

# Reflections on the Cultivation of Non-normal Students in Local Normal Universities under the Background of Normal Professional Certification

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**Abstract :** With the development of non-normal majors in local normal universities, the problems in the process of training non normal majors are gradually prominent. Under the background of normal professional certification, by sorting out and analyzing the problems encountered in the cultivation process of non-normal students majoring in vacuum technology in local normal universities, and combining with the characteristics of non-normal majors, this paper puts forward some countermeasures to improve the cultivation quality of non-normal students, such as low professional awareness of students, unreasonable curriculum and weak teachers.

**Keywords :** Non-normal Major; Vacuum Technology; Local Normal University

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In the 1990s, in order to adapt to the comprehensive development of colleges and universities and the actual needs of the society, a large number of non-normal majors were set up one after another to cultivate urgently needed skilled talents for local social and economic development<sup>[1-2]</sup>. At present, the scale of non-normal majors in local normal universities has exceeded that of normal majors and become an important part of them<sup>[2]</sup>. In 2017, the Ministry of Education issued the “Measures for the Implementation of Normal Major Certification in Colleges and Universities (Provisional)”, which proposed to allocate educational resources, organize courses and implement teaching with normal students as the center, and evaluate the teaching of normal majors in the whole direction and process with the learning effect of normal students as the guidance<sup>[3]</sup>. In view of this, this paper analyzes and discusses the problems and improvement measures in the process of training non normal students under the background of normal professional certification.

## 1. Problems in the training of vacuum technology students

Most of the non-normal majors in local normal universities are born out of the normal majors, such as vacuum technology major. It seems to be a new major, but it is actually developed from the physics of the normal major. Its main courses are basically the same as those of the physics normal major. In the early stage of running a school, it is taught according to the requirements of the physics normal major, which makes the cultivation of the students of vacuum technology major difficult. There are some problems.

### 1.1 Students' professional awareness is low

For the traditional normal colleges, the advantages of normal major are obvious, the reputation is high in the region, and the employment rate of students is stable. For some students of non-normal majors, they are looking forward to the normal major and working as teachers in normal colleges. Because of the limitation of admission results, they are transferred to the vacuum technology major. In addition, although some students are actively registered for the vacuum technology major, more is also a helpless choice.

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Under the control of this sense of frustration, it increases the marginalization of their group cognition. One of the key factors affecting students' personal development is students' cognition of the major, their attitude and motivation to major learning, which is bound to affect the quality of students' training<sup>[2]</sup>. Due to the influence of professional cognition, vacuum technology students lack of professional identity and long-term planning, and often choose to change majors blindly without understanding. It can be seen from the 26.32% application rate of changing majors that this negative professional cognitive attitude affects the quality of students' training to a certain extent.

### **1. 2 Unreasonable curriculum**

There is no difference between the vacuum technology professional degree course and the physics professional degree course, but there is only one less "College Physics Experiment II" in quantity. Correspondingly, the number of applied courses is insufficient, and the class hour arrangement pays more attention to theory than practice. For example, the total class hour of "vacuum coating" course is 64, the theory course is 40, and the practice course is 24. In addition to teachers, hardware facilities and practice places and other reasons, the practical teaching content is not rich in application courses, it is more chicken ribs. The graduation practice is arranged in the eighth semester, which is synchronized with the writing of students' graduation thesis, resulting in students' inability to concentrate and affecting the effect of practice. The employment rate of graduates is low, and it is difficult to quickly adapt to the needs of vacuum technology jobs.

### **1. 3 Weak teachers**

At present, the number of full-time teachers engaged in vacuum technology teaching is insufficient and the ratio of students to teachers is too high. Most of them are less than 3 years old, lack of teaching experience, low proportion of senior professional titles, and lack of full-time laboratory staff. Most of the full-time teachers graduated from physics, materials and other majors. The theoretical knowledge of vacuum technology is insufficient, and the practical experience is seriously lacking. The guidance is still on paper, and the professional quality needs to be further improved. In addition, the introduction of professional counterpart teachers is difficult, restricted by geographical restrictions, restricted by welfare, and lack of strong research funding support. The problem of teachers, to a certain extent, restricts the cultivation quality of vacuum technology students.

## **2. Countermeasures to improve the quality of vacuum technology students**

In the face of the new era, local normal universities should take the opportunity of normal professional certification, start from the personnel training program, curriculum, teaching methods and other aspects, take the vacuum technology students as the center to allocate educational resources, take the vacuum technology students' professional theoretical knowledge learning effect and skill acquisition as the guidance, continuously improve the construction of vacuum technology specialty, and strengthen the students' professional quality. Professional identity, improve the practice curriculum system, improve the professional skills of teachers, create high quality, high social recognition of vacuum technology talents.

### **2. 1 Strengthen the professional identity of students majoring in vacuum technology**

Starting from the entrance of freshmen majoring in vacuum technology, this course introduces the training objectives, main professional courses and requirements of vacuum technology to the students, pays attention to the students' understanding of the major, and organizes students of different grades to communicate with the same major, so as to further improve the cognition of the major<sup>[4]</sup>. As the students enter the sophomore and junior year, they will increase production internship courses, invite industry experts and practitioners to give lectures on the frontier of vacuum technology, guide students' professional cognition from different angles and levels, cultivate professional identity step by step, establish professional confidence, and instill the development prospect of professional employment. Senior students can understand the application of specialty from the practice of production practice, the value of vacuum technology specialty in the economic society, and enhance students' professional identity.

### **2. 2 Improving the practice course of vacuum technology**

The practice teaching in the training process of vacuum technology students runs through the whole university process. Combined with the characteristics of vacuum technology specialty, the professional skills are cultivated in stages. First of all, introduce the related practice resources into the professional teaching process, and increase the practice class hours. Secondly, it is necessary to establish an off campus practice base to carry out off campus practice activities in stages. The production practice of freshmen and sophomores is mainly based on short-term observation; the internship of junior enterprises can enhance students' understanding and application of professional knowledge; the internship of senior graduates can effectively communicate with the first-line technicians of enterprises to realize the practical application of theoretical knowledge learning. Starting from freshmen's

entrance, we should organize students to participate in teachers' scientific research projects, actively carry out all kinds of competitions at all levels, encourage students to actively understand and solve problems, and cultivate students' innovative consciousness and ability.

### **2.3 Improving the quality of vacuum technology teachers**

Excellent teachers can not only show the strength of running a professional school, but also enhance students' professional confidence. On the one hand, it is necessary to establish a teacher training mechanism to support in-service vacuum technology teachers to participate in various forms of vacuum technology refresher, training and visiting, so as to improve the vacuum technology professional quality of teachers. On the other hand, we should encourage teachers of theoretical courses to practice in enterprises and participate in students' practice. Through the integration of production and teaching, we should participate in all levels of subject research, technological research, and production of teaching aids of practical courses, improve the practical teaching facilities and equipment, enhance teachers' practical ability, and solve the problems of practical teaching.

### **3. Conclusion**

The accreditation of normal majors has brought new ideas and development opportunities to the construction and development of non-normal majors in local normal universities. Therefore, to seize the opportunity of accreditation of normal majors, it is necessary to deeply consider and discuss the training quality of non-normal majors, mainly from the aspects of professional cognition, practical teaching links, teachers' professional quality, etc. Ideas and methods. Any new teaching measures cannot be achieved overnight, it is a gradual process. With the development of normal professional certification, it is believed that the construction of non-normal majors in local normal universities will also step onto a new stage, train more professional and technical talents for the local and better serve the local economic and social development.

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