

Can Flipped Learning Be Applied to a Test-Based English Classroom?

Young Sang Cho*

Dankook University

Yoo-Jean Lee

Dankook University

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The present research attempted to explore the effects of flipped learning in a test-based English classroom on students' perceptions of their class and on their language proficiency. One hundred and twenty four EFL university students who were taking a core TOEIC preparation course with low motivation participated in this study. One class of 30 students was flipped during the half-semester, and the other three classes of 94 were taught in a traditional method. Through a survey questionnaire and a course evaluation form, how the students perceived of their flipped or non-flipped classes were examined. Additionally, their performance on the midterm and final mock TOEIC exams were compared. It was revealed that the majority of the flipped class students showed great satisfaction with flipped approach since it helped them increase individualized learning, engagement, concentration, comfortable feeling, and interactions with others. It was also discovered that only those in the flipped class showed statistically significant improvement from the midterm to the final exam. It can be concluded that flipping a test-based language classroom would be successful in enhancing students' positive attitude and motivation in learning as well as their language test proficiency.

[flipped learning/test-based English classroom/TOEIC/motivation/
/ / /]

* First author: Young Sang Cho, Corresponding author: Yoo-Jean Lee

I. INTRODUCTION

The popularity of a flipped classroom approach, which is also referred to as “reverse instruction” or “inverted classroom” (Bergmann & Sams, 2012, p. 7), has grown rapidly in recent years. According to the Flipped Learning Network (2014), flipped learning is defined as follows:

A pedagogical approach in which direct instruction moves from the group learning space to the individual learning space, and the resulting group space is transformed into a dynamic, interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter. (Flipped Learning Network, 2014, para. 1)

In a traditional teacher-centered classroom, much of in-class time has been spent on teachers’ lecturing, which is often described as transmissive and passive in that they explain concepts and students listen and take notes (Abeysekera & Dawson, 2015). Teachers often have hard time managing to provide individualized instructions and assistance to meet students’ different learning needs, and consequently students end up being demotivated due to either unstimulating or too difficult learning tasks (Egbert, Herman, & H. G. Lee, 2015).

In contrast, in a flipped classroom, pre-recorded videos and/or pre-class assignments are used for students to access lectures outside of the class, which frees up in-class time for hands-on learning, one-on-one interaction between a teacher and students, and collaborative and creative tasks to achieve learning goals (Abeysekera & Dawson, 2015; Roach, 2014; Webb, Doman, & Pusey, 2014; Webb, 2016). In these regards, the potential benefits of flipped learning often include students’ self-paced learning through pre-class materials, more opportunities for meaningful homework, improved interaction between classroom agents, just-in-time feedback, and so on (Fulton, 2012; Goodwin & Miller, 2013; Roach, 2014).

In accordance with the popularity of flipped approach, a plethora of online news articles and studies have become available (e.g., Bergmann & Sams, 2012). They often covered issues like how a traditional classroom can be flipped and what technology can be used. Up to date, however, empirical or scientific validation for the educational value of the flipped classroom is relatively insufficient (Hung, 2015). In addition, the currently available literature about the flipped classroom has given much emphasis on STEM disciplines (i.e., science, technology, engineering, and math) in American university settings (Hung, 2015; Webb, 2016). In order to extend the existing literature on flipped learning, this study aims to investigate students’ perceptions of flipped learning and its efficacy on their English

proficiency in a non-STEM context, in a non-American university setting, and in a test-based EFL classroom at one of the universities in Korea. To this end, two central questions guided this inquiry as follows:

- 1) What are students' perceptions of flipped learning in the test-based EFL classroom?
- 2) In comparison with traditional learning, how does flipped learning affect students' English proficiency test results?

II. LITERATURE REVIEW

The currently available studies on the flipped learning mostly focused on students' perceptions of the approach through questionnaires and interviews and its efficacy through examination of students' academic achievements. Most studies have found that students' attitudes towards the implementation of flipped approach for their learning was generally positive and learning outcomes were better in flipped classrooms than in traditional ones (Web et al., 2014).

