

## Research on Postgraduate Training Mode of Electronic Information Specialty Degree

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**Abstract.** The electronic information industry is a highly specialized technical field, and there is always a strong demand for innovative talents with solid basic knowledge and good hands-on ability. The postgraduate training of electronic and information major in Xijing University mainly covers two directions: information acquisition and intelligent processing, large data analysis and application. The training objective is to train high-level engineering technical and engineering management personnel of application type and compound type in accordance with the relevant spirit of "national special needs personnel training project" and the principles of service demand, project binding, Double Tutorial System and joint training. In order to train high-level engineering technology and engineering management personnel of electronic information, we should put the ability training in the first place, especially the ability of Engineering practice, technical research and team innovation. Guided by the training objectives of graduate students majoring in electronic and Information Science in our university, this paper explores the training mode of practical and applied talents for high-level electronic and information engineering facing the market demand, focusing on information acquisition and intelligent processing, large data analysis and application.

### Introduction

The transformation of postgraduate education from training academic talents to training applied talents is not only the demand of deepening reform in Colleges and universities, but also the transformation of economic growth mode of the country, the cultivation of more engineering and technical specialists to meet the urgent needs of industries and enterprises, and the promotion of talent cultivation and economic and social development. The inevitable choice of actual demand is closely related. Since 2009, China has begun to recruit professional degree postgraduates, and has continuously expanded its training scale. Further strengthening and perfecting the cultivation of postgraduates with professional degrees is of great significance to the continuous optimization and perfection of postgraduate education system and to the sustainable development of national and regional economy. The Ministry of Education issued on March 19, 2009 "Some Opinions of the Ministry of Education on the Cultivation of Full-time Master's Degree Postgraduates" pointed out that the cultivation goal of professional degree postgraduates is to master a solid basic theory and broad professional knowledge in a certain professional field, and have a strong ability to solve practical problems, and can undertake professional skills or management and good professionalism. The orientation of curriculum design is practical application, the goal is professional needs, and the core is to improve comprehensive literacy and applied knowledge and ability. The teaching contents should emphasize the organic combination of theoretical courses and applied courses, and stress case analysis and practical research. Team learning, case analysis, field research, simulation training and other methods should be emphasized in the teaching process, and students' awareness and ability to study practical problems should be cultivated.

Highly open and internationalized enterprises in the field of electronic information generally require graduate students to have strong engineering practice ability. On the other hand, electronic information technology is also the core element to support the new industrialization of the country, which has the characteristics of rapid technological update and urgent engineering application needs. Therefore, in the training of full-time postgraduates majoring in electronic information, it is

particularly important to strengthen the experimental practical teaching link, build a combination of theory and practice, and pay attention to the training program and curriculum system of practical project training.

### **Problems in Teaching Reform**

Since its establishment in 2009, professional degree graduate education has accumulated some valuable experience through unremitting efforts. However, due to its short development time, it is still in the exploratory stage. At present, the training mode is generally applied to the training of academic degree graduates, which is not completely applicable to the training of professional degree graduates. Therefore, how to better and faster development of professional degree graduate education, promote the optimization and adjustment of graduate education structure, has become a major issue facing the graduate education in Colleges and universities. Over the years, a large number of Postgraduates of electronic information specialty have trained a large number of applied technical personnel who master the basic electronic information technology, but there is a serious shortage of high-level engineering and management personnel with engineering research ability, engineering literacy and innovation ability. This paper explores the innovative postgraduate training mode relying on key laboratories, research centers and innovative laboratories, and the advantages of double tutors to promote the realization of the training objectives of professional degree postgraduates in our university.

### **Research Contents**

Firstly, through the investigation of enterprises, we understand the requirements of electronic information industry and enterprises for graduate students'ability. On this basis, we design the curriculum system with practical application as the guidance and career needs as the goal. Focusing on relevant courses and comprehensive experimental projects, graduate students can master the basic concepts and latest technologies of modern electronic information technology before leaving school. Familiar with the actual electronic information environment (including equipment) and development environment and platform exploration and practice, the purpose is to train professional graduates to meet the electronic information industry and enterprises for high-level technical personnel and management talent capacity needs.

**Analysis of the Demand for Engineering Practice Ability of Professional Degree Graduate Students in the Field of Electronic Information.** The electronic information industry is one of the strategic emerging industries of the country and Shaanxi Province. It is an important basic and leading pillar industry of the national economic development. It plays an important role in promoting employment, adjusting the structure, stimulating economic growth and changing the mode of development. At the same time, the field of electronic information is also facing many practical engineering problems, such as high, big, difficult, new and so on. It needs to constantly improve the R&D capability, innovation ability and service quality. In order to meet the requirements of the development of electronic information industry and industry, professional degree postgraduates need to have a wide range of knowledge, a solid theoretical basis and a strong practical ability.

**Setting Up and Analyzing the Professional Curriculum System Guided By the Needs of Enterprises in the Field of Electronic Information.** The field of electronic information covers information acquisition and intelligent processing, large data analysis and application of two directions, involving information and communication engineering and computer science and technology two first-level disciplines. According to the characteristics of the two first-level disciplines and the training objectives of graduate students with professional degrees, and in line with the urgent needs of the national economic and social development for high-level and application-oriented professionals, we should adhere to the goal of "emphasizing practice and bringing forth new ideas" and construct a multi-level professional curriculum system conducive to the training of high-level application-oriented and innovative talents.

**Research on Electronic Information Project Binding Related Courses and Comprehensive Experimental Projects.** On the premise of establishing a complete professional curriculum system, the research focuses on the formulation of project binding related courses and comprehensive experimental project. Binding related courses plays an important role in the training objectives of high-level engineering and technical personnel. According to the principles of enterprise and industry demand-oriented, the courses closely related to project binding are studied and offered. Comprehensive experiment is an important engineering and technical training link in the training process of professional degree postgraduates. It is an important way to improve students' practical ability and innovative consciousness.

**Construction of Postgraduate Workstation and Training Mode of Dual Tutorial System for Exploring School Enterprise Cooperation Mode.** Jointly establish postgraduate workstations with well-known enterprises in the field of electronic information, especially Huawei, ZTE, Samsung and other world-renowned enterprises. Professionals with rich practical experience are recruited as part-time tutors from the cooperative enterprises to participate in the formulation of practical training programs and part of the teaching guidance. Joint training of graduate students with professional degrees is carried out to improve students' ability to solve practical engineering problems. At the same time, this kind of training method can give full play to the advantages of the tutors inside and outside the school, can combine the enterprise engineering practice with the professional theoretical knowledge, and is more conducive to cultivating the innovative consciousness and practical ability of graduate students, and improve the employment competitiveness

## Conclusions

Through the research on the training mode of postgraduates majoring in electronic information, this paper centers on the two major research directions of information acquisition and intelligent processing, large data analysis and application in the field of electronic information in our university. In accordance with the spirit of the national special needs personnel training project, this paper puts forward the innovative training mode of service demand, project binding, school-enterprise alliance and double-tutorial system, and stresses the characteristics of personnel training supported by horizontal subjects, supported by in-school scientific research and experiment center, supported by in-school cooperation and guaranteed by double-tutor system. To strengthen the training of engineering practice ability, technical research ability and team innovation ability, to promote the realization of the application-oriented, composite high-level electronic information technology and engineering management personnel training objectives.

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