Research on Innovation of Software Talents Training Mode

Dawei Zhao, Gang Chen[*]

College of Humanities & Sciences of Northeast Normal University, Changchun, Jilin, 130117

Keywords: Software Talent, Training Mode, Affecting Factors

Abstract: The software engineering major is a profession with very high requirements for students' comprehensive ability. However, most of the existing talent training models focus on the cultivation of students' basic skills. Therefore, it is urgent to study the existing talent training mode of software engineering. reform. For this reason, based on the software engineering profession, the software engineering professional talent training mode has been researched and explored from three aspects: talent training goal, training process and training system.

1. Introduction

The software engineering major is a very fast-developing discipline, and it is also a discipline that has strong requirements for students' practical ability. However, most colleges and universities' software engineering majors still use theoretical teaching when they conduct curriculum. The experimental teaching is supplemented by the curriculum setting mode. Most of the professional courses offered are based on the basic skills training of software design. The training methods and the technical requirements of the employers are very different, which leads to the cultivation of colleges and universities. The student employer can't use it, and the talents needed by employers can't cultivate the embarrassing situation. The root cause of this phenomenon is that the talent training model we are using now cannot keep pace with the times, so the existing software is available. Research and reform of engineering professional talent training mode is extremely urgent.

2. Talent training objectives for software engineering

To carry out the talent training model reform, we must first determine the talent training goals. The software engineering major trains application-oriented software development talents. Through several years of professional training, graduates should have the ability to enter the enterprise directly for software development "seamlessly". At the same time, they should also have certain innovation ability and self-learning. Ability, self-management ability, etc. Therefore, when setting the goal of training software engineering professionals, we can more stand on the perspective of employers, review and reform our existing training direction, school ideas, talent positioning, etc., in our existing self. Find a balance between the conditions and the employer's employer requirements to develop our talent development goals.

3. The main problems in the training of international software engineering talents

The one-sided understanding of internationalization has led to the lack of theoretical research by institutions and the establishment of strategic goals that can guide and develop the practices and outcomes of international software talent training. Affected by the traditional talent training model, China's higher education is a test-oriented education for a long period of time. It is obviously lagging behind the development level of modern science and technology in terms of talent training objectives, training methods and training content. Traditionally, the teaching management mode characterized by compulsory and obedience and the single knowledge transfer education do not consider the individual differences and different needs of students. The students who are trained lack the learning ability, independent thinking ability, practical application ability, communication ability and Interpersonal skills, but also lack of innovative thinking. Although the software

859

profession has begun to explore the internationalization of higher education and personnel training in recent years, the level of reform of traditional education and teaching methods is not deep enough. There is no inculcating teaching method that is essentially free from teaching and learning. Students are passively receiving knowledge, and learning initiative and enthusiasm are not mobilized. This is also a major reason for the current high school students' absenteeism rate.

It does not closely combine the professional characteristics of software and the improvement of the discipline construction level of the school with the ability to cultivate high-level innovative international talents. In order to comply with the trend of internationalization, many colleges and universities have adopted measures to increase the proportion of bilingual teaching, or to add one or two English-language courses, or to replace the original Chinese textbooks with English textbooks. The practice of staying at the surface reflects the fact that educators have not really understood the essence of international talent cultivation, and have not realized deep substantive changes at all, and it is even more impossible to integrate internationalization into all aspects of personnel training. There is no international software talent training model that conforms to Chinese characteristics, and there is no education system that meets international standards such as curriculum, teaching, and management. It is not truly in line with international standards. In terms of talent training objectives, there is a lack of training on students' individual respect and innovation ability, and lack of training on students' international awareness, international knowledge and international communication skills. In terms of talent training methods, there is a lack of comprehensive and multi-angle talent training standards. Failure to make full use of informatization teaching, international cooperation projects are also lacking in depth and continuity; in terms of personnel training content, internationalization of professional knowledge and curriculum is not enough, and the cultivation of students' information literacy and comprehensive quality remains to be further . Since the establishment of 37 national demonstration software colleges, a lot of reforms and explorations have been done in the construction of the curriculum system for software engineering personnel training. They have boldly abandoned traditional and obsolete courses and added a large number of majors embodying new technologies and new knowledge. The course strengthens the construction of the practical curriculum system, and incorporates the engineering practice of internship training into the teaching and training links, which enhances students' practical ability. However, there are still few studies on the international standards of the curriculum system. A complete curriculum system that meets international standards and adapts to the training of international software talents has not yet been formed.

The construction, reform and development of any project require support and supervision from the corresponding system to ensure its smooth implementation. The reform of the international software talent training mode is a big project, the enrollment and management of international students, the research and construction of the international curriculum system, the appointment and management of foreign teachers, the training and assessment of full-time teachers, and the cultivation and improvement of the ability level of administrative personnel. In terms of the construction and operation of the international management platform, it is necessary to invest a large amount of manpower, material resources and financial resources to support and establish supporting systems, norms and standards to ensure the smooth development of this large project. The current management system and operational mechanism are far from meeting such requirements, and cannot meet the needs of international software talent training.