1. Student Perceptions

One of the examples of the studies that demonstrated students' attitudes toward the flipped classroom was conducted by Roach (2014). He surveyed the students who were enrolled in the microeconomics course with a Likert-type questionnaire. The survey mostly focused on the students' general experience with flipped learning and their perceived learning outcomes. The survey responses indicated that the majority of students were satisfied with the course and considered that the new method helped with their learning. In particular, watching video lectures prior to class and interactively discussing with their friends in class helped them learn better.

Ruddick (2012) also confirmed students' positive attitudes towards flipped learning. In a college preparatory chemistry class, one group was flipped, and the other was taught in a traditional manner. The analysis of the survey indicated that the students in the flipped classroom became more interested in chemistry having less intimidation for the subject. Additionally, they responded that the online video and PowerPoint materials they used outside of the classroom were useful to understand the content better.

Other studies in different college-level disciplinary contexts (e.g., architectural engineering course, engineering statistics course, introductory statistics course) also found that students showed positive reaction to the flipped classroom in general and ascertained that flipped approach had a positive impact on their learning (e.g., Papadopoulos, Santiago-

Roman, & Portela, 2010; Strayer, 2012; Zappe, Leicht, Messner, Litzinger, & H. W. Lee, 2009).

However, not all students took flipped approach positively from the beginning of the semester. For example, Lage, Platt, and Trglia (2000) used flipped approach in an introductory economics course believing that the traditional lecture format was not effective for different learning styles. To meet the students' different needs with varied learning styles, they provided different types of materials (e.g., textbook, Powerpoint presentation, and video). Then the class time was spent on economic experiments and small group discussions where the students had to apply economics to real world problems. At the beginning of the semester, the students showed negative reactions towards the flipped classroom, citing unclear roles of the instructor. However, they changed their attitudes at the end of the course and responded that they preferred flipped learning more.

Butt (2014) also observed students' perception changes throughout the semester. Similar to Lage et al.'s (2000) findings, the students in an actuarial course were not satisfied with the new approach initially, but later viewed it favorably. They reported that hands-on activities greatly helped them change their attitude positively. In this regard, Butt emphasized the importance of providing students with engaging learning materials and activities.

The research mentioned above illustrated that students show positive perceptions and attitudes towards the flipped instruction overall. Moreover, the majority of the students in the studies preferred the flipped classroom over the traditional one for various reasons, such as online learning materials available for them to study on their own and hands-on learning activities occurring in the classroom.

2. Learning Outcomes

Another increasingly explored area of research on flipped learning was its effectiveness in terms of students' academic performance. For example, Ruddick (2012), in the same research mentioned above, collected data on not only the students' perceptions but also learning achievement using their final exam scores. It was found that the students in the flipped classroom outperformed the ones in the traditional lecture class. They obtained higher average score, and a greater number of students performed at or above C- level on the test compared with the counterpart.

In a similar vein, Talley and Scherer (2013) conducted a study at an introductory psychology class. They found that the students in the flipped environment gained higher average score on the exam than those in the traditionally taught classroom. Furthermore, the students' retention and engagement had significantly increased. It was confirmed that flipped approach can play a key role in enhancing students' learning in STEM disciplines.

In Davies, Dean, and Ball's (2013) study, those who were enrolled in an introductory technology course showed great satisfaction with flipped learning as well as great academic achievement. The students indicated their willingness to refer the course to others and to take another course taught in a flipped manner after their experience. Additionally, flipped learning enhanced their motivation in learning and facilitated them to perform better on the final test.

As detailed thus far, the findings from research indicated that flipped instruction has a positive association with students' achievements. In particular, the students who were taught in a flipped method turned out to have greater learning outcomes compared with those in the traditional classroom.

Based on students' perceptions and learning outcomes, the current literature coincides with the claims made on the positive effects of the flipped classroom, but it is yet to be conclusive or generalizable in that most of the recent research was conducted in the STEM disciplines in the United States (Hung, 2015). In other words, there are relatively few studies that investigated the benefits of flipped approach in non-STEM fields, such as language education in various contexts.

