

# The Depth of School Enterprise Cooperation, Construction of Research on the Training Mode of Four Levels and Eight Modules of Environmental Engineering Quality

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## Abstract

In order to cultivate applied talents with lofty professional ethics and the requirements of environmental science and engineering quality, the professional quality training mode were built according to "one main line, two stages, four levels, and eight modules". The engineering quality training is used as a main clue of the whole process of teaching. The two levels of "3 year school study and 1 year enterprise engineering practice" are adopted to establish and implement the four levels of "engineering cognition, engineering foundation, engineering synthesis and engineering innovation" and the eight modules of progressive engineering training mode of "enterprise enterprise cognition, perception, business courses, skills, comprehensive application, team training, internship, graduation design.

**Keywords** School enterprise cooperation, Environmental engineering quality, The four level and eight module

## 1.Introduction

At present, according to the localization of Local application-oriented undergraduate School, it is urgent to actively adapt to the requirements of regional economic and social development, strengthen engineering practice teaching, cultivate professional characteristics, and carry out professional practice teaching reform. By strengthening the cooperation, the further promoting the construction of quality education, and the building the base of the engineering practice education with the enterprises have become a hot spot. The construction and implementation of engineering quality training mode of enterprise deep participation will have good application effect. Through the cooperation between school and enterprise, the quality education level of environmental engineering will be promoted. Through the combination of work and study, it will strengthen the cultivation of environmental applied talents. Through the deep cooperation between school and enterprise, the construction of engineering quality training mode will have a good application prospect for the engineering practice teaching reform of environmental science applied undergraduate colleges. The specific mode diagram is table 1 as follows.

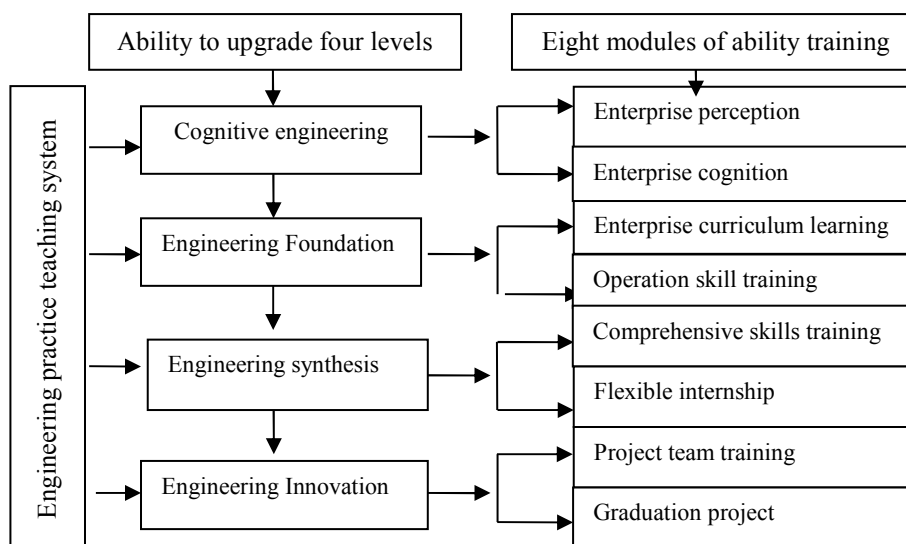


Table1 Quality training mode of environmental engineering in "four levels and eight modules"

## 2. Based on Enterprise Environmental Engineering, the establishment of environmental engineering practice base of integration of industry and learning

We has established a school enterprise cooperation on environment science and engineering practice cooperation training relationship with many enterprises, such as yancheng city environmental monitoring center station, jianhu county east sewage treatment plant, yancheng city solid waste disposal center Co. Ltd., dongtai environmental monitoring station, yancheng city sewage treatment plant, yancheng city Institute for food and

drug control, yancheng city longgang 1 onghu salt. As a practice base for Environmental Science Majors. It provides good environmental engineering practice conditions for students to carry out systematic training such as enterprise courses, internships, team project training, graduation design and so on. It makes students master the application of environmental science to expand the teaching space. When entering the society, the students' adaptability was further improved.

