Experimental Report on the Effect of Flip Class Teaching Model on College English Writing Based on Microclass

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Abstract—**This study attempts to use the teaching model of flipping class based on micro courses to investigate whether there is a significant difference between the experimental class and the reference class in the writing output ability of the two reading and writing teachers through the classroom experimental for 4 weeks about the knowledge point of four units. The results show that (1) there is no significant difference in the student's writing scores in the 14th grade improvement class 1 of experimental class and the improvement class 2 of reference class; (2) there are significant differences in student's writing scores between the experimental class and the reference class in the 14th parallel classes.**

Keywords—micro courses; inverted classroom; college English writing

I. INTRODUCTION

As an independent concept, "inverted classroom" or "classroom flip" was first proposed explicitly in two articles published in the Journal of Economics Education by Lage and Platt (2000). The flipping classroom is a new type of teaching model based on the information technology of IOE, the theoretical basis of Bloom's Constructivism theory, Learning Pyramid theory and so on. Before class, the traditional classroom teaching content will be put into students through micro lesson video. With precious time in the classroom, students can focus more on active and project-based learning and work and study to solve practical problems to gain a deeper understanding together.

The college English course of the author's institution carries out hierarchical and classified teaching. At the time of admission, students are divided into two levels, i.e., an improvement class and a parallel class. These two levels of college English courses are divided into two parts: listening-speaking course and reading-writing course. And they are taught by two teachers respectively. In the actual teaching process, the number of hours of reading and writing is greatly reduced compared with the previous period, which leads to a tense classroom time. For reading and writing teachers, especially in the parallel classes, it is hard for them to explain language and cultural knowledge, and at the same time, improve their writing skills in a limited class time, which is not conducive to the overall improvement of students' English

language ability. In order to solve the problem of tight class hours, complicated teaching contents, and low teaching efficiency, the author decides to carry out college English writing teaching experiments in the two levels of improving classes and parallel classes by using the inverted classroom model based on micro-courses.

II. RESEARCH DESIGN

A. Research Problem

In this study, a four-week (8 lesson hours) classroom teaching was conducted using the experimental method in the fourth semester of the 14th college English, which mainly discussed one problem: compared with traditional teaching, whether the flipped classroom based on micro-class can help students master the difficulties of lexical syntax, thereby improving students' writing ability.

B. Research Object

The subjects are 14th grade classes, which are two improvement classes and two parallel classes taught by two reading and writing teachers. Among them, the experimental class is improvement class 1, the Internet of Things 1401; the corresponding reference class is improvement class 2, automation 1403. The experimental class and the reference class had similar levels before the experiment. The test results of independent sample t show that:

- There was no significant difference in the final exam of the third term as for 14th grade college English (P>.05).

TABLE I.   TEST RESULTS OF INDEPENDENT SAMPLE T

Experimental Classes-Reference Classes	t	df	Sig.(Both Sides)
Improvement class 1-improvement class2 in 14th grade	-1.589	25	.125
Internet of Things 1401-Automation 1403	-1.123	25	.272

- There was no significant difference in the total scores of the essays between the experimental class and the reference class before the experiment (P>.05).

TABLE II.   TOTAL SCORES OF THE ESSAYS

Experimental classes-reference classes	t	df	Sig.(Both Sides)
Improvement class 1-improvement class2 in 14th grade	-1.911	25	.068
Internet of Things 1401-Automation 1403	-3.599	24	.051

C. Experiment Procedure

The experimental class teaching design follows the teaching philosophy, assumptions and teaching steps of micro-courses and flipped classes.

The teaching concept of micro-courses

According to the design theory of foreign language micro-classes proposed by Prof. Wen Qiufang (2016), micro lessons can be designed according to the following points:

A Knowledge density granulated. Due to the short and intensive training of micro-classes, the input of knowledge points cannot be excessive and the content is best in the "recent development zone" of students' learning. Besides that, the difficulty should be moderate. Therefore, before the design, the contents should be clearly defined to understand the role of the taught knowledge in this chapter, which will help guide students to learn independently.

B Learning objectives become problematic. Setting the learning goal as a problem leads to better teaching results. The key point of the problem design is to find out the content and how to ask questions, instead of simply asking questions from the perspective of knowledge. The entry point must be as practical as possible, but not boring and rigid, and it is easy to stimulate and maintain students' interest in learning.

C The teaching content is tasked. When faced with tasks set in the teaching content, students can enter a positive learning state and solve problems according to their understanding of the current task. Therefore, it is necessary to design moderately difficult tasks according to the teaching content in micro-teaching so that the teaching process is full of knowledge and challenges. Micro-curriculum can more effectively attract students' attention and improve our teaching effectiveness and the efficiency of students' self-learning.