3. Flipped Learning in EFL Classrooms

Research on flipped foreign language course are still in infancy, but more and more educators and researchers in the field have started to examine the benefits of flipping FL classes (e.g., Ducate, Lomicka, & Lord, 2012; Witten, 2013). One of the most frequently mentioned advantages of flipped approach in FL classes is that students can get more opportunities for communicative and interactive language learning in the classroom. For example, Witten (2013) found that that the students' interests in Spanish in a flipped classroom had significantly increased since they were able to work on grammar and vocabulary independently and to participate in hands-on activities such as presentations and projects in class.

Webb, Doman, and Pusey (2014) also examined how flipped model was perceived by the students and the teachers in a Chinese EFL university classroom. By analyzing data from various sources such as student surveys/observations and teachers' reflective journals, it was discovered that the students became more comfortable with flipped learning by the end of the semester. In terms of the teachers, the majority of them preferred the new teaching method because of the opportunities for higher order thinking practices in the classroom. However, there were some negative reactions such as difficulties of engaging the students with the materials.

Hung (2015) further explored the effects of flipped learning on Taiwanese EFL university students' academic learning outcomes, attitudes towards the approach, and

participation levels in the classroom. It was found that in all the three categories, flipped learning yielded more positive results than the traditional one. In addition, the students expressed preference for flipped approach citing that self-paced learning with pre-class materials and improved interactions with classroom agents were what they liked the most about their class.

Similarly, N. Kang (2015) investigated Korean EFL university students' achievement and engagement in a flipped class. First, the results of the grammar and vocabulary pre- and post-tests were compared between the flipped and the regular classrooms, and the improvement was found only in the former classroom. In addition, the questionnaire and interview data showed that the students were highly satisfied with their grammar and vocabulary learning in the flipped classroom. However, the research also reported that the flipped classroom could be problematic when students would not complete their assignments before coming to class or when they have trouble understanding online video contents.

The aforementioned studies contributed to the body of the current literature by expanding the scope of research on the flipped classroom to the FL discipline. However, considering relatively little research available, the possible influence of flipped approach on second and foreign language education in varied settings needs more attention. Therefore, this study attempted to address the gap in the literature by exploring the effects of flipped approach on a test-based EFL classroom in a Korean university.

III. METHOD

1. Context of Study

This research was first designed with an effort to tackle teaching problems that one of the researchers of this study was facing during the semester and to enhance the quality of his teaching. He taught four classes (Classes 1, 2, 3, and 4) of a required college-level general English course at a one of the universities in Korea. Listening and reading parts of the TOEIC were covered in this course, and the students were scheduled to meet in class for two hours once a week during the 15-week time period. The number of the registered students for each class was 35, 32, 38, and 24 respectively, and the majority of them were freshmen with a few sophomores, juniors, and seniors. The students' majors varied as shown in Table 1. Since the classes were targeted towards beginner-level students, a beginner-level TOEIC preparation textbook was used for all of the four classes (They were assigned to a basic level based on their TOEIC scores in the previous semester.).

TABLE 1
Student Distribution by Major in Each Class

Class 1		Class 2		Class 3		Class 4	
Major	# of Ss	Major	# of Ss	Major	# of Ss	Major	# of Ss
Music	18	Electronic Engineering	20	Ceramics	13	Business	9
Business	3	Software	10	Dance	9	Film	6
Urban Planning	3(2)	Architecture	1	Film	8	Music	4
Film	2	Business	1	Fashion	6	Law	2
Software	2			Architecture	1	Economics	1
Political Science	1			Communication	1	Architecture	1
Electronic Engineering	1					Chinese	1
Ceramics	(1)						
Communication	(2)						
Total	30(5)		32		38		24

Note. The number of Chinese international students was counted in parenthesis.

All four classes were taught in a traditional, lecture-style manner from Week 1 through Week 7; the instructor gave lectures about the TOEIC (e.g., TOEIC question types, listening and reading strategies, grammar points, and key vocabulary) and the students practiced instructor-selected TOEIC listening and reading exercise questions all together.

