FLIPPING THE COLLEGE ENGLISH CLASSROOM IN CHINA

Approved: Yuanyuan Hu Date: June 20, 2017
Paper Advisor

Suggested content descriptor keywords:

Flipped classroom

College English teaching

English proficiency

FLIPPING THE COLLEGE ENGLISH CLASSROOM IN CHINA

A Seminar Paper

Presented to

The Graduate Faculty

University of Wisconsin-Platteville

In Partial Fulfillment

Of the Requirement for the Degree

Master of Science in Education

English Education

By

Fan Wang

2017

ACKNOWLEDGMENTS

I would like to express my gratitude to all those who have helped me during the writing of this seminar paper. I gratefully acknowledge the help from my advisor, Dr. Yuanyuan Hu. She has devoted a lot of time to guiding me throughout my paper writing process and helped me solve various problems I were truly puzzled about. I feel grateful to all my professors at the University of Wisconsin-Platteville, who once offered me valuable courses and advice during my graduate studies. My sincere thanks are also given to Dr. Yuanyuan Hu, Dr. Daniel Leitch and Dr. Justine Chien, from whose lectures I benefited greatly.

Last but not the least, my gratitude also extends to my families who have been assisting, supporting and caring for me all of my life.

Abstract

FLIPPING THE COLLEGE ENGLISH CLASSROOM IN CHINA

Fan Wang

Under the Supervision of Dr. Yuanyuan Hu

This paper reports an empirical study on the feasibility of flipping the college English classroom in a regional university in China. The study was carried out in two classes of freshman non-English majors in fall 2016 semester. One class is the experimental group taught with the flipped classroom model while the other is the control group taught in the traditional way. The National Matriculation English Test (NMET) was used as a pre-test, and the final College English exam of fall 2016 semester was used as a post-test. Findings based on 13 weeks' experimental teaching show that the overall English proficiency as well as listening comprehension of the experimental group were improved. The study concludes that it is feasible to flip the College English classroom in China.

TABLE OF CONTENTS

LIST OF TABLES

TABLES

CHAPTER I INTRODUCTION

The flipped classroom, originated in the USA, is drawing the attention of Chinese educators for its unique advantages. The flipped classroom model provides a new idea for teaching practices and improving the effectiveness of English teaching in China.

The flipped classroom emerged with the development of information technology. This new blended learning model provides new materials such as video clips for students to study by themselves as homework instead of learning them during class time. Class time is devoted to active learning. In the flipped classroom, a teacher acts as a facilitator who deepens students' conceptual understanding by providing various class activities (Roehl, Reddy, & Shannon, 2013).

Nowadays, the flipped classroom is one of the most popular teaching models in China, especially in universities. In the traditional teaching model, students' achievements are usually lower than expectations even after they have spent a large amount of after-class time reviewing lectured language points. This situation sometimes frustrates students and makes them lose interests in learning English. The flipped classroom teaching model has been introduced to China to address this situation to a certain extent.

English is the first foreign language for most Chinese college students. For non-English majors, there are two main learning objectives to achieve in English. One is to pass College English Tests (CET), which include CET-4 and CET-6, and the other is to acquire necessary language skills to meet the needs of their future career. The need to pass CET-4 promotes the importance of English courses in universities. Most of students are willing to devote themselves to learning English and cooperate with teachers to complete assignments.

The application of the flipped classroom model in College English has thus received great attention given the importance of College English.

This study explored the feasibility and advantages of adopting the flipped class model in College English teaching in China. It also presented strategies and recommendations to College English teaching by illustrating classroom practices, aiming to provide feedback for the implementation of the flipped classroom in Chinese universities.

Statement of the Problem

In China, a traditional English classroom is teacher-centered; students are expected to note down everything that teachers lecture in class and review materials and finish homework after class. With the introduction of the flipped classroom model, many Chinese educators started to explore the feasibility of this new teaching model in all educational fields. Aiming at testing the feasibility of the flipped classroom model in College English, the researcher proposed the following research question, "Can flipping the English classroom improve the English proficiency of non-English majors in China?" With this research question, the researcher conducted an empirical study to find out the answer.

Definition of Term

The flipped classroom, also called the inverted classroom, is a new teaching model proposed by Lage and Platt in 2000. Lage and Platt (2000) wrote, "Inverting the classroom means that events that have traditionally taken place in the classroom now take place outside the classroom and vice versa" (p. 32). In the flipped classroom, students learn English by watching videos and reading relevant materials before class and engage in cooperative

learning in addition to independent learning. It greatly enhances students' self-learning ability.

Purpose of the Study

This study aims to find out whether it is feasible to flip College English classroom in China and whether such a flipped classroom helps improve non-English majors' English proficiency. The study also explores good practices of the flipped classroom model, for example, how to use new technology in a practical and effective way, how to choose appropriate teaching materials, and how to design classroom activities.

