

Flipped Classroom for Online Teaching at Colleges

Nianliang Ding

School of Foreign Languages, Shandong University of Technology, Zibo, Shandong

Abstract—As an important method complementary to traditional teaching methods, online teaching has become an indispensable way for students to acquire knowledge freely, regardless of time and place. The teaching methods applied in university courses are more flexible and diverse nowadays, and the flipped classroom is one of the frequently chosen among other commonly used methods for teachers. Compared with the traditional methods, flipped classroom has some prominent advantages. It can greatly mobilize the students' enthusiasm for learning, and prompt everyone to think and learn actively. However, due to the online teaching method, the flipped classroom teaching method also has certain defects.

Keywords—online teaching, flipped classroom, self-learning, college.

I. INTRODUCTION

Flipped classroom is a teaching model derived from the United States. The concept can be traced back to “classroom flip” proposed by J Wesley Baker and inverted classroom by Lage in 2000 (Cheng, 2019). Several teachers used videos to teach students over the Internet (Jacot, Noren, Berge, 2015). The videos explain the most important or difficult problems the students will encounter in face-to-face classroom discussions.

With the development of information technology and the advent of the 5G era, the development of the Internet is becoming more mature. Diversified teaching platforms provide convenience for online teaching. Teachers can choose the teaching platform and teaching method for different courses. The flipped classroom allows students to actively learn, think, and discuss in class, instead of passively waiting for the teacher to instruct knowledge.

II. ADVANTAGES OF THE FLIPPED CLASSROOM

In comparison with the traditional teaching methods, the flipped classroom largely makes up for the shortcomings of traditional classroom teaching.

1. Higher self-motivation for students

After the introduction of the flipped classroom in teaching practice, students can make up their own learning plans according to their actual situations, as there are no specific restrictions on the time and place of the class. Access to the Internet enables them to learn anytime and anywhere. Compared with classroom teaching, online flipped classroom saves students a lot of time and allows them to study at any time. They can either preview according to the videos posted by teachers or review what they have learned after class. Therefore, students can spend more time and energy on learning. Occasionally when they cannot go to class under special circumstances, they can watch the recorded classes later as most of the online courses can be replayed. In this sense, their schedule can be more flexible, and the atmosphere of the learning process is also more relaxed. Students can simply skip the part they have learned, and pause at any moment if you don't understand. They can watch the video repeatedly and pause to think or take notes until they thoroughly understand the content. For the points that they think are important, students can also discuss with teachers or classmates on the Internet. Unlike the learning in physical

classrooms, which requires a high level of concentration and often leads to great nervousness, online flipped classroom means freedom and liberation. In a relaxed learning atmosphere, students are relatively relaxed, which is conducive to tapping their unlimited potential. Everyone can communicate with each other in learning experience, learning methods, and learning ideas. While collectively brainstorming on the problems they encounter, unexpected favorable outcomes are achieved.

2. Enhanced interaction

The most prominent advantage of flipped classroom lies in the increased interaction between the teacher and students, and the interaction among students as well. For traditional teaching, the teacher is the imparter of knowledge and the supervisor of the classroom. Students can only accept it passively. The main form of teaching is that the teacher explains the knowledge bit by bit in the classroom and assigns after-class exercises for students to finish before the deadline. After a period of study, the final evaluation for students' performance is mainly based on the traditional examination paper. In the flipped classroom, the role of the teacher has changed from the imparter of knowledge to the instructor and supervisor of the student's learning process. In this situation, the teacher can allow more time for the conversation and communication with the students, which is expected to improve understanding of the degree to which students have learned the intended knowledge and skill and the extent to which the students are able to answer questions pertaining to the knowledge. In a flipped classroom, the students are no longer confined to brick and mortar classrooms, where knowledge is often passively accepted. They no longer merely listen to what the teacher says blindly or learn things mechanically. Instead, the students resort to active learning, which indicates a change of the learning method into a combination of pre-class preparation and in-class research. The class time is less occupied by the teacher's instruction than students' research on specific problems. In addition, diversified assessment methods are applied from multiple angles and in many ways.