4. The international software engineering personnel training ideas

According to the requirements of the National Medium- and Long-Term Education Reform and Development Plan, the School of Software of Beijing Jiaotong University adheres to the principle of "connotation development, optimizing structure, strengthening characteristics, and focusing on innovation", drawing on advanced engineering education concepts and international education experience. "Oriented to the industry, facing the world, through the recruitment of large-scale students, promote education and teaching reform and management mechanism reform, innovative talent training model, and cultivate high-quality international software talents" education philosophy.

The so-called international talent training is to establish a talent training model and system with international thinking and methods. To achieve the internationalization of engineering education, the first step is to change the concept. The concept and goal are the core elements and soul of the internationalization of higher education. University education and managers should first have an international perspective and the level and ability of internationalization, establish an international talent training concept, clarify the guiding ideology of international talent training, and then propose a talent training reform model with international characteristics. Education career. The connotation of internationalization is not only "internationalization is international exchange and cooperation" or "how many international students are enrolled". The real international talent training reform needs to use the international thinking as a guide on the campus, establish an international education environment, strengthen international exchanges and cooperation, industry-university alliance, and cultivate a large number of Chinese and foreign countries with international vision and quality, in line with international talent standards. student. In order to cultivate students' international vision, master multiculturalism, and have the ability to communicate, communicate and cooperate with their counterparts in different countries, they should attract a large number of international students to attend school and provide international students with an international educational environment, such as teaching in English and foreign countries. International students study and work together, feel different cultures and ways of thinking, understand the social and social conditions of each country, and thus establish their own international awareness and thinking. Second, there must be an international leadership team and implementation departments to guide, research, plan, implement international strategies, and develop a series of mechanisms and related policy guarantees.

With the integration of the global software industry and the deepening of education internationalization, the School of Software of Beijing Jiaotong University insists on the localization of running schools, and actively learns the concept of international engineering education, and regards the internationalization of engineering education as the strategic goal of personnel training. In accordance with international standards, we will train international software elites and continuously explore and practice talent training models with international characteristics. Establish an international concept of cultivating universal talents for the world, combined with professional settings and internationalization of course content, and carry out international cooperation in educational cooperation such as joint education, mutual exchange of scholars, teacher-student exchange, cooperative research, academic exchange, and school-enterprise cooperation. Schooling. By comparing the talent training objectives of research universities in different countries, it is not difficult to find the common characteristics of other countries in the education of college students: 1 Emphasize that through school education, students can master the methods of inquiry, can participate in discovering new ideas and can solve complex problems; Emphasize that through school education, students have a strong ability to adapt, not to adapt to a certain profession, but to adapt to a rapidly changing world. That is, it has the characteristics of "adapting to change flexibility and self-confidence", "can successfully adjust itself in the face of a rapidly changing world", "can work with others, and can creatively transform its environment"; 3 emphasizes through school education To enable students to form judgments and thinks about the objective world and human moral and ethical issues; 4 Emphasize that students have a broad basic knowledge through school education; 5 enable students to develop a variety of thinking and problem-solving skills, and have the ability to continue learning . Among them, cultivating students' sense of innovation and innovation is the most consistent goal of colleges and universities [7]. Guided by strategic objectives, Beijing Jiaotong University Software College combines software professional characteristics to carry out all-round reforms in terms of student source, curriculum system, teaching content and teaching methods, evaluation criteria, teaching staff, management system and other aspects. System engineering for the reform of talent training.

5. Conclusion

The cultivation of software talents can only conform to the development of society and the times in order to cultivate high-quality talents with international competitiveness. The internationalization

of higher education has had a direct or indirect impact on the five aspects of talent training concept, talent training goal, talent training process, talent training system and talent training evaluation in China. Under the background of internationalization of higher education, the School of Software of Beijing Jiaotong University will continue to adhere to the people-oriented and international talent training concept, aiming at cultivating innovative, complex and international talents, and constantly improve the international talent training mode. Courses and training pathways are adjusted and optimized; diversified evaluation mechanisms are implemented. Explore new methods suitable for schools, professional realities, and social development needs, in order to promote the sustainable development of software internationalization personnel training.

Acknowledgements

References

[1] Xu Ling. Exploration on the Quality Assurance System of Practice Teaching in Software Engineering Specialty [J]. Laboratory Research and Exploration, 2015,34(8):205-208.

[2] Hu Yurui. Software Engineering Teaching Reform for Applied Technology Talents Training [J]. Software Engineer, 2015, 0(10): 48-49.

[3] Wang Xiaofeng, Xu Qiang. Teaching Reform and Practice of Software Engineering Based on Modularity [J]. Computer and Telecommunications, 2015,0(1):29-32.

[4] Zhao Yue. Application of Learning Evaluation Mechanism in Software Engineering Teaching Reform [J]. Journal of Jilin Jianzhu University, 2015, 32(3): 112-114.

[5] Li Jianzhuo. Discussion on Software Engineering Teaching Reform for Applied Talents Training [J]. Information Systems Engineering, 2016, 0(10): 144-144.