Research on Practical Teaching System of Electronic Information Specialty based on"Application-oriented" Talent Training

Fengyuan Zhu[1, *]

[1]Wuhan University of Engineeing Science, Department of Information Engineering

Abstract. Under the background of the tide of innovation and entrepreneurship education, the major of electronic information takes on the important task of training high-level talents for the progress of science and technology, and the development of social science and technology provides motivation for the reform of talents training mode in colleges and universities. Based on the analysis of the current situation of practical teaching of electronic information specialty and the training of"Application-oriented" talents, this paper probes into the construction of practical teaching system of electronic information specialty.

1 Introduction

With the social development of our country entering a new era and a new stage, the higher education of our country has also ushered in a new development opportunity, with the social development of our country entering a new era and a new stage, the higher education of our country has also ushered in a new development opportunity. As a civilian-run applied university, Wuhan University of Engineeing Science follows the trend of the times and accurately grasps the development policy of education in the new era, we will continue to improve mechanisms and systems. The construction of application-oriented talents is the grand goal proposed by General Secretary Xi Jinping under the background of analyzing the current and future social development and changes. Specifically, at the present stage, the cultivation of talents in colleges and universities must take the spirit of innovation as the basic requirement, the principle of multi-disciplinary integration of knowledge as the basic principle, and the practical application as the ultimate goal, this is a comprehensive deepening of the reform of the higher education system. In order to train innovative, compound and applied talents, it is necessary for colleges and universities to make clear their development ideas, combine with local regional economic construction, make clear the purpose of running a school, give full play to their maximum advantages and highlight their characteristics, grasping the spirit of the times, changing ways and means at the right time, making every effort to adapt personnel training to regional industrial upgrading, and building strong specialty with characteristics to serve social and economic development.

Science and technology is an important symbol to promote the development of productive forces. In recent years, especially since the society has entered the information society, the development of electronic information technology has played a decisive role, at the same time, it is also an important support to highlight the comprehensive strength of the country. The developed countries all over the world, without exception, attach importance to the development of science and technology, and their scientific and technological strength can not be underestimated. With the intensification of economic globalization, the international competition becomes more and more intense, electronic information technology in such a domestic and international development environment represents a new era of innovation driving force, but also a strong guarantee of international competitiveness. The construction of science and technology industrial parks around the country is in full swing, which needs a large number of talents from the science and technology industry to support, it covers almost every aspect of the development of the information industry [1].

With the increasing demand for electronic and information talents, the enrollment of electronic and information students in colleges and universities is also increasing year by year, the department of electronics of the college of information engineering has 3 engineering majors, which are electronic information engineering, communication engineering and electronic information engineering technology. How to train the students of electronic information specialty to become the application-oriented talents urgently needed by the society has become an urgent and urgent problem to be solved [2-3].

* Corresponding author: 516423594@qq.com

2 Present situation and problems of practice teaching of electronic information specialty

2.1 Practice course teaching lags behind enterprise technology practice

With the development of social science and technology, and under the background of various ministries and commissions on comprehensively improving the quality of personnel training, the curriculum reform, talent introduction, and professional construction of electronic information majors have received unprecedented attention, which is of great help to improve students ' practical ability. However, at present, the practical courses of electronic information majors are still mainly based on basic knowledge transmission and basic principle operation. In most cases, it is the repetition of the same level of teaching content, and the improvement of practical teaching quality is not put in a key position [4-5]. The comprehensive quality of students is relatively weak, and there is still a clear gap between the practical ability and the rapid development of electronic information technology.

2.2 Lack of continuity in professional practice courses

As an application-oriented university, the practical courses for electronic and information majors are mostly attached to the theoretical course system, and practice will be terminated at the end of each semester, this kind of course teaching form is not conducive to the development of students' practical ability. Students can not be urged to apply the knowledge and skills they have learned flexibly in practical application or entrepreneurial activities. Students' practical activities end with the end of the course, and the implementation and application of the knowledge learned through the traditional classroom are greatly restricted.

2.3 Development of teaching staff needs to be strengthened

For electronic information professional practice is strong, which teaching teachers of the theory with the ability to practice have higher requirements, but many traditional teachers are focused on theoretical knowledge, let the student have one kind of thought that the specialized practice curriculum dispensable, causes the student's practice ability insufficiency.

