

Research on Teaching Reform in College Based on “MOOC + SPOC + Flipped Classroom”

Xiaoyu Jin^{1, a}, Jiaying Song^{2, b}

¹School of Economics and Finance, Chongqing University of Technology, Chongqing 400054, China;

²School of Foreign Languages, Chongqing University of Technology, Chongqing 400054, China.

^ajinxy85@126.com, ^bsongjy6@163.com

Abstract

Information technology has brought new forms of knowledge dissemination and learning, and is subverting traditional mode of teaching and learning. Promoting deep integration of information technology and teaching will be the direction of future reform of teaching method. This paper analyzes the problems existing in traditional teaching mode, such as students' low interest in learning, difficulties in training innovation capability and lack of process evaluation of learning achievement. Then we discuss a new teaching mode of “MOOC + SPOC + flipped classroom” which can effectively solve the problems in traditional teaching mode by using MOOC to provide teaching resources, using SPOC to provide teaching platform, and using flipped classroom teaching methods to motivate students.

Keywords

MOOC, SPOC, Flipped classroom, Teaching method reform.

1. Introduction

In today's society, information technology is highly developed. The new forms of knowledge dissemination and learning methods brought by information technology are subverting the traditional learning mode. With the coming of the information age, it is an important task for colleges to promote deep integration of information technology, education and teaching by using MOOC (mass open online course), SPOC (small private online course) and other information technology to improve the quality of teaching and talent cultivation (Xu, et al., 2014; Kaplan and Haenlein, 2016). However, most colleges still use traditional teaching mode. This kind of cramming teaching mode makes students in the position of passive acceptance of knowledge. Traditional teaching mode leads to low interest and initiative in classroom learning.

Although Internet and information technology attract students' attention and reduce their interest in classroom learning, Teacher can also make use of the advantages of Internet and information technology to carry out classroom teaching reform, so as to overcome the problem of students' lack of learning interest. We introduce Internet and information technology into classroom teaching, and explore a new teaching mode: “MOOC + SPOC + flipped classroom”. This mode uses MOOC to provide teaching resources, SPOC to provide teaching platform, and flipped classroom teaching method to effectively solve the problems existing in the traditional teaching model.

2. Problems in the Traditional Teaching Method

Specifically, under the traditional teaching mode, the main problems of undergraduate classroom teaching are as follows.

2.1 Students have less interest and initiative in learning

In classroom teaching, the phenomenon of playing mobile phones, dozing off and even skipping classes is common. The traditional teaching method mainly relies on teacher presenting the

knowledge clearly, accurately and systematically in the classroom, and letting the students absorb knowledge in various ways. In this kind of class, students come to the classroom “with their ears” for the purpose of understanding what the teachers say. There is no real interaction in the class, and the passive way of knowledge acceptance is difficult to attract student’s learning interest. In contrast, the computer and mobile phone which have rich variety of games and entertainment resources are more attractive to them. Thus, the phenomenon of playing mobile phone, dozing off and even absenteeism can be seen everywhere in the university classroom. Although humorous, funny and performative teaching style can attract students, not every teacher is good at it. Moreover, education is not an entertainment industry, and teachers are not actors. In fact, the high emphasis on performance class reflects the current boring classroom teaching, and we cannot fundamentally solve these problems in traditional classroom teaching.

2.2 Inefficiency for cultivating students’ exploration and innovation spirit, learning ability, team cooperation ability and other qualities.

The goal of classroom teaching is not only to teach knowledge, but also to cultivate talents. The cultivation of talents requires that students not only master professional knowledge, but also have correct values, develop comprehensive qualities such as exploration and innovation spirit, learning ability and team cooperation ability. In the era of rapid renewal of science, technology and knowledge, learning ability and innovation spirit is even more important than knowledge learned in the courses in the future. Although the traditional teaching method is conducive to the systematic teaching of knowledge, it is mainly taught by teachers and passively listened by students, which makes students less involved in the teaching process and less trained in learning ability. Limited to teaching hours, it is impossible to have a lot of time for open discussion in the classroom which are very important to cultivate students' innovative spirit and team cooperation ability.

