

# Research on the Reform Mode of Talents Training for Mechatronics Specialty in Higher Vocational Education

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**Abstract:** In recent years, the proposal of the concept of modern talent requires colleges to create more comprehensive talent cultivation plans based on the actual learning situation of students. However, due to various factors, some colleges do not focus on increasing the proportion of practical courses or optimizing teaching methods when designing talent cultivation plans, which leads to difficulties for some students to master complex professional knowledge within the prescribed time. To effectively address this situation, teachers of mechatronics major should dare to break the shackles of traditional talent cultivation concepts, focus on enhancing students' skill levels, and ensure that students are fully qualified for various tasks.

## 1. Introduction

With the popularization of higher vocational education and the constant expansion of college enrollment, the employment problem of higher vocational students is becoming increasingly serious. This requires teachers to keep up with the times, focus on enhancing students' professional skills as the core task, and use more comprehensive talent cultivation plans to further enhance students' professional abilities and overall literacy from multiple aspects and perspectives, so as to enable students to thoroughly master complex professional knowledge and skills.

## 2. Main Problems Faced by the Training of Mechatronics Specialists in Higher Vocational Education

### 2.1 Unclear Talent Training Objectives

The *National Vocational Education Reform Implementation Plan* clearly states that higher vocational colleges, as a vital place to foster high-level technical personnel, should adhere to the principle of service as the purpose, employment oriented, and foster more high-level technical applied talents for the society. However, from the current situation, influenced by traditional teaching concepts, the teaching mode implemented by some professional teachers still focuses on theoretical knowledge telling, which leads to some students' difficulty in thoroughly mastering complex professional knowledge, making it difficult for the professional skills they possess to meet the needs of future jobs. In addition, the constantly changing demand for talent in various positions requires students to not only meet shallow needs in future work, but also respond differently to different environmental changes. However, the talent cultivation model established by colleges is too one-sided, which leads to the difficulty for some students to convert their knowledge into practical skills, causing serious obstacles to the overall progress path of a few students <sup>[1]</sup>.

### 2.2 Unreasonable Curriculum Design and Poorly Targeted Teaching Content

Professional courses are a vital means for vocational students to learn professional knowledge. However, when designing mechatronics courses in some colleges, the proportion of theoretical courses is too large, so it is difficult for some students to verify their knowledge through practical activities, leading to the complete loss of the functional value of professional courses. In addition, the educational curriculum designed by colleges shows that the knowledge structure cannot

accurately match the job requirements of enterprises. In this situation, it is not only difficult for students to effectively exercise their professional skills, but also, in severe cases, a small number of students will develop a learning aversion to the dull and tedious teaching model.

### **3. Reform Measures for Training Talents of Mechatronics in Higher Vocational Education**

#### **3.1 Reasonably Position and Reconstruct Talent Training Objectives**

Nowadays, the professional talent cultivation plan constructed by colleges not only needs to fully meet various market demands, but also should focus on ensuring the smooth employment of students, focusing on vocational skill cultivation, and ensuring that students can achieve overall progress. Firstly, teachers of mechatronics should also dare to innovate their teaching concepts, combine the age and physical and mental development characteristics of students, create a sounder talent cultivation plan, take high quality and strong skills as the talent cultivation standards, establish applicable talent cultivation principles, and ensure that the skill level and comprehensive literacy of students can meet the future job standards. Secondly, teachers should also clarify the significance and value of talent cultivation strategies for mechatronics majors, respect the dominant position of students in talent cultivation plans, appropriately change their positioning in professional teaching activities, and reconstruct talent cultivation goals based on current students' actual learning situation and future job selection intentions, so as to promote effective exercise of students' various abilities. In addition, the progress of high and new technologies such as computers and networks has led to continuous changes in the control methods and means of the electromechanical industry. Therefore, teachers should closely follow the pace of the times, take improving students' skill level as the primary task, take the programmable controller (PLC) technology widely used in the electromechanical industry as the core of vocational and technical courses, build a curriculum system with electricity as the main focus and control as the core, highlight the application of computer technology and advanced intelligent control technology in mechanical and electrical products, and effectively solve the embarrassing situation that mechatronics majors are inferior to mechanical majors and electrical majors are inferior to automation majors <sup>[2]</sup>.