Significance of the Study

The study shows some practices of the flipped classroom teaching in college, which may be good examples for other college English teachers interested in the flipped classroom. Results of the study also show that the flipped English classroom can improve the English proficiency of participants, who are non-English majors.

CHAPTER II REVIEW OF LITERATURE

This chapter provides a brief review of the flipped classroom model as well as three popular teaching theories. Select empirical studies on the flipped classroom are also reviewed.

Definition of the Flipped Classroom Model

In spite of the fact that the flipped classroom model has been enjoying a heated discussion among educators in recent years, no consensus has been reached for what exactly the flipped classroom model is.

Lage and Platt (2000) first proposed that the flipped classroom meant moving classroom activities out of the classroom and moving after-class activities into the classroom. Bergmann and Sams (2012) defined the flipped classroom as a teaching method, with which what was traditionally done in class was done at home, and what was traditionally done as homework was completed in class. Hanover (2013) pointed out that the flipped classroom could adopt a wide range of blended instructional methodologies, in which students could get access to prepared lecture materials and then engaged in structured classroom activities.

According to Lorenzetti (2013), students in a flipped classroom are asked to work on difficult learning tasks instead of absorbing basic information during class time. When students come to class, they have already equipped themselves with the basic information so that they can engage in more challenging tasks such as analysis, evaluation, and creation.

Wang et.al. (2013) provided a detailed explanation of the flipped classroom model. For teachers in a flipped classroom, they not only need to make videos according to their teaching plans, but also need to know how to conduct individualized needs analysis. As for students,

they are supposed to not only watch videos before class, but also discover problems and discuss these problems with their partners online or in class in interactive teaching and learning activities.

The above interpretations of the flipped classroom show that although different researchers provide different definitions, there exist similarities in these interpretations. All the definitions show how to implement the flipped classroom model.

In this study, the flipped classroom is defined as a pedagogical approach in which students learn new knowledge by watching videos and accessing other online materials before class and consolidate their new knowledge by engaging in classroom activities with the help of peers and teachers.

Advantages of the Flipped Classroom: Theoretical Perspectives

The advantages of the flipped classroom are examined from three theoretical perspectives.

Cooperative learning theory. Cooperative learning theory provides the most common learning strategies frequently applied in the flipped classroom. According to Slavin (1995), a Professor of Johns Hopkins University, cooperative learning refers to a classroom learning strategy, with which students are engaged in group activities and benefited from group cooperation. Jacob (1999) asserted that "cooperative learning is a diverse group of instructional methods in which small groups of students work together and aid each other in completing academic tasks" (p. 25).

Wang (2011) defined cooperative learning as a kind of activity guided by aims. He also believed that cooperative learning is a pedagogical system, which aimed at promoting learning among heterogeneous students.

In the definitions mentioned above, the importance of cooperation and collaboration was stressed. Scholars regarded cooperative learning as a positive relationship between group members, which helped students in achieving their goals in learning. The students were not only responsible for themselves but also for assisting others to learn (Xu, 2013). In the flipped classroom, group work plays one of the most important roles in teaching procedures, so the cooperative learning strategy fits the flipped classroom.

Self-access language learning theory. Self-access learning is an essential component of the flipped classroom model. Self-access learning theory is probably the most extensively used and recognized approach to learner autonomy. Sheerin (1991) defined self-access learning as a means of promoting learner autonomy. Dickson (1987) pointed out that in self-access learning, learners used materials in self-instructed ways to facilitate learning. According to Gardner and Miller (2002), self-access language learning is an approach to language learning rather than language teaching.

There clearly existed a close relationship between self-access learning and learner autonomy, but self-access learning should not be equated with learner autonomy. Sheerin (1989) stated that students could evaluate their performances against learning objectives. Self-access learning can be seen as one context in which learner autonomy can be developed.

In the flipped classroom, without self-access learning ahead of class time, none of teaching activities could be performed smoothly. In other words, self-access learning is a precondition for successful implementation of the flipped classroom teaching model.

Constructivist learning theory. At the core of active student engagement and student-centered classrooms is the theory of constructivism. The theory was first proposed by Piaget (1966) in 1960s. Constructivism emphasizes that students study the content by themselves before participating in collaborative learning in classroom. Vygotsky (1978) emphasized that it is students who take an active role in the knowledge construction process while a teacher helps to facilitate the process.

The theory of constructivism had a great impact on teaching. It has become the foundation of contemporary mathematics teaching and curriculum reform. Constructivist learning theory also serves as an important theoretical basis for the flipped classroom teaching model.

Previous Research on the Flipped Classroom in the West and in China

The research on the flipped classroom started from abroad. It was in the 21st century that the research on the flipped classroom started to appear in China. The researchers in in the West and in China not only explored the flipped classroom from theoretical perspectives, but also practiced the flipped classroom.

