

Exploration and practice of talent training mode in Sino-foreign cooperative schools -- taking Software engineering as an example

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Abstract: With the deepening of globalization, Sino-foreign cooperation in running schools plays an important role in China's higher education. Sino-foreign cooperation in running schools refers to the degree education program set up by Chinese higher education institutions and foreign higher education institutions. This mode of cooperation can not only provide Chinese students with broader learning opportunities and international educational resources, but also promote educational exchanges and cooperation between China and foreign countries. As an important subject in the field of information technology, software engineering has broad employment prospects and development potential, so it has been widely used and promoted in Chinese-foreign cooperative education. This paper will take the software engineering major as an example to explore and practice the talent training model of Sino-foreign cooperation in running schools, aiming to provide reference for other majors and Chinese-foreign cooperation in running schools.

Key words: Chinese-foreign cooperation in running schools; Personnel training mode; Software engineering major

Introduction

As far as software engineering is concerned, under the background of the increasingly vigorous development of digitalization, information technology and intelligence, both domestic and foreign countries have put forward an urgent demand for international general talents with international vision and ability. As one of the important soil for training international software engineering talents, Chinese-foreign cooperation in higher education should fully absorb and digest international high-quality education resources, strengthen professional curriculum and teaching construction, and then make Chinese-foreign cooperation in higher education better serve the training of modern and national talents. Practice has proved that the Chinese-foreign cooperation in running a school has a good foundation and development prospect in personnel training, which provides a new way for the reform and development of our country's higher education.

1. THE CONCEPT and CHARACTERISTICS of the talent training mode of Chinese-foreign cooperation in RUNNING a school

The talent training mode of Sino-foreign cooperative education refers to the cooperation mode between Chinese higher education institutions and foreign higher education institutions in personnel training. International cooperative education in foreign countries started earlier. As early as 1980s, the United States set up a business personnel training center and gradually set up university branches in Germany, Australia, Japan and other places. Returning to China, in a real sense, the rise of Chinese-foreign cooperation in running schools should be traced back to the aftermath of the reform and opening up. This emerging talent training model gradually became one of the most important forms of international exchange and cooperation in our country's higher education. Until the mid-1990s, under the background of China's economic fault-type development, with the increasing degree of internationalization of our country, Chinese-foreign cooperation in running a school has received more and more attention and attention from educational institutions, its forms are also diverse. Since then, the wind of Chinese-foreign cooperation in running a school has been set off in China. The main characteristics of Sino-foreign cooperative educational personnel training mode include:

Resource sharing: Sino-foreign cooperative schools can provide students with broader learning opportunities and high-quality educational resources through the sharing of resources between the cooperative institutions. Foreign institutions of higher education usually have advanced teaching facilities, teachers and teaching experience, while Chinese institutions of higher education have a deep local cultural background and educational tradition. Through cooperation, the two sides can complement each other's strengths and provide more comprehensive and diversified educational content and training programs.

International education: Chinese-foreign cooperation in running schools aims to cultivate talents with an international perspective and cross-cultural communication ability. Students can be exposed to the educational ideas, teaching methods and academic thinking of different countries and regions in the Sino-foreign cooperative education program, which is conducive to laying a good foundation for cultivating individual's cross-cultural communication and cooperation ability. From this perspective, it is especially important for students majoring in software engineering, as software engineering is an international subject field and students need to be able to communicate and cooperate effectively with international counterparts.

Bilingual teaching: Chinese-foreign cooperation schools usually adopt a bilingual teaching mode, that is, Chinese and English are taught in parallel. This model not only ensures that students have a deep understanding of the local culture and language, but also improves their English proficiency and cross-cultural communication ability. For software engineering students, a good command of English is essential, which is crucial for their career development.

2. An analysis of the existing problems in the training of software engineering professionals

With the continuous progress and development of modern science and technology, emerging technologies and software emerge endlessly, software engineering graduates have broad prospects for development, and the employment situation is promising. However, nowadays, most of the domestic students and even teachers have little understanding and mastery of these emerging technologies and lack of superior educational resources in practical teaching, which directly affects the effectiveness of software engineering personnel training and greatly reduces the comprehensive competitiveness of students in the international arena, which undoubtedly has a negative impact on the process of Sino-foreign cooperation in running schools. In addition, today's society has an increasing demand for high-quality software engineering developers. However, according to the employment situation of software engineering graduates in higher vocational colleges in the past two years, the proportion of students who can enter large-scale software development and design enterprises is very small, which makes the teaching of software engineering facing severe challenges and huge pressure. All these problems need to be optimized and improved urgently.

3. The innovation of software engineering talent training mode under Sino-foreign cooperation in running schools

1. Deepening the connotation construction of professional courses and highlighting the cultivation of students' ability

Course content is an important carrier of students' knowledge system, an important way to cultivate students' innovation ability, and an important content to carry out foreign exchanges and cooperation. Under the background of new engineering construction, more and more higher vocational colleges focus on the connotation construction of professional courses, that is, the course content should not only impart the basic professional knowledge and ability to students, but also pay attention to enlighten their thinking and strengthen the formation and guidance of students' character. The construction of the curriculum system of software engineering should aim at cultivating students' comprehensive quality, focus on cultivating students' engineering ability and innovation ability, adhere to the principles of "competency-based" and "application-oriented", and be in line with international standards in the course content. At the same time, the course content should be integrated and optimized, the systematic and coherent knowledge should be highlighted, and the course system should be gradually improved. Strengthen the cultivation of students' comprehensive application ability.