D Learning content visualization. Unlike traditional text materials that use textual symbols to convey information, micro lessons video is good at expressing and presenting procedural and dynamic information, and using the elements and components of "movement" to visualize various concepts as much as possible in the design of foreign language micro-classes. In this way, the advantages of video can be used to help students receive information more intuitively and effectively.

1) The design of flipped class based on micro courses: According to the knowledge framework and teaching theme of the College English 4 in the school-based outline, the content of the micro-curriculum is designed as the three basics of writings: the use of words, the writing of complex sentences, rhetoric; and an application writing knowledge: how to write a thank-you letter. Among them, "the use of words" part includes a brief introduction of part of speech and the discrimination and selection of synonymous synonyms; the part of "composition of complex sentences" includes the analysis of the structure of five basic sentence types and clauses; the "rhetoric" part includes the definition and function of rhetoric, as well as the use of various rhetoric, such as simile, metaphor, and personification. The application writing section includes the format and template of the thank-you letter. It is expected that students can understand knowledge through micro-learning before class, and internalize knowledge in the mode of flipped classroom to improve their writing ability.

a) Micro-course design: After analyzing the results of the final exam essay in the previous semester, the author finds that most of the students do not well in vocabulary and syntax and cannot use language rhetoric completely. Therefore, it is necessary to design the relevant micro-curricular content in the process of making micro-classes in accordance with the gradual transition of "word-sentence-rhetoric" to build a framework of knowledge for the students and gradually improve their writing skills; it also helps to increase the knowledge of applied writing and further improve the application ability of English writing.

In addition to considering knowledge convey, micro-class production also considers the two key points: the excitation of learning interest and the occurrence of meaningful learning. According to the theory of meaningful acceptance of learning and learning motivation, combined with the characteristics of video communication, the design of micro-courses in foreign language teaching is more suitable for problem-based teaching strategies. After designing the knowledge content, each micro-class will design problems at the end of each lesson and lay out the tasks that students need to complete in order to promote understanding and mastering the knowledge points.

b) Flipped classroom design: The main task of flipped classroom teaching mode is to design classroom activities, allow students to participate in learning and discussion, and implement "studying in doing" in the interaction with teachers or classmates so as to achieve the internalization of knowledge. For different micro lessons, the instructors will design different classroom activities.

For the first "vocabulary part" flipped classroom. The teacher will use the student's translation assignment as an example, and let the students analyze the vocabulary of the translated sentence in groups, which focuses on the uselessness of the part of speech and the improper meaning of the word. After the discussion is completed, students are required to give suggestions for revision, and finally the teachers will make comments.

For the second "syntax" flipped classroom, the teacher gives a number of simple sentences. Then, firstly, he will let the students divide sentence components to consolidate the

basic knowledge, and then allow students to use a variety of connective words to connect sentences into complex sentences. Students work in groups of two to modify each other's sentences, and finally the teacher reviews them.

The third is "rhetoric" flipped classroom. Teachers will give pairs of sentences, one of which uses rhetorical devices, and one that does not use rhetorical devices to allow students to read, recognize, and appreciate sentences that use rhetorical devices. Afterwards, the teacher will let the students use the classic rhetoric to imitate rhetorical sentences related to a given topic.

The last "following-letter writing" flipped classroom focuses on the importance of the format, as well as the structure of the article and the design of the framework. Classroom activities mainly consist of group activities, teacher evaluations. They aim to stimulate students' self-learning desire in class to achieve internalization of knowledge.

2) Experimental implementation: The experimental class adopts the micro courses-inverted teaching mode, and the reference class adopts the traditional teaching method. Moreover, the teaching duration and learning materials must be consistent. There are two differences in the teaching of the reference class and experimental class: first of all, the reference class does not have the "micro-class" link to instill knowledge points. However, given the fairness factor, the teacher will teach the contents of the micro-classes in advance in class. Second, before the experimental class flips the classroom, the teacher will review and diagnose the student's micro-curricular assignments and present the results to the students before class. This is a good starting point for flipping the classroom. The reference class also has teacher's review and diagnosis, but after the teacher has taught the knowledge, there is no relevant discussion and the process of consolidating the knowledge again.

Both experimental and reference classes will learn the basics to write: the use of words, the writing of long sentences, the rhetoric of language, and the knowledge of an applied writing: how to write a thank-you letter. After the 14-week courses are completed, 14th grade students took a unified degree English exam. The composition used the same topic and the output text shall be used as a sample of the post-test.

