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**Research Article**

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# Research on Computer Engineering Construction of "New Engineering" Based on Engineering Education Certification System

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**Abstract** In the research process of this subject, we will fully investigate the development of related majors at home and abroad, combine the characteristics of the school's majors, conduct extensive research on talent training and export, and carefully study the demand for market talents, in accordance with the specifications of professional certification. It is required to formulate professional training programs, curriculum systems and continuous improvement mechanisms with the characteristics of "new engineering", and continuously explore ways to improve training methods and means to promote the continuous improvement of the quality of personnel training.

**Keywords** New Engineering, Engineering Education, Certification System, professional training programs

## 1. Introduction

In view of the wide application of verification codes on the Internet, domestic and foreign scholars have conducted extensive research on the design and identification of verification codes. Zhang and Wang used traditional image processing methods combined with KNN algorithm for verification code recognition [1]. Li Xingguo et al. proposed a segmentation verification code for the drip algorithm. Lu et al. proposed different character segmentation algorithms combined with SVM classification algorithm and BP neural network for character recognition. Yan et al. analyzed and studied the defects of existing Microsoft verification codes, and designed virtual question and answer and emotion-based methods to identify verification codes. Mori and Malik used the shape context method to identify the verification code.

On June 19, 013, the International Engineering Alliance Conference passed a formal vote and agreed to accept China as a preparatory member of the Washington Accord. It marks that China's engineering education (professional) certification has entered a substantive implementation stage, and China's higher education reform. It will have a huge impact and push.

In the research process of this subject, we will fully investigate the development of related majors at home and abroad, combine the characteristics of the school's majors, conduct extensive research on talent training and export, and carefully study the demand for market talents, in accordance with the specifications of professional certification. It is required to formulate professional training programs, curriculum systems and continuous improvement mechanisms with the characteristics of "new engineering", and continuously explore ways to improve training methods and means to promote the continuous improvement of the quality of personnel training. Through the research of this subject, we will explore how local colleges and universities can grasp their own training direction in the fierce competition of talent market, reflect their own training characteristics, clarify their own training objectives, and cultivate qualified personnel with high quality, strong ability and meeting social needs.

**2. Main content**

1. Professional training goal

In the past, the computer professional talent training system, the training goal is too broad is a common problem, because the training objectives and social needs do not have a good entry point, resulting in a situation of talent training and social needs. Therefore, we will understand the guiding ideology of professional certification, in accordance with the requirements of the certification standards, "professional settings to meet the needs of national and regional, industrial economic construction, adapt to the needs of scientific and technological progress and social development, in line with the school's own conditions and development planning, there are clear "Service-oriented and talent demand", as well as the school's talent training concept, "in accordance with the characteristics of "internationalization, application-oriented" development requirements and "learning to apply, comprehensive development" concept of education, and the concept of "new engineering" Further improve the training objectives of the computer major.

2. System and mechanism construction with the goal of continuous improvement

The quality assurance system is another key to developing qualified personnel. In order to ensure the quality of training and to continuously improve the quality of training, in addition to setting the corresponding quality standards in the main teaching links and strictly implementing them, more importantly, the profession should have the ability to continuously improve itself to adapt to technology, enterprises, The development and needs of society and talent self-cultivation. To this end, in addition to the need to have complete and effective rules and regulations in teaching management, the profession must also establish a complete evaluation mechanism and effective information feedback channels to form an effective closed loop.

**3. Research methods**

Training objectives:

First of all, we will set the main basis for professional training objectives in the orientation of the training objectives; the discipline support of the profession; the professional social needs; the main employment areas of graduates and the social competitive advantage; the prospect of career development after 5 years of graduation At the same time, establish channels and measures for teachers, students, alumni and employers to understand the training objectives, generate benign interactions, and then regularly evaluate the rationality of the training objectives.

The evaluation of the rationality of the training objectives is based on the following four aspects of feedback information as the basis for evaluation:

(1) The match between the employer's talent demand feedback and the professional training objectives;

(2) The support of the professional teacher feedback training program to the training objectives;

(3) The alumni feedback of alumni's mainstream career development and training objectives;

(4) The graduates' ability to respond to the expectations of the graduates.

Institutional and institutional development with the goal of continuous improvement:

The evaluation of teaching quality and the achievement of evaluation results of training objectives are the fundamental basis for professional continuous improvement. Under the framework of the school evaluation system, the professional will further construct and improve the mechanism to ensure that the evaluation results are used for continuous improvement.

(1) Evaluation subject

The evaluators include experts from the school and college supervision team, relevant administrative leaders and academic management personnel, professional teachers, students in school, recent and previous graduates, enterprise experts and employer management personnel, and Zhejiang Education Evaluation Institute. Among them, the college supervisory group experts, colleges and academic management personnel, professional teachers, students and recent graduates participate in the school's teaching evaluation, previous graduates, enterprise experts and employer management personnel, Zhejiang Education Evaluation Institute for graduate employment Survey assessment.

(2) Specific content of the evaluation

The specific content of the evaluation includes evaluation of course teaching effect, evaluation of curriculum setting system, evaluation of practical teaching effect, and evaluation of course teaching effect includes evaluation of teaching and evaluation of students' learning. The social evaluation content has an evaluation of the curriculum system evaluation, the quality and achievement of the graduates. The evaluation methods include questionnaires, symposiums, evaluations, and interviews.

(3) Implementation path for continuous improvement

The professional established the internal and external evaluation analysis - feedback results - implementation improvement - supervision and inspection - the continuous improvement process system of the next evaluation.

## 4. Result achieved

The computer major has a clear talent development program, a reasonable knowledge system and a complete curriculum system. In recent years, after 2005, 2008, 2010 (approved "Excellence Program" major) and the revision of the professional training program in 2013, the computer science and technology major gradually formed its own characteristics on the basis of the original professional construction achievements. 2 professional directions, namely information technology direction and embedded direction. In the same profession, we can cultivate the targets of different specifications and different types of talents for all fields of information technology and related industrial sectors according to the needs of the market, the volunteers and specialties of students. By reorganizing the curriculum system of the major, the practice time of the company has increased to one academic year, and the credits of the practice link have increased to 38.82%. In the past five years, the company has invested more than 600 million yuan in laboratory construction and invested 13 million yuan in equipment. It has won one innovation experimental zone for talent training model in Zhejiang Province. It has established a national engineering practice education center with Hang Seng Electronics. Establish an internship practice base.

Compared with the specific content of the professional certification index system, namely, professional positioning and training objectives, student source and training quality, curriculum system construction and teaching reform, teacher team construction, school conditions and management mechanism guarantee, the profession has already carried out preliminary construction. And in 2016 passed the first engineering education certification. After three years of construction, the computer profession has made great progress, and will continue to carry out professional construction in depth, and will apply for the second engineering education certification re-evaluation in the near future to promote and realize professional sustainable development.

## 5. Conclusion

Through the research of this topic, we will formulate professional training programs, curriculum systems and continuous improvement mechanisms with the characteristics of “new engineering”, and constantly explore ways to improve training methods and methods to promote the continuous improvement of the quality of personnel training. Through the research of this subject, we will explore how local colleges and universities can grasp their own training direction in the fierce competition of talent market, reflect their own training characteristics, clarify their own training objectives, and cultivate qualified talents with high quality, strong ability and satisfying social needs. Effective Ways.

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