3. More enthusiasm of students

Under the flipped classroom teaching model, students become the leading participants of learning. After

getting rid of the shackles traditional teaching methods have imposed on them, students can independently use their own time and methods in learning. Therefore, students' enthusiasm for learning is fully activated. As a result, students' learning is more effective than it was with the traditional methods. Zuber (2015) holds that the flipped classroom benefits more students with the diversified teaching model because students are allowed to make the most of class time and improve efficiency.

III. DISADVANTAGES OF FLIPPED CLASSROOM

Although the flipped classroom has obvious advantages, there are also certain shortcomings due to the way of online teaching.

1. Over-dependence on autonomy

This method depends heavily on self-discipline, which turns out to be the gravest drawback of the flipped classroom with online and offline activities. At present, the class size in most colleges and universities is excessively large. The number of students in a class often exceeds 100 for big classes and 50 for small classes, which means that it is impossible for teachers to play videos when flipping the classroom and check the learning status of each student at any given time. Therefore, it encourages the idleness of many students who are not self-disciplined. Specifically, individual students are more inclined to do less strenuous activities after signing in for the class, such as sleeping, watching TV, playing games, and chatting. Without a proper learning environment in the classroom, students' thinking is easily disturbed by the outside world. Without the supervision of a teacher, learning becomes more difficult for students with poor self-control. When students are taking lessons online, autonomy becomes the main factor for online learning, and they tend to subconsciously pay attention to their own psychological sequence only while learning, and ignore the logical sequence of the subject itself.

2. Over-dependence on technology.

The flipped classroom entails a heavy dependence on modern technology, namely a stable network and a state-of-the-art smart phone. Though it is not a heavy burden for most families, it is not easy for students in

underdeveloped areas where the students cannot afford a smart phone and the Internet is not available.

IV. MEASURES FOR IMPROVING ONLINE FLIPPED CLASSROOM MODEL

Regarding the problems of online flipped classroom, the following solutions are proposed, hoping to provide some suggestions to improve the quality of flipped classroom teaching:

1. Interactive methods should be diversified. The teaching model, whether it is conducted for online or offline teaching activities, is intended for students to acquire knowledge. Due to the limitations of online teaching, the teacher cannot see the learning status of every student in real time. Therefore, it is necessary to take effective measures cope with this problem, such as reducing class sizes. In addition, it is necessary to encourage teachers to involve every student during the period of interaction by asking questions randomly over the voice call, setting easier questions for all students to answer quickly, etc. these methods are intended to ensure the participation of every student in classroom activities, where giving online lessons often becomes a mere formality.

2. The meaning of "flip" should be correctly understood. Flipped classroom is a new teaching method by which students can freely choose time and place to watch lesson videos recorded by teachers in advance. This student-centered model is intended to improve students' participation and performance in class (Tucker, 2012). Teachers and students communicate over the content of the video during each class. Flipped classroom is not equivalent to playing videos online. In addition to videos, the most important thing is interaction. It is not that students follow the video without thinking, nor is it an online course where videos replace the role of teachers; Flipped classroom is a way to enhance the relationship between teachers and students. Interactivity, a means of enriching the communication between teachers and students, a network environment for students to learn independently, a classroom where all students can actively participate in learning, and the content of each lesson can

be stored for a long time, for students who need it used for review or supplementary lessons, flipped classroom is a combination of direct explanation on the one hand and constructivism on the other. Under this teaching model, all students can get personalized education.

V. CONCLUSION

With the development of informatization, teaching methods are becoming more and more abundant. Whether it is traditional teaching mode or flipped classroom, it is for students to acquire more knowledge. Although the flipped classroom is a good teaching model, it is more often than not applicable for science courses, where teachers must consider the characteristics of the courses they teach, constantly learn new educational concepts, and use effective methods to continuously improve the quality of teaching.

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