 Perceptions of ELT Students towards the Effect of the FC

After the course Grammar 3, the participants in the experimental group stated that they had more motivation in learning, learned better and got better results with their flipped learning. They indicated benefits such as learning at one's own pace, understand the lessons better, advancing student preparation, overcoming the limitations of class time, and increasing student participation in class.

For other abilities and skills, the students said that they could develop their self-regulation, self-confidence thanks to the FC model. They also stated that they could gain autonomous learning

skills, team working skill, problem-solving skills and critical thinking skills through the implementation of the FC model as well as the interactive activities in class.

Examples of some excerpts are provided from student comments to illustrate their achievement.

Learning achievement:

Some students reported the achievement they gained and explained benefits of the FC model as the following.

These videos give us an opportunity to watch it again and again. I am not dominated by other good students in the class. This is really a beneficial opportunity for weak students to understand the lesson as the others. (Participant 20)

When we know the topic and learn something about it, we participate in class much more. I understand my lesson much more and get higher marks for this course. (Participant 18)

I can understand the lessons much better with the videos before class and I have better results in this course. (Participant 2)

Watching the videos or reading the articles about the lesson beforehand gives us foreknowledge about what we are going to study in the lesson. I feel I have motivation to go to class to ask what I do not know for sure. (Participant 24)

Watching some videos about the next lesson's subject is really helpful for catching information better because class time isn't enough for learning a language. (Participant 27)

It is useful that lessons are not restricted to the classroom. We can have more time to clarify hard-to-understand information and investigate questions related to the content. (Participant 3)

It is also good to be aware of the subject beforehand. Therefore we get something to say in the class, even if it is just a small sentence. (Participant 22)

Advance student preparation improves understanding of the content of lessons. With a FC, students come to class with greater knowledge, and their participation increases (Bergmann & Sams, 2012). Based on the excerpts, videos were clearly beneficial for advance preparation and content comprehension. Furthermore, based on comments from participants, a FC can contribute to personalization with video lectures, which present opportunities to watch or re-watch lessons as needed. Moreover, with a variety of materials in addition to lecture videos, the flip can contribute even further to the individual needs of students and improve learning experience (Strayer, 2007; Thyagarajan & Nayak, 2007).

The replies also establish how a FC can contribute to student participation during lessons in class. The FC encouraged students to be more active. Because of the advance preparation of the students to the videos before coming to the lesson, such preparation helped to increase the student participation in the classroom activities. The participation of the in the lesson increases since when lectures occur outside classroom hours, time with the instructor is dedicated to discussions, increasing comprehension (Tucker, 2012).

Skills and abilities:

Some students reported the abilities and skills they achieved as benefits of the FC model as the following.

I am more self-regulated with the flipped learning model. I am more responsible with my studying. (Participant 5)

I am more engaged in class activities, listen to my friends' ideas, discuss, ask questions and gain critical thinking skills from that. (Participant 11)

I feel that I am more confident thanks to my pre-preparation and interactive activities in class. (Participant 19)

I can develop my autonomous learning skill from the course. I feel that I need to watch the videos and prepare the lesson before class so that I can ask questions to understand the lesson more deeply as well as profit from my friends' questions and discussion. (Participant 23)

Their positive effects are undeniable for sure, as they make us think more, analyze the subject and we become pre-prepared. (Participant 24)

I am curious to know what the teacher shows in the videos, and I look for other videos with similar topics from the internet to learn more about the topic. It helps me understand the lesson better and I can have more ideas for discussion in class. (Participant 10)

Pre-recorded videos have a positive effect on me because thanks to them I come to class being prepared and feel more confident. (Participant 8)

I like the activities in class which allow me to participate more in classroom interaction. It makes me more active. (Participant 1)

We can develop our team working skill and problem-solving skills when doing group work activities and discussion tasks during class time. (Participant 9)

These important outcomes support the idea from Kvashnina and Martynko's study (2016) that when students exposed to the FC model and to blended learning in general, they have trained their autonomous learning skills and have acquired a more independent learning culture.

Bishop and Verleger (2013) also asserted that a FC require students review of the course online prior to attending class, and also spend time on problem-solving activities together with exercises in class that are traditionally known as homework. The learner is accountable for exploring online materials in a self-directed manner, attempting to gain foundational knowledge before class, and then actively applying it in the collaborative classroom. In short, the results help prove the idea that flipped instruction is an effective tool for enhancing thinking and learning (Strohmyer, 2016).

In conclusion, this research contributes to the scholarly research on the FC and supports the idea that the flipped learning model can be successful in higher education. FC model can promote comprehension, help students get higher scores and gain some important skills. The research helps popularize the implementation of the FC model into English language classes in Vietnam. From this research, teachers and educational authorities will realize the benefits of the FC model so that they can

use it more widely in Vietnam, especially in higher education institutions. It also contributes to the change from instructor-centered instructional model into student-centered model of learning.

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