Practice of Hybrid Teaching Reform of Project Cost Control Based on Cloud Classroom

Mengbo Zhang*

Zhejiang College of Construction, Zhejiang, China
*Corresponding author. Email: zzzzju2012@163.com

ABSTRACT

"Project Cost Control" is a basic course for project cost major. It mainly introduces the regulations and methods in the whole process of cost consultation, including valuation of construction, bidding, contract management, financial analysis and evaluation. This course has many knowledge branches, involving both theory and case practice, therefore is somewhat difficult for higher vocational college students. Based on the problems in the traditional teaching of "Project Cost Control" and the actual situation of students in higher vocational colleges, this paper explores the application of Cloud Classroom platform to classroom teaching, adopts hybrid teaching methods, and reforms the assessment methods, so as to actively comply with the direction of the reform of informational higher vocational education, and to mobilize students' learning enthusiasm by improving the quality of teaching.

Keywords: *Reform, Higher Vocational College, Cloud Classroom Platform, Traditional Education.*

1. PROBLEMS IN TRADITIONAL EDUCATION AND DEVELOPMENT TREND OF HIGHER VOCATIONAL EDUCATION

1.1. Problems in Traditional Education

1.1.1. Limited Interaction between Teachers and Students

The traditional teaching is dominated by teachers and supplemented by students. Therefore, students' learning efficiency is not high with teachers' instilling knowledge. In fact, this situation arises not because the teacher is unwilling to interact with the students, but because he is unable to know the learning status of the students through simple observations. As a result, it becomes difficult for him to adjust his teaching rhythm.

1.1.2. Dispersion of Teaching Resources

In the traditional way to teach project cost control, teachers mainly use the multimedia equipment in the classroom to present to the students one by one according to the prior arrangement the teaching courseware and teaching video resources about various cases, such as the composition of the project cost and the characteristics of the project cost. This takes up much class time and greatly shortens the classroom practice time. At the same time, the teaching resources are scattered in different places. It is difficult to realize the sharing of digital teaching resources between teachers and students. This makes some students difficult to carry out autonomous learning. Teachers' single means of class instruction restricts the information transmission, which conversely makes classroom teaching inflexible with no interaction.

1.1.3. Performance Evaluation is Subjective and Lagging

There is no scientific and reasonable measurement standard for teachers to monitor the effect and time of students' autonomous learning, and the standard for the evaluation of students' classroom performance is subjective and cannot be fair, just and unified. At the same time, the students' learning track records are scattered, which is not convenient for teachers to record in time and give the final scores. As a result, it is inevitable to lose objectivity and accuracy in the evaluation of students' final performance [1].

1.2. The Cloud Classroom Platform and the Development Trend of Higher Vocational Education

Information-based teaching is the main feature of the development of higher vocational education modernization. It uses modern Internet information technology to refresh traditional curriculum teaching with new brilliance and vitality. Diverse information means and massive online data can make the abstract and complex classroom knowledge intuitive, vivid, interesting and easy to learn [2].

The Cloud Classroom Platform is a digital learning center sponsored by the Higher Education Press. It is also an excellent platform for the society to share the convenient usefulness of the national "Professional Resource Database for Higher Vocational Education" after its completion. Since the Cloud Classroom platform is specifically oriented to vocational colleges, it has been optimized for the characteristics of vocational college students. It is a platform that integrates teaching resource sharing and online teaching services. Teachers can directly quote the excellent cases and exercises from the national "Professional Resource Database for Higher Vocational Education" to enrich their own teaching resources. Students can learn, do exercises, practice and test online on the platform. Teachers can get timely feedback from the students on the platform to optimize the teaching effect. Relying on the Cloud Classroom platform to carry out online and offline hybrid teaching is more favored by students and has high application value in practice.

Hybrid teaching combines traditional teaching methods with various online functions and resources of Cloud Classroom platform, and will integrate the advantages of the two teaching methods. This teaching mode will become an important direction of teaching reform in the future.

2. HYBRID TEACHING MODE REFORM OF THE PROJECT COST CONTROL COURSE BASED ON CLOUD CLASSROOM PLATFORM

The new teaching method not only inherits the advantages of the traditional teaching methods, but also relies on the Cloud Classroom platform to innovate and become a hybrid teaching method. It is divided into three stages: before class, during class and after class. In these three stages, students need to complete different tasks and experience previewing, listening and reviewing in a short time. This repeatedly reviewing learning method can help students quickly understand and remember what they have learned.