As the semester progressed, however, the instructor found it extremely difficult to teach those classes in general and Class 1 in particular. Firstly, it was a great challenge for him to find out what each student's needs and wants were and to provide appropriate guidance and feedback accordingly in class due to the large class size. For example, there were 35 registered students in Class 1. Although the instructor tried to call on as many students as possible in class to check their understanding, he realized that it was a daunting task (if it was not an impossible task) to listen to and address all of the students' problems/needs at once. Particularly, five Chinese international students had hard time understanding the content of the lesson due to their low proficiency level of English; their midterm mock TOEIC scores ranged from 50 to 190 (out of 990). Thus, the instructor sometimes had to spend much time explaining the same content repeatedly so that they could understand it better. At the same time, he was very concerned about the rest of the students' possible dissatisfaction since they had to sit and listen to what they already knew.

Secondly, some students found it uncomfortable or even problematic to take the class with those who were not interested in the TOEIC. For example, below are the survey comments made by some of the students in Class 1 regarding their classroom atmosphere:

Because we have to take this course even when we don't want to, students are

split into these two types: those who really want to take this course and those who have no intention of taking it.

I understand that those majoring in Art, Music, or Physical Education don't need English [as much as other majors do], but I don't understand why they show troublesome behaviors in class. I don't like taking the class with them.

This TOEIC preparation course was a mandatory general education course for all major students at this university, so the students themselves were aware that not everyone eagerly came to take this course; some took it not because they wanted to but because they had to for graduation. As commented above, some students in Class 1 identified their music major classmates with those with low motivation. They thought that the music major classmates were having such a weak desire to study for the TOEIC and thus showing inappropriate classroom behaviors, which eventually lowered their interest of taking the class with them. In fact, the instructor also commented that he observed disruptive classroom behaviors from some music major students such as sleeping, text messaging, chatting, and doing homework of other subjects.

In order to improve the atmosphere of Class 1, the instructor decided to try a new instructional method, a flipped approach, after the midterm exam.

2. Class Design: Instructional Procedures of the Flipped Class

Starting from Week 9, a flipped method was implemented to Class 1, whereas the traditional method was constantly used in other three classes. First, the students were split into five groups according to their majors and nationalities (i.e., Groups 1 and 2 for music major, Groups 3 and 4 for non-music majors, and Group 5 for Chinese students). As for the pre-class work, the students were instructed to 1) study the content of the lesson prior to class through the textbook or pre-made video clips provided by the textbook publisher, 2) answer the listening and reading TOEIC practice questions of the week in the textbook, 3) bring their own questions to the class, and 4) memorize weekly assigned vocabulary by using a flashcard mobile application called *Quizlet*. In the classroom, each group was given about 25 minutes to meet the instructor. The students spent time checking the answers of their homework with their classmates, and the instructor checked each student's vocabulary homework in the meantime. Then the rest of class time was spent on the instructor's giving feedback on the student-generated questions (see Table 2).

TABLE 2
Class Design Before and After the Midterm Exam

Before the mid-term exam	After the mid-term exam
<p>Pre-class No activities before class</p> <p>In-class (2 hours) The first half of the class (TOEIC listening): - The instructor lectured listening question types and listening strategies, and then all students practiced selected listening exercises. The answers were checked by the instructor. At the end, the instructor checked whether the students memorized the vocabulary of the week. - The second half of the class (TOEIC reading): The instructor elucidated English grammar points and important vocabulary, and then the students solved selected grammar and reading comprehension questions and checked their answers.</p> <p>Post-class The students were asked to complete the rest of the listening and reading practice exercises on the textbook and memorize the selected vocabulary.</p>	<p>Pre-class The following homework was provided to the students: - To study TOEIC listening and reading types and related expressions and grammar by reading the textbook or by watching supplementary video clips provided by the textbook publisher - To complete all TOEIC listening, reading, and grammar exercises of the week before class - To memorize the vocabulary of the week by using <i>Quizlet</i></p> <p>In-class - The students checked the answers of all assigned listening and reading questions with their group members. The instructor checked the students' vocabulary homework. - The students were encouraged to ask any TOEIC related questions, and the instructor spent the rest of the class time answering them.</p> <p>Post-class The students were instructed to review the questions that they got wrong answers to.</p>

Note. Three non-flipped classes were taught in a traditional way throughout the whole semester as Class 1 (i.e., flipped class) had been taught from Week 1 to Week 9.