2.4 Lack of profound knowledge

After a preliminary investigation, it was found that in some students' subjective consciousness, the cultivation of the ability of innovation and entrepreneurship was extremely neglected, in the subconscious of students feel that this kind of innovative entrepreneurial practice of their own ability to develop no substantial change, but also need to consume a lot of time and energy. Some students think that they will not go the road of entrepreneurship, so in the attention of the lack of [6].

3 Exploration on constructing practice course system of electronic information specialty

3.1 Set up practice teaching team

For the experimental teaching links, equipped with high-level experimental teaching team, many measures to enhance the strength of experimental teaching teachers [7-8]. To encourage teachers to continue to pursue doctoral studies to enhance the overall teaching and research level; to employ outstanding entrepreneurs with more practical skills in the same field to complement the cutting-edge force of the hands-on teaching team through the introduction of talents; Encourage participation in research and exchange, organize relevant professional training, promote the practice of teaching team teachers to the professional new technology, new dynamics of the mastery.

3.2 Improve the examination method of practice teaching

In view of the scientific and reasonable setting of practice link, the teaching and research group after repeated demonstration, after the demonstration in the course of specific practice, unreasonable adjustment and correction. Many courses have been reformed in practice teaching content, practice links, curriculum model reform and so on. They have been solidified in the teaching outline and guided teaching [9]. According to the latest training program, the proportion of practical teaching increased year by year, practical teaching credits more than 33% of the total credit. At the same time, for the end of the course with the practice course, the assessment method is no longer the same, flexible grasp of the practice link in the weight of the general assessment, adopting project-based teaching, abandoning the practice of doing experiments on the experimental bench and the experimental box, designing complete teaching projects and dividing students into groups, each group completes a project, including the project design, the list of components, access to tools, components, production, debugging, and other content, the whole project implementation process is divided into several tasks, each task of each group was evaluated and given corresponding scores. Each member of the group received his or her own scores according to his or her performance. Finally, the scores of these tasks were accumulated as the final practical results. The advantage of this method is that it can bring into full play the function of promoting students' learning, promote students' communication and cooperation, and give timely feedback to the problems found in the teaching process. reasonable allocation of the usual assessment, the practice assessment, and the proportion of the final

assessment, so that students can effectively exercise the practical ability.

3.3 Multi-channel to strengthen the combination of professional knowledge

The practical teaching system of electronic information specialty tries to build a comprehensive practical ability platform for students [10]. First, the organic combination of social practice and students' professional education, through a series of professional practice activities, so that students verify the theory in practice, so that students' professional knowledge has been tested and applied, professional ability has been substantially improved, but also improve the value of social practice; second, through the construction of the practical teaching system, students are encouraged to participate in the provincial-level national-level professional discipline competition, and the practical teaching mode is reformed. The students' practical ability has been greatly improved, and the discipline competition has achieved fruitful results. Third, the combination of students' professional practice and teachers' teaching and research activities not only allows students to participate in teachers' research activities, enhance their awareness of this major, cultivate students' active learning and research ability, but also provide direction for students' graduation research.

3.4 Innovative practice teaching means

The practical teaching methods of electronic and information specialty can be changed from many aspects to make them more systematic. Establish ″student-oriented, highlighting the dominant position of students in practice teaching″ the fundamental concept of modern teaching, highlighting the main practice teaching to help students take the initiative to build a scientific knowledge system; highlight the hand, brain and promote the combination of theory and practice; highlight research and exploration, cultivate students' ability to analyze and solve problems; highlight the combination of comprehensive design and multivariate analysis to improve students' comprehensive engineering quality. In teaching methods, the full implementation of problem-based, project-based, engineering and technical problems based on the reform of teaching methods, the implementation of small classes, group teaching, students focus on team learning, team research and teamwork to guide students to independent learning, active practice. The focus is on trying to provide students with a meaningful learning experience that he or she also believes is to cultivate students' enthusiasm for learning, exploration and participation, so that students can learn independently according to their own ability and develop the habit of independent learning.

