An Empirical Study on the Effectiveness of FCM in College English Teaching

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Abstract: Flipped classroom is an in-depth change of teaching paradigm, which has received widespread attention, especially in the post epidemic era. However, there is little research on the effectiveness of flipped classroom teaching and the survey of learners' satisfaction. This paper makes an empirical study by using the experimental control method to understand the impact of flipped classroom on college students' English learning effect and students' satisfaction with flipped classroom. Then it analyzes the research results and puts forward teaching suggestions.

Keywords: College English, FCM teaching model, Empirical study

1. Research background

Flipped classroom is a term translated from flipped class model or converted classroom. It has grown into a magnificent landscape of education and teaching reform [1] as a new teaching model [2–3]. It is a teaching model that turns the traditional learning process upside down. With the reversal of the teaching process, the whole teaching mode has undergone subversive changes, from the knowledge transfer mode that attaches importance to knowledge transfer and takes teaching as a guide to learning to the integrated inquiry mode that emphasizes the problem center and takes learning as the focus in the information environment, which is the true connotation of flipped teaching [4] . In recent years, flipped classroom has gradually attracted the attention of educators around the world, and has been rated as a major technological change affecting classroom teaching in 2011 by the global mail of Canada. Compared with the practice and research of flipped classroom in foreign countries, the flipped classroom practice in China still needs in-depth research. There are few empirical studies on flipped classroom, and few studies on its application in English classroom. For foreign language teachers, before the large-scale promotion and application of flipped classroom, it is necessary to understand the effectiveness of flipped classroom teaching and learners satisfaction with them.

2. Research content

2.1 Research objective

This empirical study aims to achieve three objectives by setting up an experimental group and a control group:

1) Constructing the College English FCH teaching mode of digital teaching resource platform;

2) After reciting the experimental control, test the impact of this model on College Students' Comprehensive English level;

3) Through questionnaires and interviews, we can understand the impact of this model on college students' English learning.

2.2 Research methods

This paper tests the effect of this model on college students' comprehensive English level through experimental comparison. The research mainly adopts two research methods: questionnaire survey and interview. A questionnaire survey was conducted among 216 sophomores of non-English majors in our university. By investigating the students' satisfaction with the flipped classroom, we can understand

their cognition and attitude towards the flipped classroom: do you accept the flipped classroom model of college English? Do you agree with its teaching effect? What is the difference in their acceptance of the new way of teaching and learning in each stage of the above model? After discussion and modification with reference to Lu Xing's mixed learning teacher satisfaction questionnaire, the questionnaire has designed a total of 18 questions in five dimensions, covering the following three parts: the first part, students' overall cognition and acceptance of the usefulness, ease of use and applicability of flipped classroom; The third part is about the students' specific acceptance of the way of teaching and learning in each stage of the college English flipped classroom model, to understand the differences in their acceptance of each stage: the third part is about the students' views and attitudes towards the effect of flipped classroom. The questionnaire score adopts Likert scale, and the answer ABCDE is assigned 1,2, 3,4 and 5 points from low to high. In order to ensure the validity of the measurement tools, SPSS software was used to test the reliability and validity of the revised scale. The results of alpha reliability analysis show that the alpha coefficients of each dimension of the questionnaire are between 0.722 and 0.913, which proves that the scale has high reliability and high internal consistency. In terms of validity test, this study mainly tests the content validity.

3. The design of teaching mode in college English flipped classroom

In the research, the research group has constructed a model of college English flipped classroom, which divides the teaching of college English flipped classroom into four stages: teaching preparation, memory and understanding, application analysis, and classroom comprehensive evaluation. Teaching preparation mainly includes the proposal of teaching objectives for each unit, the summary of teaching priorities, the arrangement of teaching tasks, and the production of teaching courseware and video; Memory comprehension means that students watch courseware and videos, memorize and understand the main language knowledge, cultural background knowledge and text structure of the text; Applied analysis is a higher learning stage beyond memory and understanding, which mainly refers to the students' independent application of the language and cultural knowledge learned in the previous stage to practice and various teaching activities or tasks, so as to complete the internalization and practical application of the knowledge learned. Students need to complete the text understanding exercises and related knowledge exercises online, and also need to complete the teaching activities or tasks assigned by the teacher, which can involve reading comprehension, group discussion, situational dialogue, role play, keynote speech, theme writing, etc. The preparation of these exercises and activities must be completed by students' integration of network resources and online interactive communication, so they cannot do without the support of network information technology; Classroom comprehensive evaluation is the most important stage for students to interact and exchange learning process and display learning results. As the content of the original classroom teaching has been transferred to the pre class, the time used for teacher-student interaction and communication in the classroom has been greatly extended. Teachers and students can further interact and communicate on the knowledge points that need in-depth understanding, and can also interact to help jointly complete teaching tasks or activities based on the real context, but the key point is that teachers must provide certain guidance, feedback and comprehensive evaluation in time.

4. Analysis of research results

4.1 Students' satisfaction with the concept of flipped classroom

In 203 valid questionnaires, nearly half of the students (43%) expressed their willingness to accept or compare the overall acceptability is 3.17. As shown in Table 1, the acceptability of sub items is also at a high level. Among them, the acceptance of dry usefulness is the highest, reaching 3.24. Different types of learners show certain differences in their acceptance of the flipped classroom. As shown in Table 2, female students' acceptance of the flipped classroom of college English is significantly higher than that of male students. The high group is more ignorant of the flipped classroom than the low group, but the difference between the two groups is not significant. There are significant differences between liberal arts students and engineering students. Liberal arts students are more identified and accepted than engineering students.

Table 1: Learners' satisfaction with college English flipped classroom.