Studies on the flipped classroom in the West. The research on the flipped classroom was mainly conducted in 1990s in the West. Lage and Platt (2000) first proposed the idea of the flipped classroom and applied it to their microeconomics course. Their experimental teaching practices resulted in improving students' motivation and interests. Similar to Lage

and Platt, Baker (2000) conducted a study of having students learn materials in various ways outside of class. He found that during a lecture his students were able to recall notes and incorporate them into their presentations. In class, Baker allowed his students to work together under his guidance. His students had a positive attitude toward the flipped classroom, stating that such learning is more personalized and that cooperative learning fostered critical thinking in them.

In 2007, Bergmann and Sams, as mentioned above, used the flipped classroom model to help high school students who were absent from class make up for their missed lessons in chemistry. This model was widely welcome by their students. Milman (2012) gave a summary on what the flipped classroom model is and how it can be best used. Since 2012, researchers began to apply the flipped classroom to many different areas. Fulton (2012) applied the flipped classroom to his math class in high school and improved his students' achievement and engagement in the math class.

At the college level, most of the studies on the flipped classroom model also indicated improved student achievement and at least a moderate level of student satisfaction with the flipped classroom instruction when compared with the traditional classroom instruction. Lemley (2013) reported that students in a flipped Engineering Thermodynamics class outperformed their counterparts in a traditional class instructed by the same teacher on homework and the final examination. Similarly, Olson (2014) adopted the flipped classroom model in his engineering probability and statistics class. Results from his empirical study showed that final examination scores were increased compared with prior year's scores when the same course was taught by Olson in the traditional way. Interestingly, Olson also

mentioned that the same content was covered in less time with the adoption of the flipped classroom instruction.

Most of the studies looking at the college students' perception of their flipped classroom experience suggested at least moderate or even higher level satisfaction with the flipped classroom model. For example, Fowler (2013) surveyed the attitude towards flipped classroom instruction of electrical and computer engineering students who attended a flipped classroom. In his survey, most of the students demonstrated strong positive attitude at the end of the semester. According to the students, the quality of videos watched outside of class was quite high and the length was suitable; in-class activities were significant in facilitating their learning.

However, not all studies on the flipped classroom instruction showed positive outcomes. Strayer (2007) conducted an experiment on learning environment. Findings from his study showed that although students attending a flipped classroom preferred the innovation and cooperation in their classroom, they reported less satisfaction with the structure of the class since they felt unsettled in various in-class activities. Strayer recommended that in-class activities should be designed step by step and that students should be offered opportunities to interact with teaching materials and reflect on their own learning.

Studies on the flipped classroom in China. Although it was five years ago that the flipped classroom, as an instructional paradigm, was introduced to China, it has attracted considerable attention from Chinese scholars and teachers at the forefront. The flipped classroom has been successfully implemented in some primary and secondary classrooms. For example, according to reports from Chongqing Jvkui High School, the flipped classroom

enjoyed significant popularity in this school, where more than 82% students interviewed expressed satisfaction with this innovative teaching method, and an even higher level of satisfaction from the teachers was reported (Li et al., 2012).

Studies on the flipped classroom model in China have increased dramatically since 2012, which addressed issues such as systematic description, teaching design, and application of the flipped classroom model. For example, Zhang et al. (2012) focused on how the flipped classroom model could be adapted to teaching contexts in China. A great number of researchers in China committed themselves to studies on the application of the flipped classroom model to teaching specific subjects. Ma et al. (2013) successfully flipped an information technology course at the college level. Results from their empirical study indicated that flipped classroom instruction was significant in developing students' autonomous learning capacity as well as their collaborative learning ability.

In recent years, some empirical studies were conducted on the application of the flipped classroom to College English teaching. Xu and Li (2014) found that with the English classroom flipped, students were greatly improved in their learning efficiency and satisfied with this new teaching model. They chose the textbook *New College English* to conduct an empirical study in a regional university to illustrate how this new teaching model worked with non-English major college students. In their study, they proposed the project-based flipped classroom; they also put forward an innovative teaching model on the basis of the project-based flipped classroom and e-learning portfolios.

Li (2015) adopted the flipped classroom model to level-based College English teaching, which refers to dividing students into different classes according to their English proficiency.

Li performed her teaching experiment in a famous university in Shanghai. She chose five non-English major classes as her research participants. Two types of textbooks were provided to the students in different classes. Among the five classes, two lower-level classes adopted preparatory textbooks, while the other three higher-level classes adopted regular textbooks. Accordingly, teaching goals varied from cultivating basic language learning ability to enhancing self-access learning. Her teaching procedure mainly contained three steps: 1) preparing online videos and questions on the videos; 2) teaching interactively; and 3) strengthening students' understanding of language points with assignments such as compositions. After implementing the flipped classroom model for one semester, Li concluded that the flipped classroom model made great sense in level-based College English teaching and prominently improved students' English proficiency.