#### **3.2 Strengthen School-Enterprise Cooperation**

Currently, school-enterprise cooperation has become a vital link in the talent cultivation plan. However, due to various factors, some colleges have not realized the significance of the school-enterprise cooperation model, nor have they actively communicated with corporate units, which has led to a continuous decrease in internship opportunities for vocational students, not to mention verifying whether their skill levels meet future job standards. To effectively address this situation, colleges should clarify the significance of school-enterprise cooperation, actively communicate with business units, actively encourage business leaders to combine the actual situation of the unit, provide more internship opportunities, make students aware of their shortcomings and actively learn professional knowledge, and ensure that students' skill level and comprehensive literacy can be steadily improved. Secondly, colleges also need to jointly establish training bases with business units, and combine theoretical knowledge to create more innovative practical activities in form and content, allowing students to learn knowledge and exercise skills in various practical activities. Teachers should clarify the dominant position of students in practical training activities, skillfully design efficient classrooms based on the actual situation of students, focus on task-based teaching mode and allow students to complete the tasks assigned by the teacher within the specified time, so that students can experience the joy of success and build confidence in learning mechatronics knowledge. In addition, colleges can implement order-based training programs for students with corporate units. While providing students with internships and employment opportunities, enterprises can also place employee training activities in colleges, encourage outstanding employees to share their work experiences, expose students to more practical knowledge, broaden their horizons, and enable students to understand the significance of future jobs <sup>[3]</sup>.

### **3.3 Optimize Teaching Plan**

To ensure the smooth implementation of talent cultivation plans, colleges should, based on the age and actual progress of students, focus on enhancing their professional literacy and hands-on operation ability, reasonably optimize teaching plans and methods, maximize the proportion of practical courses, and make students know the significance of practical courses, so as to truly achieve the purpose of learning. Firstly, professional teachers should also actively encourage students to verify basic theoretical knowledge through practical activities. Through more practical teaching activities, students have a stronger desire to learn and explore professional skills, allowing them to explore and learn complex professional knowledge independently, and truly feel the unique charm and joy of professional knowledge. Secondly, professional teachers also need to use various practical cases to design more realistic teaching situations, guide students to think independently, try hands-on operations, and ultimately summarize the knowledge focus of this course, ensuring that students can master complex professional knowledge within the prescribed time. In addition, teachers should also make reasonable use of various teaching resources to build corresponding practical platforms for students, allow them to demonstrate their talents in the practical platform, while recognizing the importance of future jobs. Finally, in their activities, teachers should also innovate their talent cultivation concepts, implement the concept of practical education, enable students to reflect on their own shortcomings, actively learn from other students' problem-solving methods, and further improve their practical ability and problem-solving ability from multiple aspects and perspectives. When necessary, teachers should also take the lead by personally demonstrating skills for students to make them thoroughly master professional skills<sup>[4]</sup>.

### **3.4 Strengthen the Construction of Teaching Staff**

High-quality teachers have become a vital guarantee for accurately implementing talent cultivation plans. Therefore, colleges should establish a team of teachers with higher professional skills and comprehensive literacy. Only if teachers have more advanced educational concepts and teaching methods can they attract more students to actively participate in practical activities. From another perspective, when recruiting teachers, colleges should not only focus on the qualifications of candidates, but also accurately determine whether candidates have sufficient practical teaching experience. Only in this way, professional teaching activities can fully exert their due value, and the professional skills and qualities of students can be steadily enhanced. Secondly, colleges should also regularly carry out more diversified training activities, in which professional teachers can actively learn more advanced teaching concepts and professional skills while identifying their own shortcomings, effectively solving various problems in teaching activities through various methods, and ensuring that their teaching level can be continuously enhanced. Colleges should also hold vocational skills competitions to actively encourage professional teachers to actively participate. In the competitions, they should learn the advantages and problem-solving methods of other professional teachers. Colleges should also strengthen publicity, push articles about new teaching methods on WeChat official account and Weibo, stimulate teachers' reading interest, let more teachers actively participate in the construction of a double qualified teaching team, optimize their own teaching methods and enhance professional level and comprehensive literacy<sup>[5]</sup>.

## **4. Conclusion**

In summary, traditional forms of talent cultivation models still cannot comply with the trend of the times. Therefore, colleges should closely follow the pace of educational reform, create more scientific and reasonable talent cultivation plans based on the actual learning situation and physical and mental development characteristics of higher vocational students, further improve students' skill levels and comprehensive literacy from multiple aspects and perspectives, and ensure that students can fully meet the various needs of enterprises for talents. In addition, teachers should also clarify the significance of practical activities, combine students' skill mastery, appropriately increase the proportion of practical courses, allow students to exercise professional skills in

practical activities, and promote the steady improvement of students' skill levels.

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