To be specific, software engineering majors should pay attention to the integration and cross of multi-disciplinary knowledge and multi-domain knowledge in curriculum setting, make full use of modern information technology, and combine computer science, mathematics, management and other disciplines with software engineering professional knowledge. Under normal circumstances, the curriculum system of software engineering majors consists of basic theory courses, practical courses and comprehensive ability training courses. The basic theory courses include "Foundation of Program" (English), "Data Structure" (bilingual), "Principles of Computer Composition" (bilingual), etc. Practical courses include Object-oriented Programming (English), Principles of Database Systems (English), etc. Comprehensive ability training courses include Computer Network and Operating System (bilingual), Software Project Development Management (bilingual) and so on.

2. Give full play to the role of the teaching team, and build a double teacher + international teacher team

The teaching team is a key factor for the survival and development of a university and a fundamental guarantee for the quality of personnel training. In terms of Sino-foreign cooperative school programs, since the students come from different countries, in order to cultivate a team of teachers with international vision and international level, we need to make great efforts in introducing foreign teachers and building local teachers. In order to ensure the internationalization of the teaching staff, when introducing teachers, the school can give priority to introducing high-level foreign professors and experts, and can also send Chinese teachers to foreign cooperative institutions for further study and training. In this way, excellent teachers at home and abroad can be gathered to support the cultivation of software engineering professionals and teaching reform.

First, the University attaches great importance to discipline team building, and regularly selects and sends young teachers and outstanding teachers to partner institutions, research institutes and well-known enterprises at home and abroad for professional research, short-term training or temporary training every year. Take the faculty of the University as an example. As of December 2022, one teacher has been to overseas training and study and has obtained a doctorate degree, and another teacher has obtained the qualification of overseas exchange visiting scholar.

Second, we employ outstanding experts from domestic and foreign enterprises as part-time teachers or teaching consultants to provide targeted employment and entrepreneurship guidance for students and solve their doubts and problems in a timely manner. At the same time, they are invited to actively participate in the construction of software engineering specialty, in order to provide special services for talent training.

Third, improve the recruitment and management system of foreign teachers, hire experienced foreign teachers to participate in the software engineering education and teaching work, and gradually establish a team of professional teachers with foreign + Chinese integration. At the same time, establish an academic exchange mechanism, and regularly invite high-end foreign experts to visit and exchange with the university.

Fourth, introduce a group of dual-professional talents with rich engineering experience and high academic level. Double-skilled talents refer to high-level compound talents who have both theoretical basis and practical experience, and who understand both English and professional knowledge. Each student can have a mentor who is responsible for guiding the student's development in academic research, project practice and other aspects. By working closely with the tutor, students can receive more personalized guidance and cultivation, so

that they can better develop their technical abilities and professionalism.

The construction of Sino-foreign cooperative educational programs will further enhance the internationalization of the teaching staff and better serve the diversified learning needs of students and the training needs of the society for international talents.

3. Take the integration mechanism as the starting point to achieve progressive training results

Chinese-foreign cooperation in running schools not only refers to the integration of the two schools, but also the integration of the curriculum system, teaching content, teaching methods, characteristics and culture of the two sides, so as to highlight the individual development and innovative ability cultivation of students on the basis of ensuring the integrity of their knowledge structure.

First of all, in terms of teaching platform: under the background of the development of the Belt and Road Initiative, the software engineering major should serve international competition and promote the vigorous development of regional software industry. Through integration training, Sino-foreign cooperative education projects, training of international students and other ways, students can enhance their feelings of home and country, international vision and cross-cultural communication ability. Higher vocational colleges should make more efforts to create bilingual and online courses with international standards to help students master at least one programming language, understand international practices, improve their ability to solve complex problems, and promote students' sustainable development. Under the background of new engineering, software engineering majors should base on the international software industry's demand for software engineering talents, adopt diversified methods such as school-school cooperation, school-place cooperation, industry-university cooperation and international cooperation, and actively build international cooperation laboratories and school-enterprise cooperation bases, so as to effectively provide international venues and platforms for students' practice. In addition, the Chinese-foreign cooperation mode provides students with a broad platform for international exchange. Schools can actively organize students to participate in overseas exchange programs, international competitions and other activities, so as to expose them to practical experience of software engineering in different countries and cultural backgrounds, cultivate them with good cross-cultural communication and cooperation ability, and enhance students' global vision.

Secondly, in terms of teaching methods: Generally speaking, students who participate in Sino-foreign cooperative education programs can obtain certificates from two schools at home and abroad. Therefore, teachers should flexibly combine the actual conditions and talent training objectives of the two countries when making teaching plans. In particular, domestic schools should extensively collect teaching materials of software engineering majors in foreign schools. Effectively integrate with the teaching content of domestic schools, establish a project-oriented and practice-oriented teaching system, and carry out a series of teaching model reforms such as "professional development training", "project-driven case teaching" and "process-oriented practice teaching", so as to lay a solid foundation for future cooperative teaching.

Epilogue

To sum up, the exploration and practice of Sino-foreign cooperative education mode in software engineering provides students with broader learning opportunities and international educational resources. By means of scientific curriculum, project-driven teaching methods, interdisciplinary knowledge integration, innovation and entrepreneurship education and international exchange, higher vocational colleges can cultivate more software engineering talents who meet the needs of The Times, have comprehensive quality and innovative ability, and at the same time, their international vision and cross-cultural communication ability are particularly prominent advantages. However, this initiative also faces some challenges. Higher vocational colleges need to further strengthen language training, cultural integration and exchange, as well as teaching quality assurance and other aspects of the work. Through continuous exploration and practice, it is believed that Sino-foreign cooperation in education personnel training mode will make greater contributions to the international development of China's higher education.

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