Although some favorable achievements have been obtained on the study of the flipped classroom model in China, empirical studies on effects of the flipped classroom on College English in China are limited in breath and depth.

Summary

The previous research on the flipped classroom in the West and in China show the advantages of the flipped classroom from theoretical and practical perspectives. As the literature review indicates, there is a need to further investigate the flipped classroom model in order to assess its feasibility as an effective instructional model. Specifically, there is a need to examine this instructional approach in College English teaching in China.

CHAPTER III METHODOLOGY

This chapter introduces this study, including its research site, participants, instruments and research procedures.

Data Collection

In order to test the feasibility of the flipped classroom teaching model in College English, the researcher carried out an empirical study in a regional college in China.

Research site. This research project aims to find out whether flipping the college English classroom can improve students' English language proficiency. The research was conducted in a regional university in Wuhan, Hubei Province, China. This university recruits over 4,000 students per year, and most of them are science students. In China, high school students typically choose a science or liberal arts track. Generally speaking, science students are poorer than liberal arts students in English proficiency and learning habits, but more creative and active in classroom activities. College English is a required course in this university. Every student is required to take English courses at least four semesters.

Instruments. The research instruments include a pretest and a posttest. The pretest is the National Matriculation English Test (NMET) in China's National College Entrance Exam, while the post-test is the final examination of College English in the fall semester 2016. NMET, whose total score is 100, consisted of listening, reading, grammar and writing. The final English exam consisted of listening, reading, writing and translation.

Research participants. In order to compare academic performance objectively, the researcher chose two parallel classes with almost equal English proficiency as participants. 45 students from each class voluntarily chose to participate in this study. One of the classes

was randomly chosen as the experimental group with the flipped classroom teaching model while the other one was the control group with the traditional teaching model. The 90 participants are from the same department in the university. All the students are freshman non-English majors in Class 2016 with at least 6 years' English learning experience; they all major in science. Their English test scores in NMET ranged from 40 to 89, which means that their English language proficiency is lower-intermediate.

Teaching materials. According to the syllabus of College English in fall 2016, four units (units 1-4) from New Horizon English Textbook—Reading and Writing were chosen, and four units (units 1-4) from New Horizon English Textbook—Listening and Speaking were also chosen. Table 1 and Table 2 provide an overview of the chosen units. First-semester College English meets twice per week. Each session, consisting of two class periods, lasts 90 minutes with a 10-minute break in the middle of the session. For every unit, eight class periods were needed for reading and writing and two class periods for listening and writing. In addition, some supplementary materials such as relevant videos, and reading and listening materials, were selected for the experimental group.

Table 1

Four Selected Units from Reading and Writing Textbook

Unit	Theme	Text
1	Learning a Foreign Language	Section A: Learning a Foreign Language
2	Generation Gap	Section A: Deep Concern
3	Human and Love	Section A: A Good Heart to Lean on
4	First Impression	Section A: How to Make a Good Impression

Table 2

Four Selected Units from Listening and Speaking Textbook

Unit	Title	Listening Skill	Function
1	How's your college life?	Listening for names	Greeting and introducing
2	Do you work out?	Identify numbers	Asking for and giving directions
3	Tell me about your friend	Understanding times and dates	Congratulating and sympathizing
4	How is the weather today?	Listening for telephone numbers	Making complaints and fiving warnings

Research procedures. College English was a 13-week course for the two groups (from October 11th, 2016 to January 6th, 2017). On January 9th, 2017, all the students who participated in this study took the same final exam of College English. In the preparation stage, the researcher collected the participants' English scores in NMET. Specific research procedures are described below.

While teaching the experimental class, the researcher adopted some strategies to make the classroom flipped. She designed a variety of homework and classroom activities for the experimental class. The main strategies used in the experimental group include:

1) Videos. Students were required to make videos about assigned topics, show the videos, and provide some explanations in class.

2) Presentations. After pair work or group discussion, every group was required to present their ideas to the class along with some reactions.

3) Competitive Activities. There were various competitions to assess their self-learning, such as word spelling competition and information gap activities.

4) Student/teacher Role Exchange. In order to inspire students' learning motivation, student-centered teaching strategies were adopted. For example, students were required to explain language points and sentence structures to their classmates, which they were assigned to prepare for before class.

At the end of the fall 2016 semester, the researcher collected the final English exam scores and compared the participants' two sets of scores (i.e., English scores in the 2016 NMET and final English exam scores in fall 2016 semester) to see whether the flipped classroom model improved the English language proficiency of the participants in the experimental group.

A sample lesson in the traditional classroom. The researcher adopted the teacher-centered teaching model in the control group. Below is a detailed description of a sample lesson to show how the traditional classroom model was applied in the control class. The lesson lasted 90 minutes with a 10-minute break in the middle of the lesson.

