Research on the Reform of Computer Specialty Teaching System Based on Interdisciplinary Integration

Zhang Yan

Intelligent Science & Information Engineering College, Xi'an Peihua University, Xi'an, China

Abstract: It is the trend of the development of higher education to weaken the professional boundaries and strengthen the intersection of disciplines. At present, multi-disciplinary integration has become the consensus of higher education at home and abroad. Harvard University, Massachusetts Institute of Technology, Tsinghua University, China University of Science and Technology and many other universities attach great importance to the promotion and construction of cross-disciplinary integration. Computer specialty is a subject which applies modern technology to measure, change, process and control information. It involves electronic technology, control communication and microelectronics. Its distinct feature is interdisciplinary. With the rapid development of science and technology, the relationship between computer specialty and other electronic and electrical specialties is getting closer and closer, and the boundary is becoming more and more blurred. In addition, with the diversification of the needs of modern users and the high-end technology content of products, employers and units also hope that students of this major will become innovative talents with multi-disciplinary knowledge such as electronics, communications, control and so on.

1. Introduction

With the deepening of higher education reform, interdisciplinary integration will become an important way of knowledge innovation in the future. The integration of different disciplines and specialties has important practical significance for deepening educational reform, implementing quality education, improving the quality of innovative talents and realizing the sharing of educational resources. This paper explores the training mode of innovative talents of computer specialty through interdisciplinary integration, with a view to promoting the comprehensive reform of training scheme, curriculum system, teaching mode, practical links and management mechanism, and forming a diversified training mode to meet the needs of top innovative talents of computer specialty in the future social and economic development of China.

2. Current Situation and Problems of Discipline Construction in Colleges and Universities in China

In the long-term development process, Chinese colleges and universities have actively explored and studied the interdisciplinary integration. However, institutional problems are still one of the important factors hindering the integration of disciplines. In terms of management system, the division of colleges and departments and specialties in China's colleges and universities is refined, which invisibly results in the fixed division of daily teaching and personnel training, and greatly weakens the intersection and integration of different disciplines and specialties. At the same time, at present, there is no special interdisciplinary category in Chinese universities. Each major is an entity organization. Each specialty is in its own position, and each specialty formulates its own training plan. This will inevitably hinder the promotion of interdisciplinary integration in domestic universities.

3. Reform Strategies of Computer Specialty Course System with Multidisciplinary Interdisciplinary Integration

Interdisciplinary integration is the goal pursued by the first-class universities, which is adapted to the trend and trend of the development of modern science and technology. It is also a subject that must be studied for a long time in the future. In the teaching of computer specialty courses, we can take this as a guiding idea to integrate disciplines at the beginning of higher education, and to promote the integration of science. Although it is only a preliminary stage, I believe that with the development of disciplines and computer technology, the research between them will become more and more valuable. Our specific strategy is shown in Figure 1.
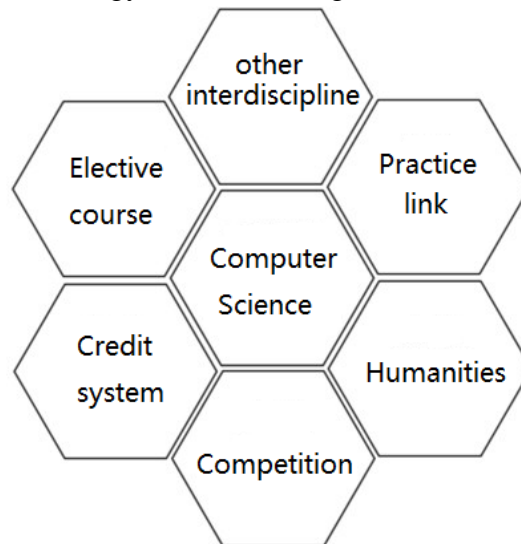

Fig.1. Multidisciplinary teaching system for computer specialty

3.1. Revise the training plan of interdisciplinary integration and highlight the status of elective courses

To clarify the training objectives of innovative talents, to establish the concept of multi-disciplinary cross-integration of talent training, to build a multi-disciplinary infiltration of Cross-talent training program under the guidance of the integration of disciplines and specialties, and to form a standardized and sound target system of professional innovative talents training. At the same time, breaking professional boundaries, rationally optimizing compulsory and optional courses through interdisciplinary, promoting interdisciplinary integration through the elective system, and adjusting the proportion of compulsory and optional courses appropriately can enable students to have more independent learning time and create conditions for the cultivation of innovation ability.

