Research on Teaching Reform of 《Component Software development》 course based on Chinese-foreign Cooperative Higher Education

Jian Xiang/School of Information and Electronic Engineering, Zhejiang University of Science and Technology, Hangzhou, China  
freenyspi@gmail.com

Abstract—To give full play to the advantages of 20-year international cooperation with the University of Applied Sciences in Germany, we learn from their practice teaching evaluation system and implementation experience, so that we explore the teaching reform of <component software development> course and has obtain certain achievement.

Keywords—teaching reform; higher education; component software development

I. INTRODUCTION

"Network Programming", the predecessor of Component Based Software Development, was a professional course opened in the first half of 2006. It was the period of rapid development of the Internet. Both enterprises and government departments are committed to achieving Network office, in order to realize the informationization of enterprises and government departments, the society needs a large number of network construction and website design and development talents. Because of this, we adapt to the needs of society and technology development, and this practice is very strong. The course, which made our school walk in front of the brothers and universities in the same class..

In 2007-2008, because of the need to run a partnership with the University of Southern Queensland in Australia, we changed this course to Component Based Software Development, which is designed as an all-English-led course in China and Australia. Cooperative school project---One of the 12 degree courses of the University of South Queensland in Australia worked closely together to carry out a series of reforms and explorations on the course, such as reforming the curriculum for professional requirements, allowing students to pre-professional courses before the course. "C# Programming" enables students to develop professional teaching based on their proficiency in computer language application, rationalize the curriculum relationship in international cooperative education, and add curriculum design links to strengthen students' project development capabilities. The purpose of cultivating applied talents.

For three consecutive years, we have actively carried out research on network-oriented, multimedia-based CAI and Internet-based teaching resources, and applied the research results to daily teaching practice, using modern teaching methods to continuously increase the proportion of computer-assisted teaching. In addition, in the heuristic teaching, teaching students in accordance with their aptitude, interactive teaching, mining students' interest in learning, the way of thinking in software development and the method of proving problems, they have actively explored and tried, and achieved preliminary results. At the same time, it adopts advanced foreign teaching mode and process evaluation system to implement teaching. It is considered as a favorite course for students in the
II. TEACHING RESEARCH AND REFORM

This course learns the advanced teaching mode of foreign universities in the teaching process, and uses a lot of research-based teaching, case teaching and other methods, with multimedia teaching as a supplement, and has achieved good teaching results.

Seminar-based teaching: Using the teacher's introductory lectures, the students carry out small-class discussion around the teachers' pre-arranged topics, and improve students' self-learning ability and teamwork awareness. Students are required to participate in class discussions in English and complete assignments. The questions in the test paper are in English. Through bilingual teaching, students develop the level and ability to acquire and exchange professional knowledge in English. In combination with the content of the course, students are organized to conduct research in the form of small groups, develop demand analysis for the e-commerce system, and report the research results in the classroom. The teaching task of the course is to teach students the development techniques of network programs, and through a large number of case studies, to develop students' ability to develop projects, while using multimedia teaching, a variety of teaching methods to inspire students' international vision and analytical research capabilities.

Case teaching: Based on the teaching materials with advanced theory and high academic standards, the teaching of the course pays great attention to case teaching, emphasizes the practical application of knowledge, inspires students to think positively, form their own viewpoints and ideas, and achieve good results. Teaching effect. Through the operation of an e-commerce system, the assignment is divided into several small assignments, including demand analysis, system design, etc., around the main line of the course, the knowledge points are gradually infiltrated, and the students step through the big work. Completion, the complete combination of theory and practice, is very logical and interesting.

Multimedia-assisted instruction: The course uses computer-assisted multimedia teaching methods. At the same time, the University of Southern Queensland provides the Studydesk online teaching platform for its professional courses. Through this platform, students can exchange information, view course information, submit homework, communicate with the lecturers online, realize high-quality teaching resources sharing, and provide students with independent learning and personalized learning. With a broad platform, the depth and breadth of students' knowledge has been significantly expanded.

III. CHARACTERISTICS AND TEACHING ACHIEVEMENTS

We have achieved the following three results: (1) Constructing a multi-level and modular curriculum assessment system based on advanced experimental teaching concepts and three-level capacity training objectives, forming the core content of practical teaching reform. (2) Constructing an open experimental environment and a modern management system, introducing project practice teaching assessment (3) Reforming experimental assessment methods and models, and forming a diversified self-assessment model based on innovation ability training.

The results were adopted at the school and 13 experimental courses were offered for electronic information, communication, computer, automation, electromechanical and other majors. Before the results of the research, the experimental assessment of information technology only involved five majors. After
the research and application of the results, the students' overall practice and innovation ability are significantly improved. In recent years, the members of the research team have consistently achieved good results in guiding the science and technology competition of college students. In the 10th China Robot Competition and RoboCup Open held in December 2008, they won the first prize of the cross-footprint of the double-footed robot university group. The second step of the Ningshou Robot University Group's Narrow Footprint, the award-winning students were reported by the Qianjiang Evening News and the Zhejiang University of Science and Technology. In May 2008, the 5th Zhejiang University Student Programming Competition and the National College Student Programming Invitational Competition in October 2008 and the Zhejiang University Student Electronic Design Competition in September 2008 achieved the best results in history. (4) The "Component Software Development" course was awarded the project of Zhejiang Provincial Excellent Course Construction Project.

IV. CONCLUSIONS

This course is working hard to become a quality course in international cooperation, and strive to apply for the Ministry of Education in five years. Demonstration course. Through modern teaching methods and advanced teaching concepts, the course provides students with comprehensive knowledge and skills in component software development and network system development, and has the ability to develop small and medium-sized B/S systems. We will also intensify training and introduction, further improve the level of faculty construction, actively introduce overseas talents, build project talent teams and teaching talent pools, and build a high-level project faculty.

REFERENCES