

Research on the Cultivation of Applied Talents of Electronic Information Specialty

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Abstract: The training of application-oriented talents has become a new hot spot in the field of higher education in our country, and it has become an essential way for the training of electronic information professionals. This research analyzes the current situation and problems of electronic information majors at first, with the goal of improving students' comprehensive quality and employment quality, and constructs a scientific and reasonable new system for the training of applied electronic information talents, with a view to providing opportunities for electronic information majors in colleges and universities. The reform of the training model aims at providing a certain reference and reference.

1. Introduction

With the improvement of the industry, colleges need continuous innovation in talent training strategies and paths in order to enhance the social recognition and employment competitiveness of their graduates. Nowadays, application-oriented talents have become the goal of domestic universities competing to declare. Oriented by application-oriented talents, it is necessary to enable college students to have a positive professional attitude and a proper sense of professional values, but also to master one or several professional skills. Fast updating of professional technology and strong practical ability are the main characteristics of electronic information majors. Therefore, it is necessary for students to master practical ability and improve students' awareness of innovative thinking, so as to promote the transformation of talent training from knowledge-based to innovative and achieve professionalism All-round development of talents. This research takes the opportunity of the comprehensive reform pilot of the national-level major of our school's "Electronic Information Engineering" to explore new ideas and methods for student training. Aiming at the electronic information engineering major, with social practice and industry innovation as the main line, through school-enterprise cooperation, professional regulation and mechanism design, we vigorously promote effective talent training methods to achieve better talent training results.

2. Analysis of demand for electronic information talents

The training of electronic information professionals should determine the goal of talent training and the direction of professional construction in universities according to the types of talent needs. The talents required by electronic information-related enterprises can be divided into research-type talents, application oriented talents and service oriented talents. The distribution of demand is shown in Figure 1.

Research-oriented enterprises mainly focus on electronic information policy research, industry standard formulation, consulting, planning evaluation, etc., accounting for about 15%. Application-oriented enterprises have the largest number in my country. They are mainly engaged in the application of electronic information technology, technology research and development, implementation and maintenance of electronic information projects, including computer software and hardware and system integration, Internet-related, e-commerce and online games, and wireless communication research and development. And maintenance, electronic technology research and development and maintenance, automatic control research and development and maintenance, electronic software and embedded software and hardware development, etc. account for about 40%.

Electronic information service-oriented enterprises mainly focus on the development, knowledge, and technology application of electronic technology and computer technology, and carry out popularization, training, and certification to enterprises, colleges, and society. According to electronic information-related enterprises In-house training for the company's needs. This part accounts for about 45%. According to the requirements of "thick foundation, wide-calibre, prospering characteristics, and emphasizing ability", the training goal of electronic information engineering professionals is to train students in different directions and levels. The main purpose is to cultivate applied innovative talents to meet the needs of application-oriented enterprises and some service-oriented enterprises.

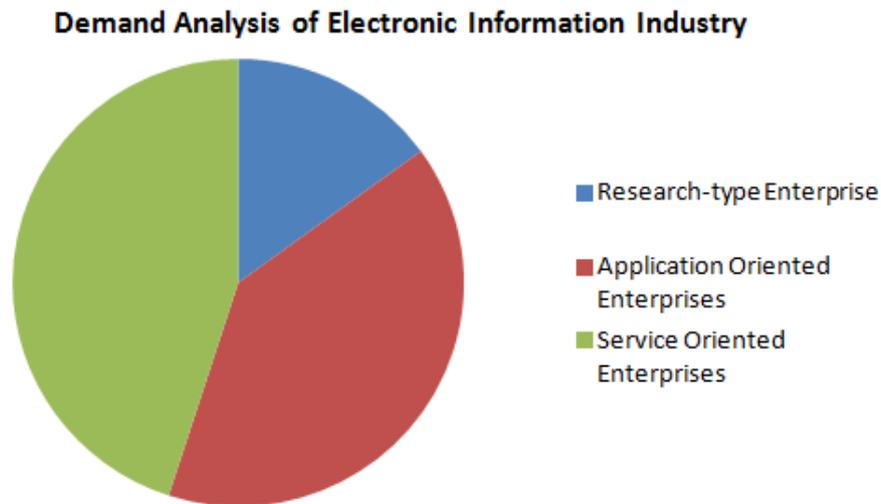


Fig.1 Demand Analysis of Electronic Information Industry

3. Problems in traditional teaching of electronic information major

3.1 The teaching objectives are not suitable for the training of high-quality applied talents

In the traditional teaching of analog electronic technology courses, the teaching goals are set too broadly, and there is no focus on cultivating research talents that emphasize theoretical foundations and professional calibers, or training skilled talents with vocational job skills and methods, leading to follow-up There is a deviation between the teaching implementation process and the training requirements of applied talents, which affects the final training effect.