In recent years, Xi'an Peihua University has established the talent training mode of "combining professional education with general education, strengthening professional education and practical ability training". The school implements the "credit system". On the basis of strictly guaranteeing students'general education time, students are allowed to freely choose the main courses of similar majors, and carry out personality training according to their own interests and hobbies. In the past, the limitation of professional training has achieved remarkable results in the training of computer specialty.

3.2. Integrating related courses in the form of curriculum group and establishing cross-curriculum teaching system

Reasonable integration of curriculum content through interdisciplinary integration, setting up the goal of comprehensive interdisciplinary curriculum teaching system, highlighting the position of practical links in the curriculum system, and clarifying the role of design experiment, comprehensive experiment, curriculum design, production practice, major comprehensive

experiment and graduation design in the curriculum teaching system can improve students'analysis of problems. Ability to solve problems.

The existing training program of computer specialty in our university clearly requires that each basic course and specialized course must be matched with corresponding experiments, and the experiment of specialized course must have designed experiments and comprehensive experiments; and for the core course, independent experiments are offered, and the whole process of assessment is carried out. In addition, in the four-year study, students are gradually added to the production practice, comprehensive major experiment and graduation design, which cultivate students'interdisciplinary comprehensive ability and enable them to establish the concept of curriculum system. And in the process of completing the comprehensive experiment, students take group as unit, and also cultivate students'sense of teamwork.

3.3 To build a multi-disciplinary cross-integration platform with competition as the theme.

College students are energetic, passionate and ambitious young people. Their achievements should be displayed on the platform to encourage them to learn better. It is undoubtedly an effective way for them to gain recognition for their abilities by developing interdisciplinary and interdisciplinary competitions. Challenge Cup, Mathematical Modeling Competition and other competitions provide opportunities for college students of different disciplines to form teams to compete. They construct cooperative groups, exchange and learn together, and master the integrated learning methods of discipline integration. In the process of preparing for war, we should stimulate innovative consciousness, integrate resources, establish interdisciplinary, multi-technology and multi-member cooperation, break the barriers of disciplines and specialties, and prepare for war jointly.

3.4. Focus on the infiltration of literature and science to train comprehensive innovative talents

People of science and engineering are better at logical reasoning and Abstract thinking. People of liberal arts are accustomed to intuitive feeling and image thinking. Logic and intuition are two indispensable wings of scientific creation. In order to cultivate innovative talents, we must promote the integration and coordinated development of natural science and social science. By offering public elective courses such as "Chinese Traditional Culture" and "Western Art Appreciation", we can improve the humanistic connotation of science and engineering students and broaden their horizons. In addition, we also offer lectures on Humanities and social sciences to the whole school from time to time, try our best to achieve the intersection of Arts and sciences, comprehensive coordination, so that students have strong logical thinking ability, and good image thinking ability, and realize the comprehensive development of students' quality.

4. Conclusion

In a word, the training of innovative and entrepreneurship talents with multi-disciplinary integration is a new journey for the reform of the training mode of talents in Colleges and universities. The establishment of the training goal of innovative and entrepreneurial talents with multi-disciplinary integration points out the direction of reform for talent training; scientific curriculum system is the main carrier of innovative and entrepreneurial talents training teaching activities, and the key step to achieve the goal of talent training; the construction of a platform for cultivating innovative and entrepreneurial talents with multi-disciplinary integration is to find specific practical ways for talent training. Path. Only by possessing these basic conditions can the cultivation of innovative and entrepreneurial talents with multi-disciplinary integration become possible, and the comprehensive innovative talents of all walks of life may be cultivated by the state.

Acknowledgement

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