Type	Population	Usefulness	Ease of use	Applicability
Average value	3.17e	3.24p	2.9e	3.05e

Table 2: Difference in average value of different learners' satisfaction with college English flipped classroom.

Grouping	Average value	Standard deviation	T-value	Sig.
Male students	3.01	1.23	-2.151	0
Female students	3.31	1.31		
Engineering students	2.94	1.22	-.2.223	0
Liberal arts students	3.38	1.29		
High group	3.57	1.18	-0.511	0.8
Low group	3.31	1.25		

4.2 Students' acceptance of the college English flipped classroom model varies in different stages

The questionnaire also focuses on the differences in students' acceptance of the flipping mode at each teaching stage, so as to understand students' different attitudes towards each teaching stage. As shown in Table 3, the most acceptable stage for the students is the classroom comprehensive evaluation, followed by the memory and understanding stage, and finally the application analysis stage. In order to test whether the difference between acceptances of each stage is significant, we also conducted paired sample t-test for acceptances of the three stages in pairs. The first stage "teaching preparation" is directly implemented by teachers, so it is not considered. The data in Table 4 shows that learners' acceptance of the fourth stage "comprehensive classroom evaluation" is the highest, there is a significant difference with the third stage "application analysis", there is no significant difference with the second stage, and there is no significant difference between the acceptability of the second and third stages, which indicates that the acceptability of the fourth stage is relatively prominent, but in general, the difference in the average acceptability of the three stages is not significant. In addition, we specially investigated students' acceptance of some specific flipping teaching activities. The survey data showed that students also held different attitudes towards the specific teaching activities implemented at each stage. The data in Table 4 shows that the most popular teaching activities are the communication and interaction between teachers and students in the classroom, and the vivid and intuitive learning method of watching videos and courseware before class has also been widely recognized by students.

Table 3 : Average differences in learners' acceptance of college English flipped classroom at various stages.

Teaching stage	Average value	Standard deviation	T-value	Sig.
Memory comprehension	3.3	1.25	1.393	0.173
Application analysis	3	1.13		
Memory comprehension	3.39	1.25	-0.294	0.768
Comprehensive classroom evaluation	3.44	1.14		
Application analysis	3.08	1.13	-2.081	0.045
Comprehensive classroom evaluation	3.46	1.14		

Table 4: Proportion of learners' original intention to accept different teaching activities.

Teaching activities	Number	Proportion
Watch videos and courseware	139	69%
Prepare teaching task	114	55%
Classroom interaction and communication	144	70%

4.3 Students' satisfaction with the effect of college English flipped classroom

One of the purposes of the study is to explore learners' recognition of the actual effect of flipped classroom. Therefore, the third part of the questionnaire mainly focuses on learners' subjective cognition of the effect of flipped classroom. According to the survey data, up to 72% of the students agreed with the effect of flipped classroom on improving their comprehensive English application ability, and only 14% of the students thought it was useless or not very useful for their English learning; In terms of autonomous learning ability, up to 80% of students agree that flipped classroom promotes

autonomous learning ability, while only 11% of students deny it. The recognition degree of improving teaching efficiency and information literacy has also reached a high level, and the recognition rate is as high as 79% and 73%. The results show that the surveyed students generally affirm and agree that flipped classroom can improve their abilities and teaching efficiency. In addition, some students mentioned in the interview that their recognition of flipped classroom also depends on some objective factors closely related to teachers: such as the brilliance of videos, the level of teachers' classroom control, the novelty of teaching activities, etc. It can be seen that flipped classroom puts forward higher requirements for college English teachers.

5. Recommendations

5.1 The flipped classroom adopts the new teaching paradigm of "learning before teaching", which helps to cultivate students' autonomous learning ability

The flipped classroom teaching model takes students as the center of classroom teaching, allows students to participate in the process of teaching activities, and greatly improves students' participation and enthusiasm for course learning [5].In the flipped classroom teaching mode, English teachers first condense the key and difficult points of the teaching materials into micro videos. Teachers can integrate animation, story explanation, interesting questions and other elements into the production of micro video, so that students can get rid of the boring textbook learning and stimulate students' interest in English learning. Students watch the teaching micro video in advance after class and complete online exercises to self check their initial learning. At the same time, they can decide whether to play back, pause or repeat the operation according to their own digestion and absorption of new knowledge. This is the same as the process of teachers transferring knowledge in the traditional classroom. It overcomes the unidirectional nature of traditional classroom knowledge transfer and saves the time of knowledge transfer. Only after learning independently and absorbing knowledge, can students internalize knowledge with high quality in the communication and interaction with teachers and students in the classroom and turn knowledge into ability. Therefore, mechanism of flipped classroom urges students to improve their autonomous learning ability, which is the ability that students can use all their lives.

5.2 Flipped classroom can effectively realize the classroom function and help to promote the flipping and promotion of the role focus of teachers and students

The flipped classroom adopts the mode of integrating online learning and differentiated guidance to help students absorb and internalize knowledge to the greatest extent, give full play to the main role of students in the learning process, effectively realize the personalized and differentiated development of students, and then the classroom function has been effectively played and improved in this process, making up for the lack of play in the traditional teaching mode, and realizing the value appeal of efficient classroom. By flipping the classroom, teachers can change from the original "saint on the podium" to "guide around"; It liberates students from the original mechanical teaching process, changes from the original "passive receiver of knowledge" to "active inquirer of knowledge", and truly returns to the original origin of "master of learning".

6. Conclusion

All in all, most college students are satisfied with the concept, the teaching model and the learning effect of flipped classroom. And they are willing to paciticipate in these learning activities in flipped class. Thus, the teachers should avail the advantages of flipped classroom and adopt diverse teaching methods in order to help students become "the active inquirer of knowledge" and "the master of learnning".

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