

An Empirical Study of Teaching Effectiveness of Different Teaching Methods in American Literature Course

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Abstract—Microlecture and flipped classroom are becoming the focus of the innovation of teaching methods in recent years, emphasizing students-centered self-directed learning and bringing new vigor to higher education. Based on an American Literature Course in a private college in Shanghai, this paper uses an experimental design to investigate and compare the teaching effectiveness of the two new methods with face-to-face classroom teaching. Test results suggest that the teaching effectiveness of classroom lecture teaching is significantly better than the other two methods. Survey is also employed to understand students' opinions about different teaching methods. Results show that students prefer lecture teaching to the two new methods, but microlecture and flipped classroom are greatly recognized and accepted, which proves the potential and applicability of the methods as complementary to classroom teaching.

Keywords—Teaching effectiveness; Microlecture; Flipped classroom; Teacher lecturing

I. INTRODUCTION

American Literature course is an important course for junior English major students in many universities. In addition to the appreciation of representative works, students also need to learn about the knowledge of major literary schools and the history and culture of the country, to better understand American literature. However, class hours for literature courses are usually very limited to cover all the contents with great breadth and depth [1]. How to make full use of limited class time to engage students and cultivate their critical thinking rather than simply cramming knowledge into their minds becomes a significant and urgent problem for teachers to solve.

With fast development and increasing popularity of the internet and mobile terminal equipment, new teaching methods like microlecture and flipped classroom have gradually attracted the attention of educators and became hot topics of education technology innovation and curriculum reform [2]. These new teaching methods introduced into higher education in recent years offer a new possibility for literature courses to utilize extra-curriculum time to promote students' learning and have been proved effective in teaching [5].

Microlecture is generally defined as a means of teaching based on the multimedia resource of short videos with clear and usually single teaching objective [3]. Flipped classroom refers to the teaching process of teacher assigning preview work before class, usually by watching videos of microlecture,

then interaction between teacher and students in class, and lastly students consolidating their understanding of content by review work after class [4].

The research on microlecture and flipped classroom are also increasing. Previous studies on microlecture mainly focused on its definition, design and development, application and its developing trend [6]. Past research on flipped classroom concentrated on the discussion and construction of teaching model, and practice of it in teaching [7].

Even though there has been quite a few research on microlecture and flipped classroom, most of which remain on the theoretical level of their definition, design and construction of teaching models, and are mainly on the level of basic education [3]. Quantitative studies based on numerical data and statistical analysis are still limited, especially in the level higher education.

This study intends to use a quantitative experimental design to explore the teaching effectiveness of three different teaching methods, namely, microlecture, flipped classroom and teacher lecturing with student discussion in class, in the hope of improving teaching methods and increasing teaching effectiveness in literature courses.

In this study, the teaching method of microlecture refers to mainly the way of teaching by using micro-videos before class as preview resources and complementary teacher-students interaction in class. The teaching method of flipped classroom refers to the teaching process of assigning students self-study work as groups before class, students' presentation and interaction with teacher in class, and discussion after class.

Through experimenting different teaching methods in teaching for a whole term and testing the effectiveness of different teaching methods through the final examination, this quantitative study tries to explore the teaching effectiveness of the three different teaching methods. A questionnaire was also applied to investigate students' self-reported view about the three different teaching methods.

The following research questions are addressed in the study: (1) Are there any difference between students' self-reported views about the teaching effectiveness of the three different teaching methods, namely, microlecture, flipped classroom and teacher lecturing, as examined by survey? (2) Are there any differences between the teaching effectiveness of the three

different methods, as shown by the final examination of the experiment?

II. METHOD

A. Participants

Altogether 137 junior students of English major in a private college in Shanghai participated in this study. Three classes with 71 students were chosen to conduct the experiment when they were having American Literature course. All 137 students were invited to do an online survey after they finished the American Literature course at the end of the term. The survey study collected 109 valid responses, and the response rate is 79.56%.

B. Experiment Design and Procedure

Based on a pilot study in the previous year, three classes with 71 students were enrolled in the experiment when they were having American Literature course in the spring semester in 2018. At the beginning of the term, teacher divided the teaching content into three categories, and each category was taught by a different teaching method, respectively, microlecture, flipped classroom and teacher lecturing with student discussion.

