

Analysis of the Teaching Method under the Conditions of Sino-US Collaboration

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Abstract: The teaching methods in China are different from those in the US. With the development of Chinese economy, there are more and more cooperation between Chinese and American universities. This paper focuses on the problems encountered in teaching methods under the conditions of Sino-US collaboration project. Based on the analysis of the course “Housing Architecture”, which is the compulsory course of the engineering management department, it discusses the characteristics of teaching both in China and abroad, from the curriculum to student assessment. And it puts forward some methods to match the goal of both universities. This paper may make some suggestions for the operation of related projects based on the conditions of Sino-US collaboration, and may give some enlightenment in the research of teaching methods.

1. Introduction

Sino-foreign cooperative education is an important way for Chinese universities to strengthen educational exchanges and cooperation abroad, and it can promote the level of undergraduate teaching, and it can also introduce high-quality educational resources from overseas. The purpose of the cooperation is to continuously explore the advanced education management system through high-level Sino-foreign collaboration projects, emphasize the innovation of teaching concept and teaching system, and form a demonstration effect to promote the teaching philosophy and system innovation of the university and enhance the higher quality of advanced education.

The Sino-US collaboration project of SUU (Southern Utah University) and our university originated in 2014, at Engineering Management Department. At that time, our university adopts the 2+2 mode: the undergraduate study in China for 2 years, and then go abroad to study in the SUU in the US, when they complete the academic works, they will obtain bachelor degree of science of both schools after graduation.

According to the agreements of the Sino-US collaboration, 1/3 of the core courses should be taught under the authorization of the SUU, some of the courses could be taught by Chinese faculty unless the teaching contents meet the requirements and the teachers are qualified. And “Housing Architecture“ is such kind of mutual recognition course taught by Chinese faculty. This article takes it as an example to show the different teaching methods and educational concepts of the two universities. The course was first started in March 2015 and has been run for two rounds. For the relevant requirements of the SUU, we have adjusted the teaching methods and the students’ assessment, and those are highly recognized by the SUU.

2. Teaching Method Comparison

In China, the university is set to cultivate academic talents, focus on the teaching of theoretical knowledge and establish academic systems. The undergraduate teaching classes in China are mostly large class teaching, the teaching forms are always lecturing. But in the SUU, they are not the same, the following aspects from an American general public university are showing the differences.

2.1 Characteristics of the Teaching Methods of an American Public University

2.1.1 Basic knowledge study and the cultivation of questioning spirit

As for the course “Housing Architecture“, the textbook of the US university is “building construction principles, materials, and system“, and the chief editor is Mehta, published by Pearson Education. The textbook is illustrated with many pictures and drawings and easy to learn and use. Compared with domestic teaching materials, it pays more attention to the description and explanation of basic knowledge. Furthermore, the textbook also comes with a detailed explanation of teaching PPT and assignments, and there are “principles in practice“ attached to each chapter, and there is a quiz at the end of each chapter.

Since the teaching content is relatively simple, the main task for the teacher in class is to ask and answer. And the class is a typical PBL (Problem-Based Learning) process. Thus, lecturing is supplemented, the purpose of teaching is to cultivate and motivate students' questioning spirit. Therefore, there are full of interactions in the class, and the atmosphere is warm and friendly.

2.1.2 Hands-on ability cultivation

About half of the hours of the entire 48-hour teaching process are completed by the students. Each of them will choose some parts of the textbook content willingly and gave presentations about the chapters. They are divided into several groups freely, and complete the presentations with the help of his group. The students' enthusiasm for participation is high, and the forms of presentations are diverse and funny.

2.1.3 Oriented by the needs of the talent market

As far as engineering management is concerned, the teaching objectives contact with social needs, with the talent market. There is an organization called ABET- accreditation board for engineering and technology, it sets up the criteria in the professional field. And the college sets up Undergraduate Student Development Program to fit the criteria and follows the course syllabus. Each course should match the corresponding criteria clause, and the task is implemented to the corresponding teacher who teaches the course. And the teacher should get qualified.

In the Academic Affairs Office, I saw various assessment forms for recordkeeping. Due to the strict assessment, when the students get a professional diploma, the social enterprises will also recognize the relevant abilities of the graduates.

2.2 Comparison of course settings

Take the course “Housing Architecture“ for an example, the course syllabus as follows.

Course Description: Material covered in this course will cover mostly commercial construction. This course is designed to expose the student to principles, materials, systems, methods and terminology related to the facets of commercial building construction and how they integrate with one another.

Course Objectives: Expose the student to and have them obtain a general knowledge of the principles, methods, and terminology related to materials and systems as they pertain to commercial building construction.

Course Structure: This course is designed as a lecture style discussion with assigned reading, homework, practical theory, terminology, projects, quizzes (scheduled and unscheduled) and exams. Attendance is key and required for this course.

With the description above, it demonstrates that the course covers an introduction to building construction, an introduction to building codes, a brief introduction to building materials and building methods. However, it is different in China. In our description, the main objectives are to explain the basic principles and methods of civil and industrial building design, and explain the whole process from graphic design to space design. To help students establish a complete concept of housing construction for subsequent professional courses; develop students' knowledge of building construction and make the students to have the initial ability to engage in general architectural design.