3. Data Collection and Analysis

As for the first research question, the students' responses to a survey questionnaire and a course evaluation data were collected and analyzed after the final exam. The survey was intended to measure Class 1 students' attitudes and opinions towards flipped learning. It includes three open-ended and three scaled questions and was provided online (see Appendix 1). Five Chinese students were excluded due to their limit in understanding both Korean and English languages.

The responses to the open-ended questions were analyzed by using open coding (Glaser & Strauss, 1967) in order to identify recurring themes. To this end, the researchers read the data closely and repeatedly to select the parts that highlighted the students' experiences in the flipped TOEIC preparation course and their perceptions of it. As the next step, the researchers performed axial coding with aims to figure out the relationships between the themes. This led the researchers to closely examine how the learning practices in this particular flipped classroom setting affected the students' attitudes towards it.

The numerical results of the course evaluation made by the students from all four classes were also used in order to compare the students' perceptions towards flipped approach to the non-flipped one. Out of 12 course evaluation questions, only six (Question 4, 5, 6, 8, 11, and 12) were selectively chosen for this study, which were directly related to the instructor's teaching methods (see Appendix 2).

As for the second research question, the midterm and final exams (mock TOEIC tests) were used to investigate the difference in the TOEIC scores not only within the flipped class but also between the flipped and non-flipped classes. The scores that the students in the flipped and non-flipped classes obtained on the midterm and final mock exams, respectively, were compared through *t*-tests by using SPSS. In addition, each group's midterm and final scores were compared through *t*-tests to see if there was any statistically significant improvement from the midterm to the final exam. However, the scores of five Chinese students were excluded since they were extremely low (between 50 and 190) compared with those of other students in the flipped and non-flipped classes. Thus, in Class 1, only the scores of 30 students out of 35 were taken into account.

IV. RESULTS AND DISCUSSION

1. Students' General Perceptions of Flipped Classroom

1) Overview of the Data

Data revealed that the students in the flipped class were satisfied with the new approach. As shown in Figure 1, approximately 87% of the students (26 out of 30) showed positive reactions towards their flipped learning experiences. When asked whether they would like to take this type of class next time, 80% of them (24) replied that they would do so.

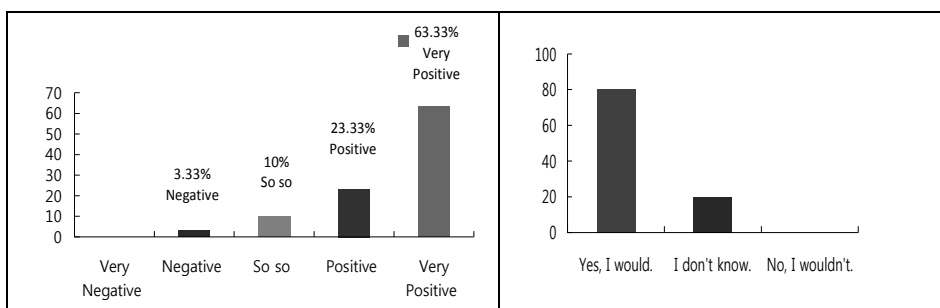


FIGURE 1 Students' General Satisfaction/Opinions About Retaking a Flipped Class

Moreover, 88% (25) responded that they thought flipped learning helped them improve their English ability for the TOEIC, indicating that the majority of the students in Class 1 perceived that the flipped approach positively affected them to enhance their TOEIC proficiency.

The internal survey results demonstrated that the flipped classroom format was well-received by the students, and this finding coincided with the external data obtained from the course evaluation conducted school-wide at the end of the semester. Table 3 shows the course evaluation results from the four classes that the instructor taught in the same semester. He received not only a high score (4.62 out of 5) on Question 12 from Class 1 measuring overall students' satisfaction, but also a higher score on every single item from Class 1 than from the other three classes.