Microlecture was mainly used to teach knowledge concerning literary schools. Students were asked to preview microlectures before class, and questions were asked in class to check their understanding. Teacher then offered feedback. Usually the microlectures were about 5-10 minutes, and about 20-minute class time were used for question-and-answer session plus teacher's feedback.

Flipped classroom was applied to learn some comparatively important literary works in the textbook. Students were required to form groups of 5-6 people, preview the works as a group and present their analysis of the work in class for about 30 minutes. Teacher would then complement their analysis to help students better understand the work. About 60-80 minutes would be used for each piece of literary work in class.

Teacher lecturing was used for some important works in the textbook. For each piece of work, students were asked to preview it before class. In class, teacher would first introduce the writer, then ask the students to discuss a series of discussion questions as groups, and lead the learning of the work by detailed analysis. Each piece of work would cost 80-120 minutes in class.

Each category of teaching content with different teaching method was tested in different sections with different types of questions in the final examination. The content taught by microlecture and flipped classroom was tested by short answer questions, to check students' understanding about the basic definition and characteristics of major literary schools, as well as the major elements of the literary works analyzed by groups. Works taught by teacher lecturing were tested by essay questions, to check students' understanding of important ideas of the works. By comparing students' performance in these two sections, the difference between the teaching effectiveness of the two new methods and teacher lecturing can be counted.

C. Survey Instrument

This study also used a self-designed questionnaire to investigate students' opinions about the three different teaching methods. Students anonymously finish the questionnaire online. It contains 13 questions, with 8 questions asking about the quantity of microlectures students had watched, their self-perceived mastery degree of teaching content with different teaching methods (5-point Likert scale), and their preference of different teaching methods. The remaining 5 short-answer questions asked students' comments on the advantages and shortcomings of microlecture and flipped classroom as well as their suggestions. The reliability of the questionnaire was acceptable (Cronbach Alpha=0.7). Among all 137 participants, 109 completed the survey and provided valid data, and the response rate is 79.56%.

III. RESULTS

Survey results showed that for the same teaching content, 36.7% of the students preferred to learn through microlecture, while 63.3% of them intend to choose class lecturing. T-test analysis of students' responses suggested no significant difference in the teaching effectiveness of microlecture and teacher lecturing ($p=0.555$).

Survey results also showed that when learning to appreciate literary works, 48.6% of the students are more willing to choose flipped classroom and work in groups, while 51.4% still prefer classroom teaching. T-test analysis suggested a significant difference in the self-perceived teaching effectiveness of flipped classroom and teacher lecturing ($p<0.001$). Students thought classroom teaching with discussion ($M=3.54$) had significantly better teaching effectiveness than flipped classroom ($M=3.22$).

TABLE I COMPARISON OF TEACHING EFFECTIVENESS OF THREE TEACHING METHODS BY SURVEY (N=109)

	t	df	Sig. (2-tailed)	Mean difference	95% confidence interval	
					Lower	Upper
Micro- lecture	-0.592	108	.555	-0.046	-0.200	1.08
Flipped classroom -lecture	-5.391	108	.000*	-0.321	-0.439	-0.203

Three classes with 71 students participated in the experiment for a whole semester. During the course, teacher applied three different methods in teaching, namely, microlecture, flipped classroom, and teacher lecturing. In the final examination, different sections were set to test the

teaching effectiveness for different teaching methods. Since microlecture was mainly used to teach knowledge about literary schools, which is complementary and accounts for only a small proportion of the whole content, the teaching effectiveness of microlecture was tested together with that of

flipped classroom by short-answer questions, and the combination of the two new methods was compared with teacher lecturing.

According to students' response to the questionnaire, they thought the advantages of microlecture lie in abundant resources, flexible learning time and space, and higher degree of learning autonomy. They thought flipped classroom can better engage students in learning, enabling them to cooperate and communicate within the group, and understand their own part of work. However, compared with teacher lecturing in class, these two new methods also had shortcomings. Students thought microlectures were short, usually too fast in speaking and not detailed enough. Without face-to-face interaction in the preview process, students who were not so highly self-directed in learning would feel difficult to grasp the knowledge only by watching microlectures. Flipped classroom promoted students'

engagement in their own part of assignments, but students may in turn ignore the remaining parts that were assigned to other groups. Learning effectiveness may be affected if disagreement in group work arouse. Sometimes group presentation in class was not of good quality as that of teacher lecturing, which may in turn influence students' learning.