Compare with the two syllabuses above, course objectives in China need more relevant content of the design, less introductory content of some building regulations and construction technology, but we have other course to learn about the content. Our school's "housing architecture" course also has course-design, but the corresponding course in SUU does not have one. So, relatively, the course in China is more difficult than that in the SUU.

As for the textbook, ours is much more difficult and more content to learn. But the textbook the SUU choose is much more interesting and easier to read. Furthermore, the services the press applied for the textbook are rich and practical.

2.3 Comparison of teaching methods

The SUU curriculum uses small class teaching, with only 12 students. The students are from a large age span, some are fresh undergraduates and some are students who have already joined the work, and the oldest is in their fifties.

The course is designed as a lecture style discussion with assigned reading, homework, practical theory, terminology, projects. So, the professor only lectures the first five chapters, and the rest of the content is taught by the students themselves. Students accompany together to give presentations talking about the theory or projects the textbook mentioned.

The assignments are part of the course. Assignments may accompany material discussed in class from each chapter and possible real life, practical examples. A student Project/Presentation will accompany this course worth 100 points and consisting of the following: Written Summary/Outline (40%); Class Presentation (40%); Peer Evaluation (20%).

During the lecturing period and the reviewing sessions, the students' act is very positive, they often interrupt the lecturer, asking questions. At this time, the professor controls the rhythm of the class and tries to fulfill the teaching tasks smoothly.

Throughout the teaching process, professor and students interact frequently, the class is active, and the teaching effect is fairly good.

2.4 The adjustment of the mutual recognition course

In order to match the demands of the SUU, we adjust the teaching method and assessment of the mutual recognition course. We add some content about building construction, building codes and etc. and according to the assessment, we add some content of the need from ABET (accreditation board for engineering and technology). Although the overall academic requirements for students have increased, the following effect is satisfactory. From the assessment results, the indicators such as the average performance and the pass rate did not change significantly before the adjustment.

The adjusted course teaching has also been affirmed by the SUU.

3. Students' assessment

The evaluation of the course grades is much more complicated. Student assignments will vary if value from 10 to 100 (Student Project/Presentation) points. All quizzes will range in value from 10-25 points each. Midterm Exam is anticipated to be worth 100 points. Final Exam is anticipated to be worth 150-200 points. The final assessment will be performed and valued for 13 grades from A+ to F, the corresponding score is from 100% to 56%. To earn a grade of A students must complete at least 95% of the work satisfactorily and attend class 95% of the time. To earn a passing grade, students must attend at least 75% of class regardless of the amount of work that is submitted.

And they pay more attention about the attendance. Attendance is mandatory for passing this course. The student's attendance will be calculated into final grade using the criteria described bellow: The student will be given 10 points per day for each day he attends class. At the end of the semester the student's attendance credit will be calculated with performance credit. Attendance can be approximately 50% of student's grade. Attendance is only taken once per class period at the beginning. The student will receive 10 points of attendance credit for being on time to class and staying the entire time.

4. Existing problems and enlightenment

4.1 Quality of students

The quality of students is one of the key factors affecting the quality of Chinese-foreign cooperative education projects. Students choosing Sino-US cooperative education means facing the challenges of multiculturalism. A solid knowledge base, a positive learning attitude and a strong learning ability are prerequisites for meeting and coping with challenges.

Cause the tuition fee for students in the Sino-US collaboration project is higher than the cost of ordinary enrollment. Our school has adopted the lower score students, which leads to the project hazards. It is hard for teaching under the requirements of the SUU.

4.2 The quality of Chinese Teaching is the Basis for the Quality Assurance

In the quality construction of colleges and universities, we must first solve the problem of quality evaluation standards and the construction of quality assurance system. The key to the quality of Sino-foreign cooperative education depends on the quality of its personnel training. Teaching is the most important and basic way to cultivate talents. The quality of talent training is largely determined by the quality of teaching. Since the Sino-US cooperative project is in its infancy, according to the contract of Sino-US cooperation, there will be some elite teachers in our school to go to SUU for exchange and training. The teachers are expected to get improved during the project.

4.3 Transformation of teaching philosophy

In China's education system, the level of one's knowledge is measured by the amount of knowledge. The concept of education in the United States is mostly oriented to market demand; based on ability, the industry develops standards for personnel training; emphasizes on the basis of cultivating students' general ability and quality, highlighting professional ability, adaptability, innovation ability and Cultivation of sustainable development capabilities. Although China has advocated to teach students with market demand in recent years, it is difficult to implement the market demand-oriented from the aspects of teaching materials, teaching system setting, and student ability assessment.

5. Conclusion

Throughout the operation of the project, the students' learning ability is promoted. During the project, it encourages students to study independently, it cultivates students' practical ability, it expands students' learning resources. The implementation of the project will improve the conditions of the disciplinary platform, promote the transformation of the school's traditional profession, strengthen international exchanges and integration, expand the international vision of discipline construction, and improve the influence of disciplines and social service capabilities. It has promoted the construction of teaching staff and the improvement of teaching and research.

With the further development of Sino-US cooperation in running schools, it will inevitably lead to a win-win situation, and schools, students and society will benefit a lot.

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