III. DATA COLLECTION AND ANALYSIS

A. Composition Scores and Analysis

A total of 282 samples of compositions of 14th grade classes have been collected before and after the experiment, including 146 samples of experimental class before and after the test, and 136 samples of reference classes before and after the test. The samples are analyzed according to these three steps:

1) Review: After the sample is collected, their order will be disrupted. The teacher who once participated in the four-grade scoring will score the samples on the language, content, and structure of the composition. The score is 10 points (1-2=very poor; 3-4=poor; 5-6=so so; 7-8=good; 9-10=excellent).

The language test is used to check whether the language is accurate or rich. ;the purpose of the content inspection is to test whether the expression of the sentence is relevant and whether it can express the viewpoint clearly; the structure inspection is for checking the discourse structure of the composition, including the overall structure of the article, and whether the paragraphs are properly connected.

2) Score statistics: Carrying out the test by using SPSS 17.0 statistical software independent sample t and doing comparative analysis of total composition scores between groups of experimental classes and reference classes.

IV. RESEARCH RESULTS AND ANALYSIS

A. Comparison of Compositions Scores of Students in Experimental Classes and Reference Classes

We first conduct comparisons between groups before and after testing in the experimental class and the reference class. The comparison between pretest groups aims to confirm that the two have comparable levels of pre-learning composition (reported in section 1.2); the comparison between post-test groups aims to understand whether there is a difference in the quality of output after the change in the teaching model in order to test the effect of the micro classroom-based flipping classroom teaching model on students' writing output.

The results show, 1) There is no significant difference between the improvement class 1 of experimental class and improvement class 2 of the reference class in writing scores in the 14th grade (P > 0.05); 2) there is a significant difference between the two groups of experimental classes and two groups of reference classes in 14th grade parallel classes (P<0.05);

TABLE III.   THE RESULT

Experimental Classes-Reference Classes	t	df	Sig.(Both Sides)
Improvement class 1-improvement class2 in 14th grade	-.176	23	.862
Internet of Things 1401-Automation 1403	2.713	23	.012

B. Result Analysis

The experimental results show that there is no significant difference in the total student writing scores of the 14thimprovement classes, and the total writing scores of the students in the parallel class apparently improved.

The reasons for this are as follows: 1) the students in the improvement class have a strong interest and a strong motivation in learning. Even if there is no video in the micro lesson to stimulate interest and improve motivation, they can also carefully preview the materials given before class and even complete the preparatory tasks by self-study. During classes, students in the improvement classes can actively and actively cooperate with teachers in interaction and effectively master the knowledge of pre-classroom preparation as well as apply them in practice. Therefore, the gap between experimental classes and parallel classes in classes has not been widened. In contrast, in the parallel experimental class

where the learning motivation is relatively weak, micro lessons can effectively arouse students' interest in learning and improve their learning motivation. Students' writing ability is significantly improved compared to the reference class.

2) Taking into account the English basis of parallel class students, the content of the micro class is set up to teach more basic knowledge. For improvement students, the design of writing content is relatively easy, and their promotion space is small; in addition, the test form of the composition is the college English final test. The composition is limited in length (120-200 words). Students only need to state two or three points to meet the requirements, which may limit the advantages of playing its own level for experimental group of improvement class.

3) In parallel classes, the level of students before the experiment is relatively low and there is a large room for improvement. Through the mobilization of micro-learning and class activities, students can effectively grasp the knowledge of micro-class video and apply it to real life. Therefore, the student's ability has improved significantly.

This author concludes: the flipped classroom teaching model based on micro-teaching is more conducive to improving students' interest in learning and mobilizing their enthusiasm for learning than traditional classroom teaching. If students think that the difficulties of video in micro lessons are moderate and their ability demands approach students' ability development areas, then this model will help students master the basic vocabulary syntax difficulties and improve their writing skills.

V. CONCLUSION

This study explored the effect of inverted classroom teaching based on micro-classes on college English writing through quasi-experimental design. The study found that teaching in eight hours (four topics) has an impact on the writing ability of students in parallel classes, but it has little effect on the writing ability of students in the improving class. However, compared with the traditional teaching method, the flipped classroom teaching model based on micro-teaching has a significant effect on students' learning interest and self-learning ability. Due to various subjective and objective reasons, there are still many places in the design of this study that need improvement. The first is that the duration of the experiment is short, and students' changes and learning effects are observed to be limited; second, there is a lack of follow-up tracking studies (such as platform monitoring and delayed post-testing);the third is subject to the technical level of micro-class production. According to the design of teaching content, the advantages of the interactive nature of micro-courses cannot be fully utilized; the fourth is that the teaching process is completed by two literacy teachers. The two teachers will have differences in the control of classroom atmosphere and specific implementation of classroom activities, which will also have some impact on the experimental results. It is suggested that future researchers use more diversified micro-class design and measurement methods to make more effective and more comprehensive evaluation on students' learning.

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