TABLE 3
The Results of the Course Evaluation

Selected Course Evaluation Questions	Class 1	Class 2	Class 3	Class 4
4. The instructor taught the class considering learners' English proficiency.	4.62	4.06	4.23	3.71
5. The teaching method matched the course objectives and the instructor used an appropriate teaching method.	4.54	4.1	4.17	3.95
6. The instructor communicated with the students in various ways such as question and answer session, feedback on the homework, and counseling.	4.59	4.16	4.34	4
8. The instructor took care of the class thoroughly; for example, starting the class on time, taking attendance, and checking student's assignments.	4.54	4.1	4.26	4.14
11. My knowledge and interest related to this course have been improved through this class.	4.62	3.97	4.14	3.62
12. In general, I am satisfied with this class.	4.62	4.16	4.26	3.71
Total mean	4.59	4.09	4.23	3.86

What follows are the detailed descriptions of the students' experiences in the flipped class and their perceptions of it.

2) Positive Aspects of Flipped Learning

A summary of the themes found from Class 1 students' responses to an open-ended survey question regarding positive aspects of flipped learning is shown in Table 4. Some considered one of the benefits of the flipped classroom as "short and full" class time, meaning that in-class time was short, but the amount of learning was satisfactory. Others perceived that the flipped class helped them to be more responsible for their learning and prevented them from being late for class. Among such various reasons, the most frequently reported reasons behind this high satisfaction with the flipped class will be discussed in the

next section: personalized learning, active engagement and increased concentration, and comfortable learning environment and enhanced interaction.

TABLE 4

Positive Aspects of Flipped Approach From Students' Perspectives

Positive aspects of Flipped Approach	The number of Ss
Personalized learning	17
Active engagement and increased concentration	16
Comfortable learning environment and enhanced interaction	9
Efficient class time management	8
Others (e.g., prevention of being late for class)	5

Note. The students were allowed to write down more than one thing that they thought as positive.

(1) Personalized learning

Many students considered flipped approach positively because it provided an opportunity for personalized learning. The instructor had the students complete the pre-class activities (i.e., viewing the video lecture, reading the textbook, solving the TOEIC questions, and practicing selected vocabulary) in the “hope” that they would be able to preview the class materials on their own pace at home and class time could be spent on what each individual did not know. According to the survey responses, the students appeared to confirm with these expectations of the instructor. For example, some mentioned about the flipped classroom as follows:

I was able to learn more in detail.

I could ask in-depth questions.

I was able to ask about something that I personally did not know about.

I came to spend more time studying what I was lacking.

In the non-flipped classrooms (i.e., Class 2, 3, and 4), all students listened to the instructor’s lecture and solved the same TOEIC problems regardless of their learning needs. However, in the flipped classroom (i.e., Class 1), learning content depended on what each student brought to class, and the instructor was able to differentiate his instruction accordingly. Many students started to feel that their learning became personalized and eventually, as one of the students said, “more meaningful” to them.

(2) Active engagement and increased concentration

The next most mentioned benefit of the flipped classroom was the students' active engagement in learning activities and improved concentration in class. Many students commented that they became more active in their learning thanks to a small group session. They showed great satisfaction over the small group setting where they could work through the TOEIC problems and vocabulary together helping each other. In particular, as the relationship among the group members became closer, the students appeared to more actively participate in the class. Some of them commented as follows:

Since there were only a small number of students in each group, the professor could pay attention to all students and check their difficulties. So, I was very much willing to do all pre-class assignments before class.

Because I became closer to the group members, I enjoyed learning English with them. I liked studying for vocabulary together.

I don't know how other groups are doing, but I clearly noticed that my group members coming to this class with much more preparation than before.

The last student was the one who had constantly complained that the students with low motivation and interests were ruining the classroom atmosphere. However, after experiencing flipped learning with his small group members, he noticed a big change in other students' attitudes towards their learning.

In line with active engagement, some students felt that their concentration during the class time had greatly improved due to the small group session:

Since I took the class with my small group members, I began to have more responsibility to pay attention to the class.

I had a responsibility to solve the given pre-class tasks because there were only a small number of students in class. Because I previewed all learning materials before class, I was able to better concentrate.

More responsibility to engage with pre- and in-class works grew within individual students, and this enabled them to improve concentration.