2.3 lack of multiple process evaluation of learning achievement.

Because the traditional classroom teaching method is mainly based on the teacher's classroom teaching and has little interaction between teachers and students in the teaching process, so the final examination results are the main method in the evaluation of students' performance. This single evaluation method cannot accurately evaluate the students’ innovative ability, team cooperation ability and other qualities reflected in the learning process, nor provide effective incentives for students to actively develop and improve these abilities.

3. “MOOC + SPOC + flipped classroom” : A new and effective teaching mode

The influence of the Internet and the disadvantages of the traditional teaching methods require the reform of the traditional teaching mode. MOOC and SPOC which rely on Internet and information technology, as well as flipped classroom teaching methods provide solutions for classroom teaching reform. A large number of high-quality MOOC courses provide rich teaching resources for college to solve the problem of teaching content; SPOC allows teachers to flexibly modify and customize the course content based on the characteristics of different schools, majors and students to solve the problem of teaching platform; flipped classroom is to solve the problem of teaching methods through the change of roles of teachers and students.

Compared with the traditional teaching method, flipped classroom requires students to prepare and read before classroom teaching. In the classroom, teachers guide students to discuss, answer questions and apply knowledge to solve questions (Tucker, 2012; Zhang, et al., 2012). In flipped classroom, teachers play the role of a guide, and students are the center of the classroom. Students discuss and apply knowledge to solve questions under the guidance of teachers. This can arouse students' enthusiasm and initiative in learning, stimulate students’ innovative thinking through group discussion, and enhance the team spirit in the process of participation. Therefore, flipped classroom can improve students’ interest and enthusiasm in learning, cultivate students’ awareness of exploration and innovation, team cooperation ability and other qualities.

The effectiveness of flipped classroom depends on whether students learn knowledge effectively before class (Tucker, 2012). MOOC are famous courses taught by famous teachers in famous schools which has complete teaching links: opening, teaching, homework, feedback, discussion, evaluation, etc. Teaching resources of MOOC are very rich and the quality of resources is also very high, which is very suitable for self-study (Kaplan and haenlein, 2016). Therefore, MOOC resources can be used as learning materials for preview in flipped classroom to solve the problem of teaching content in flipped classroom.

MOOC resources which can be used for flipped classroom also require a suitable teaching platform. Different schools, majors and students have different knowledge bases and teaching objectives, which requires teachers to be able to flexibly modify and customize MOOC resources, add or modify learning content, exercises, courseware, etc. for students. SPOC provides a platform for solving this problem. In SPOC, teachers can introduce MOOC teaching resources according to teaching objectives, make flexible adjustments, set learning time, add or delete learning content, exercises, etc. (Xu, et al., 2014; Combéfis, et al., 2014). Teachers can get each student's learning progress, evaluation results, etc. on the platform and use them for specific guidance. Therefore, SPOC can solve the problem of teaching platform in flipped classroom.

Therefore, the teaching mode reform of “MOOC + SPOC + flipped classroom” is effective in overcoming the traditional classroom teaching problems. Using the flipped classroom teaching method to let students become the center of the classroom, taking the rich and high-quality MOOC resources of the Internet to provide teaching content for the flipped classroom, and introducing MOOC resources into the flipped classroom with SPOC platform, the following teaching reform goals can be achieved:

First, improve the quality of teaching. Students' academic performance can be significantly improved. MOOC provides rich and high-quality teaching resources. Flipped classroom teaching based on SPOC platform can fully mobilize students' interest and initiative in learning (Akçayır and Akçayır, 2018). Students are no longer passive learning, but active learning and exploring, mastering knowledge more comprehensively and profoundly. In the same study time, “MOOC + SPOC + flipped classroom” can improve students' academic performance significantly.