Experiment results showed that the average score students get in the section of short-answer questions, which are used to test the teaching effectiveness of the two new methods, is 46.46, while the average score is 58.78 in the essay question part testing for teacher lecturing.

Based on t-test analysis, the teaching effectiveness of classroom teaching, as tested by the final exam, is significantly better than that of microlecture and flipped classroom ($p < 0.001$).

TABLE II COMPARISON OF TEACHING EFFECTIVENESS OF THREE TEACHING METHODS BY EXPERIMENT (N=71)

	t	df	Sig. (2-tailed)	Mean difference	95% confidence interval	
					Lower	Upper
Microlecture & Flipped classroom- lecture	-6.067	70	.000*	-12.291	-16.236	-8.202

IV. DISCUSSION

Study results showed that more students prefer teacher lecturing to microlecture and flipped classroom. This means that students tend to choose familiar ways in learning and are more comfortable with face-to-face classroom teaching even though new teaching methods are offered as options. It maybe because teacher lecturing in class is used to teach the most important content in this course and this method can provide students with immediate interaction from teacher and peers, which is crucial to their understanding.

Still, about 1/3 of the students were in favor of microlecture and nearly 1/2 of the students prefer flipped classroom. This result shows students are quite open to and willing to try new methods as complementary to classroom teaching. This data proves the recognition and acceptability of these two new teaching methods. As they responded in the survey, a number of advantages of these new methods were admitted, including flexibility, convenience, and cooperation with peers. It is then very worthy trying to make use of the advantages by applying these new methods to complement classroom teaching.

From students' response, the teaching effectiveness of microlecture and teacher lecturing were similar in terms of learning knowledge concerning literary schools. It maybe because the proportion of this part of knowledge was comparatively limited and the length of learning time of the two different teaching methods were close. Usually students need to spend 10 minutes in watching videos, and about 10 more minutes to answer corresponding preview questions; while similar amount of time would be spent in class regarding the same kind of knowledge.

When it comes to the appreciation of literary works, students thought the teaching effectiveness of teacher lecturing was significantly better than that of flipped classroom. Final examination of students also showed a significant better

effectiveness of teacher lecturing than that of the two new methods.

The difference in teaching time of different teaching methods and in importance of the content may result in the difference in teaching effectiveness. The method of flipped classroom required students to do self-study in groups and present their understanding in class for about 30 minutes, and then teacher would add complementary feedback for about 30-50 minutes. In comparison, a piece of work learned by teacher lecturing plus students discussion would cost about 80-120 minutes. The difference in class time may lead to the difference in the degree of detail of the teaching contents, and then may in turn account for the significant difference in the teaching effectiveness.

The English level and the learning initiative of the participants may also be a possible reason for this result. The students participated in the study are junior students in a private college, who are comparatively weaker in their English ability than students from first-class universities and many of them lack enough autonomy and initiative in learning. Microlecture and flipped classroom are both highly demanded in students' learning ability and subjectivity. Thus if students cannot devote themselves willingly and actively in pre- and post-class self-study but rely too much on teachers' feedback and lecture in class, the teaching effectiveness of these new methods would be greatly decreased.

V. CONCLUSION

The study showed that the teaching effectiveness of microlecture and flipped classroom was not as good as that of teacher lecturing in class. It again proved that the position of classroom teaching with teacher guidance and student discussion cannot be replaced. Face-to-face and immediate interaction between teacher and students as well as between peers is very crucial to promote students' learning. Teaching

effectiveness is also very much dependent on enough teaching time. The ability level and learning initiative of students may also influence the teaching effectiveness of different teaching methods.

The survey and experiment results also suggested the significance of new teaching methods like microlecture and flipped classroom. Students showed much recognition and acceptance of these methods. They enrich the whole learning process, making students the center of learning, engaging students in their individual and group work, and also enhancing students' understanding of knowledge.

It is thus important to effectively combine different teaching methods to meet students' basis and needs, rather than solely relying on traditional classroom teaching or blindly follow any teaching reform.

This study has its limitation in only experimenting in the researchers' own classes of American Literature course and thus lacks enough representativeness. Further studies can be done to explore the teaching effectiveness of difference teaching methods in different courses in different levels of universities and colleges. Researchers can also conduct similar kind of studies in a more objective way by recruiting unfamiliar students. The design of the teaching model of applying different teaching methods may also be improved.

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