### **3. Change the concept of education and explore the new mechanism of training applied engineering talents jointly by school and enterprise**

Problems such as deviation from actual production practice, low recognition of graduates, strict environmental protection requirements, and difficulty in systematic and effective engineering training for students in short-term practice of environmental science are faced<sup>[1]</sup>. Thus, based on the elastic post construction, personnel training mode of school enterprise to cultivate students innovation experimentation area rotation environmental science application ability of practice teaching reform, we will take advantage of the opportunity to jointly run with yancheng environmental protection science and technology and Engineering Research Institute of Nanjing University, to deepening cooperation and forming of advanced concepts of Cooperative Education

### **4. Implementation of school enterprise dual tutorial system, improve the quality control and assessment system of engineering training**

Students will begin to implement the tutorial system from the second, teachers guide the students to actively participate in the scientific innovation of university students, teachers' scientific research, and enterprise cognition practice. It lays a solid foundation for the cultivation of enterprise stage lays a solid foundation for the enterprise culture. During the period of students in the common enterprise learning, he is guided by the "school teacher" and "mentoring". Appointment of engineering technology and management personnel in production line of enterprise is responsible for training students' engineering practice ability. The supervisor is responsible for the school enterprise docking and the enhancement of students' professional application ability. From the emphasis on the assessment of academic papers to the evaluation for the design of engineering project and invention patent, the reform of the evaluation system of teachers' evaluation and appointment is carried out. Students' performance evaluation in enterprise training stage is carried out jointly by enterprises and schools. The combination of the overall evaluation of the project team and personal assessment, skill assessment and process assessment is adopted. It improves the quality monitoring and assessment system of engineering training and guarantees the smooth realization of students' engineering quality training in enterprise training phase.

### **5. Combining engineering training and skill certification to improve students' professional quality and employability**

The school invites industry experts and enterprise management personnel to carry out the relevant vocational qualification and skill level training for students, combining the basic training and professional skills certification<sup>[2-3]</sup>. Students obtained the certificate of "analysis and inspection intermediate work" in the second academic year, and got the certificate of "analysis and inspection senior work" in the third academic year. Through skills training and certification, it strengthens the basic professional skills of students to carry out internships, project team development and graduation design, and improves the students' professional quality and employability.

### **6. Combining graduation project with practical problems of engineering to cultivate students' engineering innovation ability**

The graduate design topics will come from the real needs of enterprises because of practical problems to be solved urgently during the period of enterprise training for close and deep contact with enterprises in production and development<sup>[4]</sup>. So as to help enterprises solve technical problems and product updates for enterprises. Students will be trained to analyze the ability to solve practical problems in production, improve students' engineering awareness and engineering quality, and cultivate students' engineering innovation ability.

### **7. Implementing the training mode of industry university cooperation to promote the coordinated development of knowledge, ability and quality**

Through the cooperation of production and study<sup>[5-7]</sup>, the "four levels and eight modules" engineering quality training mode were implemented. Students carry out systematic engineering quality training in engineering practice education base. This can enhance students' understanding of enterprise production, management and operation mechanism, cultivate students' communication ability and team spirit and exercise students' ability to analyze and solve practical problems by using professional knowledge. Enterprises can select the satisfied students as the new force of engineering technology research and development, which is conducive to the

cultivation of students' professional quality and competitive consciousness.

In summary, in order to meet the needs of environmental protection, the "four levels and eight modules" engineering quality training mode of applied environmental science specialty is constructed and effectively implemented with the guidance of changing the concept of environmental engineering education and taking environmental engineering technology as the main line. Based on Enterprise Environmental Engineering, students' self training is the main factor to promote the internalization and integration of knowledge<sup>[8]</sup>. The core of environmental engineering practice ability is to emphasize the cultivation of engineering quality in production line, and to realize the coordinated development of knowledge, ability and quality.

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