2.1. Before Class

Cloud Classroom platform provides powerful functions in the pre-class module which cannot be achieved by traditional teaching methods. Teachers can upload the micro-lectures, PPTs and other reference materials to the Cloud Classroom platform, and can sort and replace these materials at any time. The organized data will be permanently stored online and can be used easily next time. Students can before class preview their textbooks based on the resources uploaded by teachers in Cloud Classroom platform. By means of the statistical function in the Cloud Classroom platform, teachers can acquire the students' preview situation before the formal class starts so that he can make some targeted changes of his teaching plan in the formal class. For example, in the course of project cost control, teachers can send the full text of bidding law and specific case documents of project bidding to the pre-class module of Cloud Classroom platform for students to download and preview before class, so that students can have a general understanding of what can be learned in the next lesson. Teachers can monitor the data about students' preview in real time to know how many students have previewed the lessons.

2.2. In Class

In class, teachers need to use both traditional teaching methods and Cloud Classroom platform. Therefore, the new teaching method after the curriculum reform is called hybrid teaching method, which means it uses not only traditional teaching methods but also modern information technology. In addition to the traditional teaching methods such as blackboard writing and showing PPT, teachers can also use practical functions such as group PK answering, mobile phone shaking and answering, brainstorming, online testing, etc. in the Cloud Classroom platform to know how well the students master the knowledge. Students can complete the tasks initiated by the teacher and express their own opinions through mobile Cloud Classroom. These novel teacher-student interaction modes fit the learning characteristics of students in vocational colleges, shorten the distance between teachers and students, and make the teaching in the classroom vivid. For example, the teacher can divide the class into several groups and ask a question about financial evaluation for the students to discuss in groups. At the end of the discussion, each group draws a conclusion and lets the group leader to publish their conclusion to the whole class. The teacher as well as the students in other groups will judge the correctness of the conclusion. This form of group discussion can give each student the opportunity to express his views, and thus make the learning atmosphere better.

2.3. After Class

At this stage, teachers can assign schoolwork, view students' evaluation, record the information about the students who spend insufficient learning time, and finally calculate the students' usual scores of their daily performance. Teachers cannot evaluate the learning effect of all the students in each class by using traditional teaching methods, and this will lead to teachers' difficulty in calculating students' usual scores at the end of the term. But the Cloud Classroom platform can automatically evaluate students' learning status and count the correct rate of students' answers, thus making the problem above easy to solve. For example, at the end of each class, the Cloud Classroom platform can automatically count the students' pre-class preparation time, the problem-solving time in class and the correct rate of exercises, so that teachers can fully acquire each student's learning status, and accurately get the students' usual scores at the end of the term. As a matter of fact, Cloud Classroom platform is constantly collecting data from students in the learning process, and finally

processing and presenting these data to teachers, whose workload is then greatly reduced.

The teaching process of these three stages is summarized as Figure 1 [3]:

3. CLOUD CLASSROOM PLATFORM AND IDEOLOGICAL AND POLITICAL EDUCATION

Because online teaching is easy to use excellent videos on the Internet, it has the inherent advantages of classroom ideological and political education. This kind of education is not boring preaching, instead, it gives students personal experience when they are provided with vivid examples. In the classroom of project cost control, classic engineering cases can be introduced to carry out ideological and political education in the course. These cases include engineering miracles and advanced engineering technology in China. These examples can arouse students' enthusiasm for learning the professional knowledge and cultivate a sense of national pride. Here are two examples:
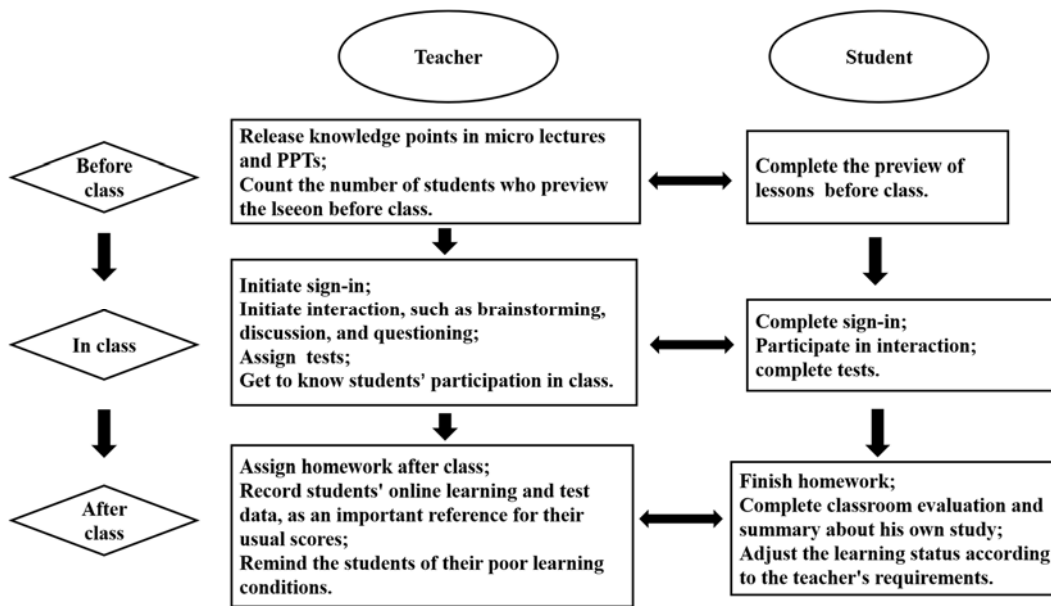