3.2 Teaching content is greedy for completeness and too much emphasis on theory

The content of electronic information courses involves multiple disciplines, wide coverage, and many knowledge points, but the total credits of the talent training program are limited. Many application-oriented universities offer analog electronic technology courses with varying degrees of reduction, so that the content of the courses is controlled The misunderstanding that people are comprehensive and greedy for more completeness. The teaching of completing the course in short school hours and the fast teaching pace also make it difficult for students to effectively understand the abstract concepts and processes in the course, which greatly reduces the learning effect. In addition, the traditional teaching content is too theoretical. Theorized content can certainly promote students' logical thinking ability and theoretical analysis ability to a certain extent. However, the lack of application background and pure theoreticalization can easily lead to students' learning-weariness, and will weaken the practical application efficiency of theoretical knowledge, resulting in the problem of "learning, not knowing where to use".

3.3 Rigid teaching model

For a long time, most of the theoretical teaching of electronic information courses is passively accepted by teachers for middle school students, and there is a lack of effective interaction between

teachers and students. In this mode, students lose the ability to think actively, and some even do things that have nothing to do with the classroom, which seriously affects the teaching effect. The traditional teaching methods of the course mainly use conventional blackboard writing, PPT or a combination of the two. It is difficult for students to effectively understand the more abstract concepts in the curriculum, especially some dynamic processes, using traditional teaching methods. This model of disconnection between theory and experiment makes it difficult for students to use theoretical knowledge to guide practice in the process of experimentation. After completing the experiment, they cannot link the experimental results with previous theories to consolidate theoretical knowledge.

3.4 The course assessment method is single, and the test-taking traces are deep

As an indispensable part of course teaching, course assessment is the main means to improve teaching quality and test the achievement of teaching standards. Generally speaking, the traditional assessment of analog electronic technology courses mainly adopts a summative assessment as the leading assessment system, and the scores of the students' comprehensive scores in the mid-term final exam usually have a larger weight. Although this assessment method is simple and easy to operate, it has the following drawbacks. First, the course assessment is concentrated on the final exam after the course, and there is no effective process evaluation. As a result, students will inevitably ignore the common learning process. At the same time, teachers cannot get feedback from students during the teaching process to improve the teaching. Second, the question types of the final exam are mainly objective questions that investigate basic concepts and basic circuit theory analysis. computational analysis and calculation questions are the main ones, and most of the exam content only needs to be understood and memorized. It is difficult to comprehensively assess students' comprehensive application and practical innovation ability.

4. Cultivation of applied talents in electronic information majors in universities

In view of the problems existing in the traditional teaching of analog electronic technology courses, in recent years, colleges have aimed at the cultivation of school-running characteristics and high-quality application-oriented talents, with "engineering education as the core, comprehensive application ability and innovation ability training" as the guiding ideology, according to Figure 2 shows the construction of an electronic information curriculum teaching system in order to follow the law of application-oriented talent growth and education, a scientific and practical electronic information curriculum system.