(3) Comfortable and enhanced interaction

Having small group sessions also helped the students feel more comfortable and relaxed. Two students responded as follows:

When there were many students in the class, I felt very nervous because I wasn't good at English. But, it was good to be with only a small number of people in my group.

My concern has been reduced after having a small group meeting. It was my first time to study English with my friends with a laugh. I actually didn't like the English subject at all, but this experience has changed my attitude.

The students were afraid of asking questions when there were a lot of people. However, grouping with a small number of students helped them create a comfortable learning environment, enhance interactions between classmates, and enjoy learning English.

The students also seemed to enjoy direct, frequent, and close interactions with the instructor. They mentioned that they liked the fact that they could spend more one-on-one time with the instructor by asking more questions and getting more feedback during the small group meeting session.

3) Negative Aspects of Flipped Learning

In spite of Class 1 students' satisfaction with flipped learning, they also provided some negative comments which seemed to be worthwhile to pay attention to. Most students preferred attending the assigned group meeting by interacting with the instructor and their group members instead of sitting in the whole class, but four students commented that they would like to have more time in class. In addition, some expressed much of their concern with completing the pre-class assignments as follows:

It wasn't easy for me to finish my homework on time every week.

When I didn't study on my own, I couldn't follow the class, so I often skipped the class.

Since the reduced class time was too short, it may mislead other students to believe that it would be okay to just kill time during the class.

In fact, in an ideal flipped class, it is supposed to have the whole students in one classroom and let them work on given tasks as a group cooperatively while an instructor is supposed to assist them whenever they need. However, due to the students' heterogeneity in terms of their nationality, major, and attitude in this study, each group individually had a short meeting with the instructor. This might have made some students feel that they were not getting enough instruction and feedback from the instructor.

2. The Effects of Flipped Learning on Students' English Proficiency

In addition to investigating the students' perceptions of a flipped or traditional method, their performance on the midterm and final exams was examined. First of all, in order to find out if the students' English proficiency levels in the flipped and non-flipped classes were similar or different (before implementing flipped instruction), their mock TOEIC scores on the midterm exam were compared as shown in Table 5.

TABLE 5

Comparison of the Midterm Exam and Final Exam Results between the Two Groups

Group	Test	<i>MD</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>
Flipped	Midterm	-1.199	33.428	-.036	122	.971
Non-Flipped	Final	24.340	34.714	.701	122	.485

* $p < .05$, ** $p < .01$

It was found that the two groups' midterm scores were statistically not significant at all ($t = -.036$, $p = .971$). This indicates that their TOEIC proficiency levels were similar before applying a flipped method. Later, in order to examine if the students showed any improvement after their experience of a half-semester long flipped learning, the two groups' midterm and final scores were compared as shown in Table 6.

TABLE 6

The Midterm Exam and Final Exam Results of the Students in the Two Groups

Group	Test	<i>n</i>	<i>Mean</i>	<i>SD</i>	<i>MD</i>	<i>t</i>	<i>df</i>	<i>p</i>
Flipped	Midterm	30	429.33	219.01	-37.667	-3.591	29	.001**
	Final	30	467.00	234.07				
Non-Flipped	Midterm	94	430.53	135.57	-12.128	-1.397	93	.166
	Final	94	442.66	137.36				

* $p < .05$, ** $p < .01$

The students in the flipped class gained 429.33 out of 990 on the midterm exam, but gained higher score, 467.00, on the final. In contrast, those in the non-flipped classes obtained a similar midterm score to that of the flipped class (i.e., 430.53), but they received

only 12.13 more points on the final exam (i.e., 442.66). Although the final scores of the students in the flipped and non-flipped classes were statistically not significant ($t = .701, p = .485$) as shown in Table 4, only those in the flipped class showed statistically significant improvement from the midterm to the final exam ($t = -3.591, p = .001$) as shown in Table 5. Since that the overall students were at the very basic level, they might have shown only a small amount of improvement even though they tried their best. Nevertheless, the flipped class students showed a greater improvement which implies that they had received much help from a new type of learning (i.e., flipped approach).