Figure 1 The teaching process of hybrid teaching mode

3.1. Hong Kong-Zhuhai-Macao Bridge

Hong Kong-Zhuhai-Macao Bridge is a bridge and tunnel project in China that connects Hong Kong, Zhuhai and Macau. It is currently the longest sea-crossing bridge in the world. The project starts from the artificial island of the Hong Kong port near the Hong Kong International Airport, and ends at Zhuhai Hongwan. The total length of the bridge and tunnel is 55 km.

3.2. Huoshenshan Hospital

The construction of Wuhan Huoshenshan Hospital took only 10 days. On January 23, 2020, Wuhan decided

to build Huoshenshan Hospital based on the model of Beijing Xiaotangshan Hospital. The project started on January 24th, the Eve of the Chinese Lunar New Year, and only 10 days later, it was officially put into use on the morning of February 2, 2020 [4].

4. CONCLUSION

In summary, Cloud Classroom platform has three major advantages, which are listed as follows:

4.1. Abundant Resources

At present, there is a large number of excellent project cost theory resources on the Internet. There have been

attempts to use these resources in offline classroom teaching. However, due to the limitation of time, classroom teaching can only make a brief introduction to these excellent resources according to the teaching content. With the help of Cloud Classroom platform, students can click on these resources after class, thus extending classroom teaching to after-class time.

4.2. Accurate Statistical Data

Using the statistical function provided by the Cloud Classroom platform, we can accurately analyze the learning situation of each student. For example, Cloud Classroom platform can count the learning situation data of students, generate intuitive reports, and facilitate teachers to judge students who are not active in learning, so as to carry out appropriate intervention. Such an accurate control of learning situation can not be achieved by teachers alone.

4.3. Active Interaction between Teachers and Students

With the help of the rich interactive function in the Cloud Classroom platform, teachers can get each student's answers to questions in real time, and share their answers to everyone through the projector for discussion. This kind of question-answering model is no longer the one in which teachers ask one student to answer a question while the others are listening, but the one in which each student has the opportunity to share their ideas with everyone else and thus students' enthusiasm for answering questions is promoted.

It is not difficult to see that in the new era, the development of classroom teaching in higher vocational colleges has new characteristics and faces new opportunities. The emergence of Cloud Classroom platform points out the direction for the development of curriculum teaching in higher vocational colleges. Relying on the massive online data of the Cloud Classroom platform and its interactive functions, a new hybrid teaching model combining online and offline can be constructed.

Therefore, in the new era, teachers should possess not only professional knowledge, but also knowledge of information technology. In the rapidly changing digital age, teachers should have the teaching sensitivity that adapts to the development of the times, create an information environment, and guide students to learn smartly.

Schools and teachers should rethink the change of teachers' role and advocate that students should be the most crucial part in education. Teachers should take students' needs into consideration and stimulate their learning motivation with the combination of their interest. By paying great attention to students' personal feeling,

particular personality, unique creativity and indispensable practice, teachers should strive to redesign learning space and learning methods for their students. It naturally turns out that students will be trained to become competent manpower while teachers will develop themselves to be new teachers, both of whom will keep pace with the time.

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