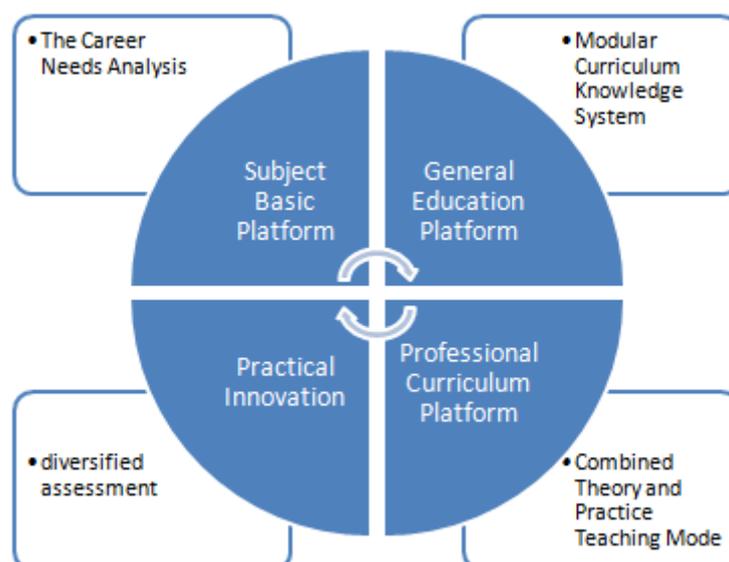


Fig.2 Cultivation of applied talents in electronic information majors

This paper adopts a systematic way to build a set of evaluation index systems that combine internal and external feedback to achieve training goals. This system will be oriented to electronic information majors, combining general education platform, subject basic platform, professional curriculum platform and practical innovation, scientifically divide the curriculum system, rationally design the internal and external connections between learning modules, and formulate electronic information majors teaching system and operating mechanism suitable for talent training. This research takes the electronic information professional experimental class as the object for practice and reform, and at the same time constantly sums up experience in practice, and continuously optimizes and improves the talent training system. According to the specific implementation situation, the reform practice has brought the following functions and effects to the curriculum teaching.

4.1 The career needs analysis

The teaching goals set around vocational competence not only enable the teaching of the course to be targeted and focused, but also enable students to understand in advance the competence requirements of the future career and the correlation between the learning of the course and the acquisition of vocational competence. Proper motivating effect makes it more active in the course of learning.

4.2 Modular curriculum knowledge system

By constructing a modular curriculum knowledge system that is aligned with the teaching ability target, the curriculum teaching directly serves the cultivation of job ability. It has helped promote the transformation of the original teaching subject-oriented and systematic knowledge-centered teaching to shaping the workplace ability-centered, which is beneficial to the improvement of students' ability and quality. Through the optimization of the course content, the problems caused by the compression of class hours are initially solved, and the engineering processing of the course content allows students to learn theories from the application as a starting point. Thus, while mastering theoretical knowledge, the knowledge learned can be connected with engineering practice, which not only helps to improve students' interest in learning, but also cultivates students' engineering awareness and engineering thinking.

4.3 Teaching mode integrating theory in practice

Introducing virtual simulation of circuits in classroom teaching makes simultaneous experimental demonstration possible. Graphical and dynamic simulation results allow students to understand the phenomena and properties of theoretical analysis from a new perspective. The analysis and discussion around the simulation results can strengthen the interaction between teachers and students, activate the classroom atmosphere, and enhance students' classroom participation. By completing the simulation experiment that matches the physical experiment, students can not only be familiar with the operation steps of the subsequent physical experiment, but also use the additional theoretical analysis process to complete the comparison and verification with the theory, which enhances the ability to use theoretical knowledge to guide practice. Finally, the gradual teaching process of simulation experiment as traction to the laboratory verification, realizes the organic integration of course theory teaching and experimental teaching, and deepens students' understanding and knowledge of circuit-related theories and characteristics. On the other hand, it promotes the effective realization of the simulation ability in the teaching ability standard, and exercises the students' practical operation ability and the comprehensive application ability of combining theory and practice.

4.4 Diversified assessment and evaluation system

The diversified comprehensive evaluation system reflects the comprehensiveness, process and openness of the course evaluation. Meanwhile, it strengthens the examination of students' comprehensive application ability and engineering practice ability, thus objectively reflect students' usual learning status and final learning effect. In turn, students' learning attitudes are promoted,

who pays attention to the learning process and learning results, and can effectively test the achievement of the new teaching standards after the reform. At the same time, the reformed assessment system has also effectively improved students' enthusiasm for participating in subject competitions and innovation training items, and has played a better role in promoting students' innovation ability.

5. Conclusion

The training goal of electronic information majors is to enable students to have certain theoretical knowledge and strong engineering practical skills. There are still various problems in teaching in colleges and universities. This research analyzes the professional needs analysis, modular curriculum knowledge system, combined theory and practice teaching mode, diversified assessment system, etc., and puts forward several teaching reform suggestions in order to cultivate Produce high-quality, high-skilled, innovative and applied talents.

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