

# Innovation and Practice of Talent Training Mode of Industrial Machinery Technology Specialty in Higher Vocational Colleges

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**Abstract :** Since the reform and opening up, education has been the focus of the state and society. Because the demand for high-quality talents has increased, especially the demand for professional and skilled talents has increased sharply, so how to cultivate professional and skilled talents is particularly important. In higher vocational education, there are still some deficiencies in the talent cultivation mode, and the innovation of talent cultivation mode is necessary. Based on this, this paper studies the innovation and practice of talent training mode of industrial machine technology specialty in higher vocational colleges.

**Keywords :** Higher Vocational Education; Major in Industrial Machinery Technology; Innovation and Practice

## 1. Introduction

Due to the sustainable development of social economy, machines began to become one of the necessary products in people's life. Machinery related industries have bright prospects, including industrial machinery industry. The demand for professionals in this industry is quite high. The main function of higher vocational schools is to cultivate talents in professional fields for the country, fill the vacancy of professionals in the society, and promote the development of various industries in the society. The educational requirement of higher vocational schools is to cultivate technical talents with the goal of employment.

## 2. The significance of cultivating students' innovation and practical ability

### 2.1 Matching the needs of social development

In order to meet the development needs of today's society, students need to become the main participants of practical courses. They play a main role in teaching. They need to find materials and finally solve problems through practice and thinking, which exercises students' autonomous learning ability, problem-solving ability and communication ability, and stimulates students' potential and creativity. It also meets the needs of today's era for creative talents, so cultivating students' innovation and practical ability is to adapt to the development of the times. Practical ability focuses on cultivating students' specific practical ability. Students solve problems through independent study and organizational discussion, making them the main body of the course, which increases students' interest in learning and improves their comprehensive quality. Practical ability is the basic quality that a student and a person must have. Without practical ability, any other activities are empty talk.

### 2.2 Improving students' personal ability

The cultivation of innovation and practical ability can help individual progress. If you want to effectively improve students' innovation and practical ability, you need to increase the opportunities for students to participate in experiments in person, so as to touch on advanced and avant-garde technology, which can stimulate students' desire to explore and urge them to carry out creative activities. After team cooperation, communication and teachers' reasonable guidance, students will have some novel ideas and be willing to put them into action. The cultivation of innovation and practical ability is conducive to the renewal and reform of the

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education system. It can innovate the teaching methods and students' learning mode. The change of students' learning mode will directly affect their families, so as to achieve the divergence of creative thinking. In recent years, under the influence of creative ideas, there have been many excellent professionals, which has made progress in various industries of the country and strengthened the domestic idea of encouraging innovation. This change has changed the current talent cultivation mode in a certain sense, accelerated the improvement and renewal of the cultivation mode, and can cultivate more innovative talents for the country.

### **3. The specific path of innovation and practice of talent training mode**

#### **3.1 Cultivating students' professional ability**

If students lack learning ability, they need to change the teaching methods. There are many excellent teaching methods, such as project teaching method, experiential teaching method and so on. The project teaching method is very suitable for the major of automobile maintenance. This teaching method is very important for the students of this major, because it can not meet the practical requirements of this major. When carrying out project teaching activities, teachers need to find and adapt projects related to curriculum knowledge according to teaching priorities and requirements, then require students to improve or plan the project, and require students to carry out practical research and support the project plan with real data. After completing the project, students' specific practical ability and teamwork ability will be greatly improved, which is of great benefit to their career path in the future. Cultivating talents focuses on talents themselves, so higher vocational colleges must pay attention to the development of students themselves. The more direct way is to cultivate students' post professional ability, because most higher vocational students will directly enter the post after graduation, and the post professional ability is particularly important for them. Cultivating students' professional post ability needs to increase students' internship opportunities, which needs the support of colleges and universities.

