

Research on the Flipped Classroom in Universities Based on WeChat Official Account

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Abstract: The main characteristics of the flipped classroom model in universities are as follows: taking students as the center, promoting students' autonomous learning and promoting interactive learning between teachers and students, which are suitable for the innovation of the teaching model in universities. In the flipped classroom, a short micro video courseware form and a convenient WeChat official account platform are introduced to build a platform for students to preview before class and review after class. Through the strengthening of teacher-student interaction, it will stimulate students' interest in learning, cultivate students' ability of autonomous and cooperative learning, realize the new relationship between teachers and students during classroom teaching.

Keywords: Flipped Classroom; WeChat Official Account; Teaching Mode

Flipped classroom, as a new teaching mode, means that students watch the teaching video before class and complete the two-way interaction between teachers and students during the class. American professor Robert Talbot pointed out that the implementation model of flipped classroom includes two stages in the course of "the linear algebra"^[1]. Students watch the teaching video and make targeted preview before class; students quickly complete a few tests during class to reflect the problems of students' autonomous learning before, so that teachers can make targeted explanation subsequently.

Professor Gill Lawrence of Australia adopted flipped teaching method in the course of "nursing"^[1]. Before the class, video resources were put on YouTube and web pages for students to learn. Students completed their homework according to the video. Students' knowledge in the course came from the help and guidance of their team members and teachers. Based on the constructivism learning theory, Zhang Jinlei of Nanjing University formed a learning environment with students watching videos, platform communication and exercises before class. During class, he created a collaborative and personalized learning environment under the guidance of teachers to solve some problems.

In addition, with the popularity of smart phones among students, WeChat has become an indispensable tool for university students in their study, life and social interaction. As the most representative instant messaging mobile application, WeChat provides an interactive and free platform for teachers and students in teaching and learning because of its short content, strong interest, convenient operability, and fast propagation speed, which changes the students' learning style and breaks the traditional classroom teaching mode of teachers oriented.

For this reason, the micro curriculum based on official account of WeChat can be combined with flipped classroom. On the one hand, the micro curriculum can be used as the main carrier of the flipped classroom. On the other hand, the official

account of WeChat is used as an auxiliary tool for the flipped classroom. It can provide effective ways for students to learn independently before class, communicate with students and teachers during class, and summarize teaching experience after class.

1. Flipped classroom mode

Based on the analysis of flipped classroom teaching mode both at home and abroad and learning from other flipped classroom teaching cases^[2], the flipped classroom mode is designed into three time periods: before class, during class and after class.

Before class, the four steps are as follows: teachers' teaching design, micro curriculum design and production, students' autonomous learning before class and communication with WeChat official account. The detailed teaching design of knowledge points is the key to recording micro courses. After analyzing the teaching objectives, learner characteristics, learning styles, learning needs and learning strategies, the core contents of the course are recorded into micro curriculum resources by teachers. Finally, they will be uploaded to WeChat official account with corresponding documents, such as PPT, pictures and videos.

During class, on the one hand, the teacher guides students and answers the questions to highlight the face-to-face teaching. On the other hand, students can analyze and solve problems on their own, or the teacher can arrange learning tasks and ask questions, students carry out group cooperation and communication to discuss together, and solve more problem. The teacher acts as the tutor and helper of individual and group students during class. So that students can achieve the ultimate goal to solve their own problems by themselves. After solving the problem, students can sum up and communicate with group members to share information and seek help from others.

After class, teachers and students summarize and evaluate the course separately, including teaching reflection and course summary of teachers, learning summary and consolidation practice of students. They can summarize the advantages and disadvantages of this lesson, whether the teaching objectives are achieved, whether the students' tasks are completed, etc. Meanwhile, students can still use WeChat official account platform to communicate or interact with teachers to promote knowledge absorption and digestion.

2. Micro lecture based on WeChat official account

Under the traditional teaching mode, teachers can only let students record and copy down the key points of knowledge and operation steps to review, however, there are some disadvantages in this way: it is easy to miss the records and affect the teaching effectiveness. Moreover, in order to solve the problem of students' using mobile phones during class, some universities began to implement "no mobile phone" classroom in recent years^[3]. As a result, this method has brought great controversy, and even made the post-00s generation have serious rebellious psychology, which is difficult to achieve the effectiveness. Therefore, it is better to guide students to use smart phones to make up for the defects of the traditional teaching mode rather than blindly intercept students playing with mobile phones. The emergence of WeChat official account provides mobile phone application in teaching with a feasible solution way.

The Official Account of WeChat has three basic functions: custom menu, automatic reply and group sending. The custom menu can give the official account information to students, and students can directly ask for the required resources for learning. Automatic reply is returned by keywords, students can get corresponding teaching resources when they input the keywords set in advance. Mass teaching resources will be edited and transmitted to students quickly by group sending^[4].

The subscription number of WeChat official account is free to create currently. It is very suitable for individual user. From the actual needs of teaching, the daily information, such as text, pictures and videos, should be pushed and released by using subscription numbers to help students to preview before class and review after class. When Students encounter difficulties in learning, they can make full use of mobile phone to seek help from teachers through the official account platform. At the same time, the official account can also be used to initiate the voting and other auxiliary services in order to understand the learning situation of students and adjust the teaching progress and plan.

3. Teaching evaluation

At the end of the course, various methods can be used to analyze and evaluate the teaching effectiveness. Through quasi

experiment method, the WeChat official account can be used in the flipped classroom to compare the learning effect between the experimental group and the traditional group. The experimental group adopts the flipped classroom teaching mode, and the self-learning task is carried out under the micro curriculum. The other group adopts the traditional way to carry out the teaching. The final learning effectiveness is compared by the degree of students' autonomous completion and the mastery of operation skills. Through the survey method, students' motivation and awareness of cooperative learning can be observed in the implementation process, students' final mastery of knowledge can be collected by the questionnaire after the implementation of teaching. At the same time, suggestions and views of students on the current teaching methods, flipped classroom and micro course can be collected to constantly enrich and improve teaching methods and content.

The results show that students can effectively understand and break through the key and difficult points of course knowledge with the self-paced learning before class, students' autonomous learning habits can be cultivated, their initiative and enthusiasm can be mobilized to explore problems effectively. Through various forms, such as the introduction of course content, knowledge review and explanation, concentrated explanation, group discussion, group representative report, practical operation, group display and summary, students' understanding of the content is deepened, and their cooperation ability, language organization and expression ability and practical ability are cultivated. It is helpful for students to consolidate and strengthen their knowledge points. we can further check and fill the gaps to constantly improve the course teaching through the summary and reflection after class.

4. Conclusion

Adopting advanced internet technology, introducing short micro video courseware forms, convenient WeChat official account exchange platform and massive Baidu disk storage technology, we put knowledge teaching outside class and knowledge internalization inside class in the new form. A new teaching philosophy can be reflected, and a new relationship between teachers and students can be constructed. It provides an important guarantee for the efficient development of curriculum teaching by achieving "student-centered" teaching, improving students' autonomous learning ability, cooperative learning ability, expression ability and self problem solving ability.

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