The chosen lesson, from Unit Two *Deep Concern,* focused on a story about the generation gap between an American teenager girl and her parents toward every aspect in their daily life, such as hairstyles, make-ups, clothing and music tastes. A large number of vivid words appeared in the story, especially in the description of the daughter's lifestyle. This lesson was a warm-up for the unit, so the main teaching goal was to introduce the topic of generation gap.

The first class period consisted of five steps. Firstly, the researcher introduced the topic of generation gap by showing PowerPoint slides including relevant pictures and questions. Secondly, the researcher introduced the background information needed to prepare the students for the text, for example, the definition of generation gap. Thirdly, the researcher played three movie clips about conflicts between parents and children to get students ready for a discussion on how to bridge the generation gap. Fourthly, some of the students were invited to express their opinions after the discussion. Finally, the researcher showed prepared materials on PowerPoint slides to explain the problems discussed by students in class to end the first class period.

As for the second class period, the researcher started with going over new words on the vocabulary list, using traditional teaching strategies, such as explaining meanings in Chinese, providing examples of the new words, and asking students to practice translations with the new words. Students were then asked to read the new words after the speaker of audio files. When teaching passages, the researcher explained sentence structures and used the translation strategy

for long complicated sentences. After explaining the text, the researcher assigned exercises in the textbook for student to complete independently.

A sample lesson in the flipped classroom. Below is a detailed description of a sample lesson to show how the flipped classroom model was applied with the strategies mentioned above in the experimental class. The lesson lasted 90 minutes with a 10-minute break in the middle of the lesson. In order to show differences between the traditional classroom and the flipped classroom, the sample lesson also took the first two class periods of Unit Two *Deep Concern* as an example.

Phase 1: Warm-up: Video watching and questions (20 minutes)

There were six groups in the experimental class. Every group had seven or eight students. The researcher asked every group to make a video before class, which should include an interview (at least 2 minutes) about conflicts between parents and children about lifestyles. The students worked cooperatively to finish the videos and played different roles such as interviewer and interviewee. All questions appeared in the video were related to different opinions about every aspect of lifestyle such as hairstyles, music types, life plans and values. The videos should be submitted via email before class.

After the students watched the video on the topic as a whole class, the researcher asked some of the students to identify the topic of these videos and guided the students to understand the meaning of generation gap.

Phase 2: Group discussion (10 minutes)

After the warm-up on generation gap, the students were asked to answer the following questions on a PowerPoint slide:

1. What is your definition of generation gap?

2. What are the causes of generation gap?

3. How to bridge the generation gap?

Some words and phrases were given on a PowerPoint slide to help the students express themselves. Through discussion the students found ways to bridge the generation gap.

Phase 3: Presentation (10 minutes)

Each group was asked to choose a representative to share their opinions on the three questions above. Although some of their opinions were similar, the students were encouraged to present them.

Phase 4: Lecture (5 minutes)

As usual, at the end of the first class period, the researcher left no less than five minutes to review this class period including a summary of generation gap and highlight key information and language points.

Phase 5: Word game and competition (10 minutes)

The students had the 10-minute break. During the break, the researcher asked two students to prepare to act out seven verbs, which could be found in Unit 2, such as grasp, brush, rush, and lean. At the beginning of the second class period, one volunteer student from each group stood in front of the blackboard for a board race. All the student representatives wrote down verbs performed by the two students selected by the researcher. The student representative who completed the activity first with the highest accuracy became the winner of that round, and his/her group won a point. After seven rounds, the champion group received one extra credit point counted toward their grades. This activity helped the students make associations between the English words and their meanings.

Phase 6: Word hunting (5 minutes)

The students were asked to find out the seven words in the text and comprehend the sentences including the words.

Phase 7: Pair work (5 minutes)

The students were asked to answer a series of questions on a PowerPoint slide. Since they were required to preview the whole text before class, they were able to answer the questions that helped them get the gist of the text. They then worked in pairs to check their answers.

Phase 8: Questions and answers (5 minutes)

In this activity, the students were asked to scan the story and search for details to support the different opinions of the two generations.

Phase 9: Role-play (15 minutes)

Due to time constraints, short dialogues were acceptable as long as the students used the new words and expressions appropriately in the dialogues. The students talked about how to bridge the generation gap. This was the most challenging activity for the students, where they were expected to produce oral output.

Phase 10: Closure (5 minutes)

The researcher commented on the students' performances positively and assigned homework that prepared them for the next class.

Data Analysis

Quantitative method was adopted in the data analysis. With the help of Independent-Sample T-test of IBM SPSS 22.0, which was the most common software in processing statistics, the data collected in the pretest were analyzed in terms of mean scores and standard deviations. Likewise, the data collected in the posttest were analyzed in terms of mean score, standard deviation, t value and p value. In order to find more convincible results, the scores of the

listening comprehension, reading comprehension, and writing in the post-test were also analyzed by Independent-Sample T-test with SPSS.