3.5 Strengthen the construction of a practical teaching system

The construction of practical teaching system should be fully understood, and it is clear that ' applied ' talents are the goal of professional talent training, and the core of professional talent training is to have innovative, compound and applied abilities. Electronic information professional technology and practice is very strong, the corresponding practice of teaching will be higher requirements [11]. We should give full play to the functions of the existing teaching and scientific research platform, feed back and verify the theoretical knowledge in the practical classroom training, and carry out the talent training mode of school-enterprise cooperation and work-study combination in depth, to train the "Application-oriented" talents of electronic and information majors who meet the needs of the development of industrial economy and embody the characteristics of application-oriented colleges and universities, so as to form a school-running mode of benign interaction between schools and enterprises, to build a three-dimensional practical teaching system, to stimulate the enthusiasm of college students, to strengthen the innovative research and training of college students, to attach great importance to the cultivation of students' practical ability and innovative consciousness, taking the subject competition as the important hand of talent cultivation, mobilizing widely and organizing carefully, aiming at improving students' professional skills and promoting the development of students' innovative ability, and at the same time, making good achievements, further promote the reform and innovation of teaching content and teaching method, improve students' ability of practice and innovation. The following is the electronic information professional practice teaching system chart.

The following is the practical teaching system structure diagram of electronic information specialty. The practical teaching system is divided into three modules: Internship, Course experiments and course design, as well as subject competition innovation and entrepreneurship project. Internship includes graduation practice, production practice, professional awareness, practice in electronic technology and metalworking practice. Course experiments and course design includes curriculum experiments, enterprise project development training, information system training and single-chip microcomputer training. Subject competition innovation and entrepreneurship project includes electronic contest for college students, robot competition for college students, challenge cup competition, "Internet +" innovation and entrepreneurship contest for college students and innovative entrepreneurship training program for college students.
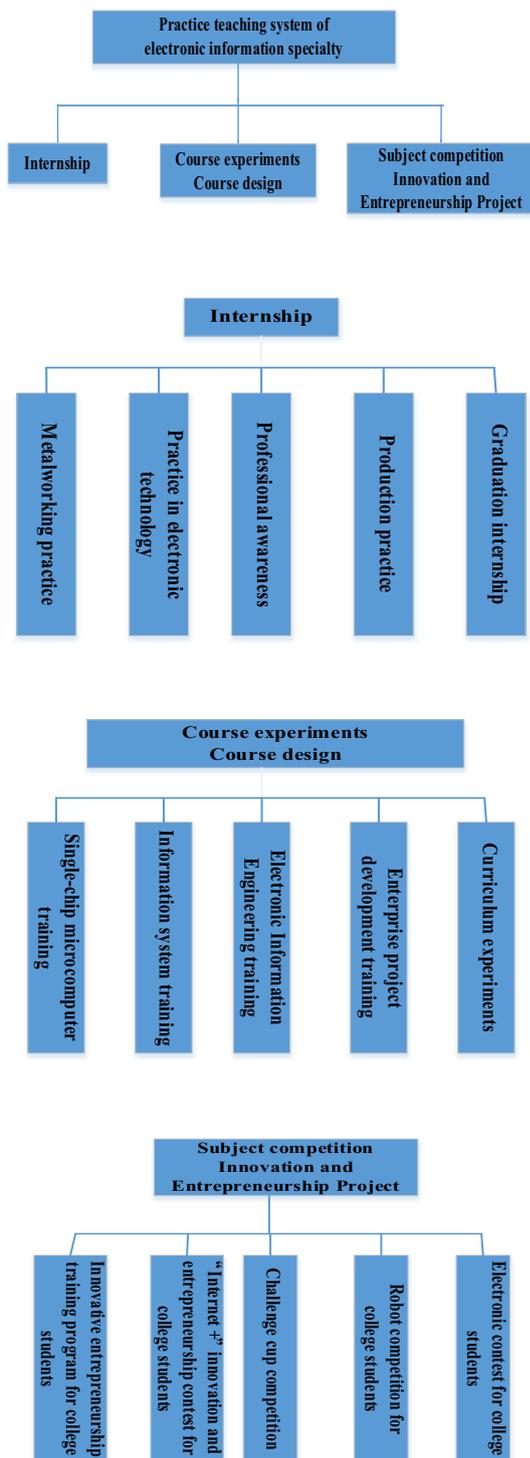
Fig. 1. Practice teaching system chart of electronic information specialty.

4 Summary

At present, with the progress of social science and technology and the development of electronic information technology enterprises, higher requirements have been put forward for the cultivation of talents in colleges and universities. Aiming at the practical teaching system of training "Application-oriented"talents of electronic and information specialty, we put forward the idea of construction, hoping that with the deepening of teaching reform in colleges and universities, the practice teaching system has been constantly improved and developed, thus providing guarantee for personnel training.

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