V. CONCLUSION AND IMPLICATIONS

This research was started in an effort to broaden the scope of current literature on the influence of flipped instruction on various educational settings by investigating its effects on a test-based EFL class in a Korean university. The major findings of this study coincided with the previous literature. First, as shown in other previous studies (e.g., Ruddick, 2012; Webb et al., 2014; Zappe et al., 2009), the EFL students in the flipped class expressed their high satisfaction with their class and instructor compared with the students in the non-flipped classes. More specifically, the flipped classroom students responded that they could have more opportunity for personalized learning, become more actively engaged in class activities, increase their responsibility and concentration, feel relaxed and comfortable, and build closer relationships with their group members and with the instructor. The students attributed these positive perceptions towards flipped approach to the pre-class assignments and the small group meeting with a shortened class time. Although some pointed out the pressure of pre-class assignments and a relatively short class time as negative aspects, more than 80% of the students positively perceived their flipped class.

Second, the students' academic performance also indicated positive results as shown in other studies (e.g., Davies et al., 2013; Hung, 2015; Talley & Scherer, 2013). When comparing the midterm and final mock TOEIC scores of 124 EFL university students, 30 students who were taught in a flipped method achieved a higher score on the final exam than 94 students who received the traditional lecture-based instruction. Although the two groups' final scores were statistically not different, only those in the flipped class showed statistically significant improvement between the midterm and final exams. A half-semester long flipped learning might not have been enough to expect much greater improvement because the students were at the lower proficiency level, and thus they might have needed more time. However, statistically significant improvement demonstrates the possibility they will be able to enhance their TOEIC proficiency to a greater extent if they

are engaged in flipped learning for a longer period of time.

In short, flipped learning was found to be effective not only in STEM disciplines in American university settings, but also in a test-based EFL class in a non-American university. It is clear that flipped learning can help English learners get more positive mind and motivation in their own learning and improve their language proficiency.

A couple of limitations are found in this study which should be addressed along with the corresponding future research directions. First, since this research had not been planned prior to the semester, flipped approach was employed only during a half-semester after the midterm exam. Providing a six-week long flipped method seemed not enough to expect and observe the students' great improvement in their TOEIC proficiency. However, the flipped class students' statistically significant improvement implies that implementing a flipped learning instruction for a longer period of time might be more effective. Thus, teaching students in a flipped method during a full semester may allow future research to expect much greater improvement of students' language proficiency. Second, the participants of this study were all at a lower proficiency level. This might have resulted in only a small amount of improvement on the final TOEIC exam. It might be good to have various proficiency levels of students and compare if there would be any similarities or differences in terms of the amount of improvement they achieve. Third, a couple of students considered a reduced class meeting time (i.e., 25 minutes) as negative even though they liked to participate in class as a small group. Since the flipped class in this study was unique in that it had the students with different majors, nationalities, and attitudes, it was impossible to have the whole students in one classroom and let them work in small groups during a two-hour class. For the future research, having about two to three groups (who have some similarities) in one classroom rather than just one, spending about an hour with them, and encouraging them to collaboratively work on some tasks might help students feel a greater sense of accomplishment and satisfaction. Finally, only a survey questionnaire and a course evaluation form were provided to the students in order to understand their perceptions of a flipped or traditional method in this study. However, it might be possible to gather more in-depth thoughts and descriptions about the flipped test-based English class if short interviews or classroom observations are implemented.

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APPENDIX 1
Survey Questionnaire

1. ()
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2. ()
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3. ()
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4. ()
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5. 가 ? [/ /]
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APPENDIX 2
Course Evaluation Form

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8. (, ,)
9. 가(, , ,)
10. 가(, , ,)
- 11.
- 12.

Examples in: English**Applicable Languages: English****Applicable Levels: Secondary/Tertiary**

Young Sang Cho
College of General Education
Dankook University
152, Jukjeon-ro, Suji-gu, Yongin-si
Gyeonggi-do, 16890, Korea
Tel: (031) 8005-3932
Email: 03choy@gmail.com

Yoo-Jean Lee
College of General Education
Dankook University
152, Jukjeon-ro, Suji-gu, Yongin-si
Gyeonggi-do, 16890, Korea
Tel: (031) 8005-3765
Email: dabin8201@hotmail.com

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