CHAPTER IV RESULTS AND DISCUSSION

This chapter reports results of this study and explore possible reasons for significant differences and non-significant differences between the experimental group and the control group.

The Pretest: Results

The results of the pretest, including the number of participants, means and standard deviations are showed in Table 3.

Table 3

The Participants' Performance on the Pretest (NMET)

	Group	N	Mean	Standard Deviation
NMET	Control	45	64.51	11.504
	Experimental	45	64.31	11.621

The results in Table 3 verified the appropriateness of the selection of these two groups in that they were similar in their English proficiency as their NMET scores show. The mean of the control group is 64.51 while the mean of the experimental group is 64.31, so we can conclude that the mean values of the two groups are extremely similar. Likewise, the values of standard deviation are also quite similar.

The Posttest: Results

After 12 weeks of College English, the students in both the experimental group and the control group participated in the final exam of College English at the end of the fall 2016 semester. The total score for the posttest was 100, 30 points for listening comprehension, 40 for reading comprehension, and 15 for writing and translation respectively.

In order to test the effectiveness of the flipped classroom model, the researcher collected the scores of the four sections—listening, reading, writing and translation, and analyzed them separately besides the total scores.

In the control group, the students' total scores range from 30 to 93 while the students' total scores range from 39 to 89 in the experimental group. As shown in Table 4, the mean score is 68.04 in the control group while the mean score is 73.64 in the experimental group. Among all the participants, the highest score 93 appeared in the control group, but the experimental group still performed much better as their total mean score shows.

Table 4

The Participants' Performance on the Posttest

	Group	N	Mean	Standard Deviation
total	Control	45	68.04	14.100
	Experimental	45	73.64	12.002
Listening	Control	45	21.69	4.010
	Experimental	45	21.16	3.516
Reading	Control	45	26.62	6.909
	Experimental	45	31.96	5.547
Writing	Control	45	9.36	2.385
	Experimental	45	10.22	1.757
Translation	Control	45	10.38	2.124
	Experimental	45	10.31	2.410

As Table 4 shows, the mean scores of listening, reading, writing and translation are 21.69, 26.62, 9.36, and 10.38 respectively in the control group. In the experimental group, the mean scores of these four sections are 21.16, 31.96, 10.22 and 10.31 respectively. There are 5.6-point difference between the two groups in the mean scores. Another obvious score difference can be found in reading comprehension (i.e., 5.54-point difference).

Levene's Test for Equality of Variances, a section of Independent Sample T-Test, was employed to further deal with the data collected in the posttest. The results are shown in Table 5.

Table 5

Independent Sample T-test of the Participants' Performance on the Posttest

Levene's Test for Equality of Variances			
T-test for Equality of Means			
		95% Confidence Interval of the Difference	
		t	p
total		-2.029	.046
listening	.	-4.038	.504
reading		-1.963	.000
writing		.617	.053
translation		.319	.890

In the Independent Sample T-test, the significant difference level is set at $p<.05$. When $p<0.1$, it means that there must be an extremely significant difference between two groups. The results in Table 5 indicate that there is an extremely significant difference in the reading section ($t=1.963$, $p<.01$) between the two groups. Similarly, a significant difference between the two groups can be found in terms of the total score ($t=-2.029$， $p<.05$). There is no significant difference between the two groups in the listening section ($p=0.504$) or the translation section ($p=0.890$). In the writing section ($p=.053$, quite close to 0.5), it can be concluded that there exists a difference but the difference is not significant enough between the two groups.

Discussion

This section discusses both the significant differences and non-significant differences found between the two groups on the posttest.

Significant differences in the posttest. The significant differences between the two groups in terms of the total score and the reading score on the posttest can be interpreted from three perspectives: cooperative learning, self-assess learning, and constructivist learning.

Cooperative learning improved the experimental group's reading ability. Many researchers found that cooperative learning could enhance students' motivation. In the experimental group, team work played an important role in the entire teaching process. For example, pair work and group discussion were frequently used. Students exchanged their ideas on topics, worked together to solve problems, and cooperated with each other to accomplish tasks. Especially with reading comprehension, students were capable of answering questions based on their understanding of reading materials after group discussion. The competition involved in the reading comprehension urged them to try their best to identify the information they needed from the reading materials, which accordingly improved their reading ability.

Cooperative learning involved every student in the experimental group regardless of their English proficiency. When activities such as questions, role plays and discussions entailed cooperative learning, the students showed great interests in these activities and were involved in them. The students with lower English proficiency were encouraged and helped by those with higher English proficiency; meanwhile, in the process of helping others, the students with higher English proficiency consolidated their knowledge. Through cooperative learning, every student made progress in English.