#### **3.2 Universities and enterprises cooperate closely**

Usually, higher vocational colleges cooperate with many enterprises. The purpose of cooperation is to achieve mutual benefit and win-win results. The school solves the employment problem for students, and enterprises obtain talents to promote their own development. Enterprise cooperation is a very common situation in modern higher education. The goal of cultivating students in higher vocational schools is to promote the development of various industries. Colleges and universities need to carry out closer cooperation with enterprises to ensure that the problems encountered by students in employment can be solved in time. Cooperation with enterprises can solve the problems of less internship opportunities in schools and narrow employment channels. For example, colleges and universities cooperate with enterprises related to industrial machinery technology to transport students majoring in industrial machinery to enterprises for internship. During this period, teachers directly contact the senior management of enterprises to better solve the problems encountered by students in internship. Colleges and enterprises are mutually beneficial. Vocational schools provide enterprises with high-quality talents, enterprises provide opportunities for schools to improve students' ability, school enterprise cooperation can provide students with more practical opportunities, and students can be arranged to enter enterprises for internship during holidays. On the one hand, they can get familiar with their posts as soon as possible, on the other hand, they can strengthen their practical ability, which is also one of the powerful means to improve the quality of teaching. However, the rights and interests of students should be guaranteed in this link, and students cannot be forced to practice in a certain enterprise. The purpose of close cooperation between schools and enterprises is to ensure the development of students and transport appropriate talents for enterprises, rather than just solve the employment of students and transport labor force for enterprises.

#### **3.3 Optimizing course content**

In the teaching of machine industry technology in the stage of advanced vocational education, teachers need to change the inherent backward teaching concept and highlight the dominant position of students in the classroom. Teachers need to use their professional knowledge and long-term teaching experience to optimize the content of the course and ensure that the content of the course is in line with the current situation of industrial machine technology industry. There are many outdated data and ideas that may mislead students, and teachers need to update these contents in time. Because of the particularity of skilled talents, the curriculum standards of industrial machinery specialty must meet the requirements of vocational skills. Too low standards in the curriculum will lead to students unable to adapt to work or unable to enter the corresponding post after entering the post. For example, teachers can carry out activities similar to skill competition in the course to simulate industrial machine technology competition. The requirements and topics of the competition need to be difficult, which can be more complex mechanical drawing. This kind of machine must be popular or general-purpose machinery in the current era. If outdated machinery is used, let students draw its specific parts and working principle. This activity is inefficient. This outdated machine will not appear in students' future work, and this activity will not be transformed into students' future work experience. Students of the same major compete with each

other, friction sparks, activate the professional atmosphere, and make them develop in the competition, in order to promote students to achieve self-progress and pursue honor through competition.

### **3.4 Talent training mode “four-step progressive”**

The fourth step of the four steps is “introduction, practice, adaption and employment”. The introduction requires students to be familiar with the relevant knowledge and content of industrial machine technology. The practice requires students to master the skills of relevant majors and try to put them into practice. The adaption requires students to skillfully use knowledge and skills in specific practice. The employment requires students to have qualified professional quality and professional skills. These four stages are progressive layer by layer. In the three years of higher vocational education, they can be reasonably distributed and progress by one or two stages every year. For example, in the first year, it is mainly to cultivate students’ learning habits to enable them to have certain learning ability and enter the “introduction” stage. In the second year and the first half of the second year, students are encouraged to apply professional knowledge to practice, so that they can enter the “practice” stage. In the second year, students are provided with certain internship opportunities. Through practice, students can master the professional skills of industrial machinery technology and cultivate their professional post ability. In the third year, they pay attention to imparting social knowledge to students so that they can adapt to society and post. The four stages are progressive layer by layer. The first stage cannot directly jump to the third stage, which requires the joint efforts of colleges and students. Students strive to learn professional knowledge and try to apply these knowledge to practice. Colleges and universities need to provide students with channels of practice and innovation, and require teachers to optimize the course content and guide students to learn, practice and innovate.

## **4. Conclusion**

Cultivating students’ innovation and practical ability is one of the long-term requirements put forward by the Ministry of Education for all kinds of schools, and it is also one of the most important requirements. Schools should strive to implement this requirement. In order to improve the teaching quality, the school needs to make efforts to optimize the curriculum content, provide more internship opportunities for students, and strengthen the cooperation between vocational schools and enterprises. Strengthening the teaching quality can improve the quality of students, cultivate more high-quality talents for the society, make them become the mainstay of the society and contribute to the development of various industries in the society.

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