Second, improve students' learning interest and cultivate innovative thinking, learning ability and teamwork ability. Through flipped classroom teaching, students become the center of the classroom. Through group discussion, a competitive relationship between groups is formed, which increases the interestingness of the classroom and improves students' interest in learning (Wang, et al., 2016). Before class, students can learn independently and develop their learning ability. Through discussion in class, the collision of different views is conducive to the cultivation of students' innovative thinking, and group discussion can also cultivate students' team cooperation ability and improve their comprehensive quality.

Third, make teaching ecology more harmonious. Students get knowledge and fun from learning, and teachers find a sense of honor from teaching. Flipped classroom is student-centered, so that students can really participate in the classroom, and group discussion can carry out competition among groups, so that students can learn knowledge in this interesting process. Teachers can also be liberated from the former humor and storytelling teaching tools to attract students, and get back the time that should belong to the classroom from students' mobile phones, computer entertainment programs and games. Teachers can also have the sense of honor, and the teaching ecology is more harmonious.

4. Teaching design based on “MOOC + SPOC + flipped classroom”

Before the class starts, the teacher selects MOOC resources according to syllabus and teaching calendar, and revise MOOC resources to make them conform to the teaching content, teaching objectives and teaching calendar arrangement in the syllabus.

4.1 Before class, students preview material on SPOC platform.

In order to help students understand the knowledge in the teaching videos, teachers need to give some pre-class questions before class and let students take these questions to watch the video, find answers in the video, and prepare for the discussion and speech in class. Students watch the video and carefully construct the relevant knowledge of the course, internalize and absorb the knowledge in the video teaching to a certain extent, and work out the answers to the questions in advance. Students submit answers through the platform before class. Teachers check students' learning progress and problem records to understand students' preview and problems in learning. Teachers design questions discussed in class and key points of instruction based on this information.

4.2 In class, flipped classroom teaching.

Divide the class into groups of 5-6 Students. Teachers first explain the pivotal and difficult points in the course, then put forward questions and examples, and organize groups to discuss. The group leaders organize the students in each group to discuss the given questions and examples, and recommend representatives to present their discussion results. Class performance scores are calculated by groups. Students' performance in class (discussion of knowledge points, explanation of exercises, answer of questions) represents not only themselves, but also their groups. This scoring form helps to form a competitive relationship among groups, enliven the classroom atmosphere, and cultivate the team spirit of student. At the same time, teachers should encourage the students who are not good at speaking and introverted to overcome the difficulty of speaking, and cultivate the students' self-confidence and language competence. At the end of each class, each group is required to summarize what they have learned.

4.3 After class, students review knowledge.

Students draw the logical relationship between knowledge points, internalize and absorb knowledge. One disadvantage of MOOC resources and flipped classroom teaching is that knowledge points are too scattered. Therefore, students are required to draw the logical relationship between knowledge points after class. In the next class, students need to hand in the relationship diagram. The teacher judges the relationship diagram and shows the relationship diagram drawn by himself. Teachers arrange assignment on SPOC platform. Students internalize, absorb and apply knowledge through doing assignment.

5. Conclusion

The new form of knowledge dissemination and learning mode brought by information technology are subverting the traditional learning mode, which requires colleges and universities to promote the integration of information technology and education and teaching by using Internet and information technology. The traditional teaching mode makes students be in a passive position, which leads to the lack of interest in learning and participation in class, which is not conducive to the cultivation of students' exploration and innovation spirit. In view of the problems existing in current classroom teaching, this paper discusses a new teaching mode: "MOOC + SPOC + flipped classroom". Use the flipped classroom teaching method to let students become the center of the classroom. Use the rich and high-quality MOOC resources on Internet to provide teaching material for the flipped classroom. And use SPOC platform to introduce MOOC resources into the flipped classroom. It can effectively solve the problems existing in traditional teaching mode. "MOOC + SPOC + flipped classroom" can improve students' interest and initiative in learning, cultivate students' spirit of exploration and innovation, and achieve the student-centered teaching. At the same time, teachers can also find a sense of honor in teaching, and make the whole teaching ecology more harmonious.

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