Self-access learning, one of the most distinctive characteristics of the flipped classroom model, improved students' independent learning ability in the experimental group. In the experimental group, the researcher guided the students to develop self-access learning habits. For example, the students were assigned tasks ahead of time; in other words, they were put in charge

of their own learning process. In order to complete the tasks, the students explored, researched, and practiced independently in most cases. They might have searched for relevant information and read extensively online, which can account for their improved reading ability. When the students came to class, they were well prepared and ready to contribute to group work. As a result, both teaching and learning in the experimental group were more effective.

The students' in the experimental group improved their learning efficiency by engaging in constructivist learning. In the flipped classroom, the researcher played a facilitator role; the students learned under the guidance of the researcher. In contrast, the control group was taught with the teacher-centered approach that might have overlooked the students' existing knowledge. The flipped classroom model provided a new teaching model to avoid repetitive learning and utilized the class time in a more efficient way.

The discussion above shows why the students in the experimental group have improved their reading more significantly. Since the weight of the reading comprehension section is the highest on the posttest (40 points out of 100), the significant difference in the reading comprehension section can largely account for the significant difference in the total score between the two groups.

Non-significant differences in the posttest. No significant difference was found in any of the other sections – listening, translation and writing – between the two groups in this study.

The students in the experimental group did not perform significantly better than those in the control group in listening comprehension maybe because the former did not practice enough after class as anticipated. Although the students in the experimental group were assigned listening comprehension homework, the researcher had no time to guide them or check their

homework. Factors such as learning environment, self-discipline, motivation and interest might have prevented them from devoting more time to the listening comprehension homework.

Translation being taught in the same way in both groups may account for no significant difference in the translation section between the two groups. As we know, the three translation standards are faithfulness, expressiveness and elegance, which were extremely challenging to attain. Faithfulness and expressiveness were the teaching goals of translation for both groups. The students in the experimental class were provided with materials about translation strategies beforehand. However, as non-English major freshmen, who were largely struggling with English words and expressions, they did not necessarily understand the strategies. Since they were not well prepared before class, the researcher was not able to flip the classroom and had to teach translation in the traditional way. As a result, they performed similarly as their counterparts in the control group in the translation section.

The results in writing between the two groups show that there is a difference, which is however not significant enough ($p=.053$). Since writing is usually integrated with reading in almost every English classroom in China, improved reading ability usually leads to an improvement in writing ability, which may account for the experimental group's better writing scores. As we know, it takes long time to improve one's writing ability. 12 weeks' College English may have not been long enough to contribute to a significant improvement in writing in the experimental group.

In summary, the results of the posttest indicate that the flipped classroom model is feasible in College English teaching in China.

CHAPTER V CONCLUSIONS AND RECOMMANDATIONS

This chapter draws conclusions about flipping the college English classroom in China based on findings from this research project. It also discusses the limitations of the research project and proposes recommendations for further research.

Findings and Conclusions

This empirical study shows that it is feasible to apply this new teaching model to College English in China. Major findings from this research project are summarized below.

First, the flipped classroom had positive impact on the English proficiency of the experimental group. It increased the students' engagement in the classroom. The students were more engaged in learning when they came to class prepared.

Second, the flipped college English classroom provided the students with opportunities to learn English through cooperative learning, which helped the students learn from each other and work together to solve problems.

Third, the flipped classroom motivated the students to use the self-access learning strategy to do research on their own.

Fourth, the flipped classroom did not improve every aspect of the students' English proficiency.

Last, most of the students in the experimental group favored the flipped classroom. They think that the student-centered teaching model was more interesting and more effective than the traditional teacher-center teaching model.

Based on the above findings, the following conclusions can be drawn. The flipped English classroom, featured by student-centeredness, can have positive impact on students' attitude towards English learning. This teaching model, equipped with well-designed activities,

can motivate students to learn English. Teaching strategies such as cooperative learning and self-access learning can help students with the transition from being passive to being active.

The problems identified in this study suggest that students in a flipped English classroom may not be able to improve their English proficiency significantly within a short period of time, for example, 13 weeks of study, because adjusting to the flipped English classroom takes time.

Limitations

Although the research questions of this study were addressed to a large extent, the study has its own limitations. Firstly, the greatest limitation comes from time constraint. The study lasted 13 weeks only. With more experiment time, the differences between the two groups may have been more significant. Secondly, the study may not have been completed if the participants did not have required technological skills. The participants in the study are science students, who are good at computers and internet technologies. Some of them are even experts in making and editing videos. In other words, all the participants had no difficulty getting the information on the Internet and accomplishing tasks such as recording videos and movie dubbing which require technological skills. The lack of the required technological skills may have become a barrier to the implementation of the flipped classroom. Thirdly, how the flipped English classroom was carried out may also have affected the results of the study. Finally, since the experiment was conducted in a regional university in central China, the results of the study may not be generalizable to national research universities in China.

Recommendations for Further Research

For further research on the flipped English classroom, the most important thing is to improve students' learning efficiency. Researchers should try to design teaching activities in a logical and interesting way, especially to relieve students' burden of preparation, which may

cause fatigue in the long run. Teachers can address this problem by differentiating materials and assignments according to students' learning abilities.

Moreover, more in-depth research is needed to incorporate new theories, technologies, and teaching activities into the flipped classroom. We should update ourselves with the newest information in College English education and attempt to apply new strategies to the flipped classroom model.

References

Baker, J. W. (2000). *The "classroom flip": Using web course management tools to become the guide on the side*. In J. A. Chambers (Ed.), Selected papers from the 11th international conference on college teaching and learning. Florida Community College: 9-17.

Bergmann, J., & Sams, A. (2012). Flip your classroom: Reach every student in every class every day. *International Society for Technology in Education,* (5), 78-81.

Fowler, G. A. (2013). An early report card on MOOCs. *Wall Street Journal,* (14),10.

Fulton, K. (2012). The flipped classroom: Transforming education at Byron High School. *THE Journal*, *39*(3), 18.

Gardner, D., & Miller, L. (2002). *Establishing self-access: From theory to practice.* Shanghai: Shanghai Foreign Language Education Press.

Hanover, R. (2013). *Best practices for the flipped classroom*. [EB/OL]. http://www.hanoverresearch.com/ 2013 /10/best--for-the-flipped-classroom/.

Lage, M., Platt, G., & Treglia, M. (2000). Inverting the classroom: A gateway to creating an inclusive learning environment. *Journal of Economic Education*, *31*(1), 30-43.

Lemley, E. C., Jassemnejad, B., Judd, E., Ring, B. P., Henderson, A. W., & Armstrong, G. (2013). Implementing a flipped classroom in thermodynamics. *Transactions of the Amer. Soc. for Engr Ed., AC, 7815.*

Li, J., Wang, Z., & Zhang, Y. (2012). 让课改的阳光照进教育的现实—重庆聚奎中学 "翻转课堂"掠影[Let the sunshine of the curriculum reform light up the educational reality—A view of the flipped classroom in Chongqing Jvkui high school]. *中小学信息技术教育,* (3), 23-240.

Li, Y. (2015). 基于翻转课堂的大学英语分级教学模式建构 [The construction of level-based flipped College English classroom]. *全球教育展,* (6), 113-119.

Lorenzetti, J. (2013). *How to create assessments for the flipped classroom.* [EB/OL]. http://www.facultyfocus.com/articles/instructional-design/how-to-createassessments-For-the-flipped-classroom/.

Ma, X., Zhao, G., & Wu, Z. (2013). 大学信息技术公共课翻转课堂教学的实证研究[Empirical study on flipping college information technology – a general education course]. *远程教育杂志,* (1), 79-85.

Milman, B. (2012). The flipped classroom strategy: What is it and how can it best be used? *Greenwich: Distance Learning,* (3), 85-87.

Olson, R. (2014). *Flipping engineering probability and statistic — Lessons learned for faculty considering the switch.* ASEE Annu [C]. Conf Expo.

Piaget, J. (1966). *The origin of intelligence in children*. New York International Universities Press.

Roehl, A., Reddy, S. T., & Shannon, G. J. (2013). The flipped classroom: An opportunity to English millennial students through active learning strategies. *Journal of Family & Consumer Sciences*, *105*(2), 44-49.

Slavin, R. E. (1995). *Cooperative learning: Theory, research, and practice.* Boston: Allen& Bacon.

Strayer, J. F. (2007). *The effects of the classroom flip on the learning environment: A comparison of learning activity in a traditional classroom and a flip classroom that used an intelligent tutoring system* (Doctoral dissertation, The Ohio State University).

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.

Wang, H., Zhao, W., & Sun, L. (2013). 翻转课堂教学模型的设计—基于国内外典型案例分析[The design of the flipped classroom model—An analysis of typical cases home and abroad]. *现代教育技术,* (8), 6-10.

Wang, T. (2001). 合作学习原理与策略 [Cooperative learning theory and strategy]. 北京:学苑出版社.

Xu, M. (2013). 合作学习在初中英语教学中的应用[The application of cooperative learning in middle school English teaching]. 硕士学位论文. 首都师范大学.

Xu, Y. & Li, X. (2014). 基于电子学档的项目式翻转课堂教学方法研究—以新大学英语课堂教学为例[A study on the flipped classroom model through e-portfolios—Taking new College English classroom teaching as an example]. *中国外语,* (5), 81-87.

Zhang, J., Wang, Y., & Zhang, B. (2012). 翻转课堂教学模式研究 [A study on the flipped classroom model]. *远程教育杂志,* (2), 94-97.