



# Practical Activity of Labor and Ideological Education in Chemical Automatic Control

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**Abstract.** For the labor had social value, the combination of labor and education was an important goal and task of colleges. Focusing on chemical automation control with the industrial characteristics and modernization requirements, this paper analyzed the internal relationship between the labor education and ideological education, proposed to establish the theoretical model of labor ideological system and spiritual education. And the feasible implementation methods and steps were put forward. Combined with the harsh environment of chemical automation specialty, the labor training had been carried out with the necessary principles and specific strategies in practice had been summarized. Basing on the data of survey case practices in three grades, the implemented relevant methods mainly included spreading the spirit of chemical automation experts focusing on technology to highlight the concept of labor responsibility and spiritual pursuit, implementing labor and ideological education with the curriculum system as the carrier, excavated various relevant resources in teaching, and integrated teaching practice resources, relied on traditional culture, expanded all kinds of labor practice activities, so that trainers could form correct values and beliefs, improve their comprehensive quality and cultivate talents with social needs.

**Keywords:** Chemical automatic control · labor education · ideological education · implementation methods

## 1 Introduction

### 1.1 The Labor Social Value

The labor was an active and creative activity of human beings. The creative nature of labor had realized the harmonious development of man and nature, established a society in which man and man's production and life were related, and paid attention to the inheritance of civilized culture and changes in social development. Modern society was experiencing rapid and comprehensive progress, which put forward new requirements for labor skill education and innovative practical learning.

Suhomlinski said that the task of education was to let labor penetrate into the spiritual life of the people we educate and into the collective life. The word was intended to tell us that labor education was not only the training of labor skills and technology, but also should penetrate into the spiritual level of people [1]. In the new situation,

we should respect knowledge, highlight labor and creativity, and combine professional skills and labor spirit education closely to form a community. Especially in the field of automation in the chemical industry, the working conditions were relatively difficult and the requirements for professional skills were high [2].

## 1.2 The Ideological System of Labor and Spiritual Education

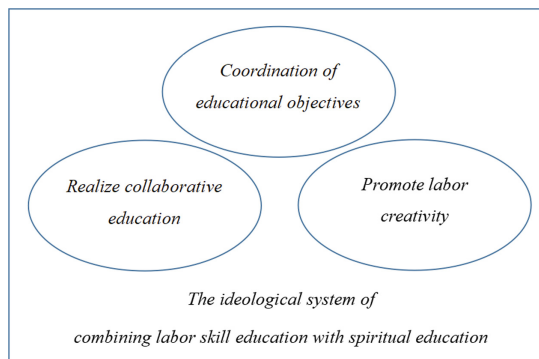
As an important part of talent training, the colleges should integrate teaching resources, guide practice and cultivate talents in line with social needs. We should take the cultivation of students' innovation and entrepreneurship ability as an important goal, guide students to accumulate professional experience, establish a correct view of career selection, and cultivate the spirit of struggle to work in difficult areas and industries [3, 4].

According to the new requirements of labor education, we would adjust and optimize the professional talent training program, strengthen the education of labor spirit, labor model spirit and craftsman spirit while doing a good job in vocational and technical education, so that students enhanced their sense of professional honor, feel and experience the greatness of ordinary work. To strengthen labor education, we need to strengthen practical experience, let students experience the labor process and improve the effectiveness of education, educate students to work hard, create wealth and value in labor, feel the joy of labor through creative practical activities and results in the process of labor.

The ideological system of combining labor skill education with spiritual education was emphasized in higher education. Through the professional skills training system, students were guided to realize that labor is the basis of survival and the basic force based on society. Starting from the existing social value of labor education, the internal relationship between labor education and ideological education was analyzed [5, 6]. Stimulate students' ideological recognition of labor and purposefully release their enthusiasm for labor. Colleges adhere to the view that social labor education was based on labor value, emphasize that labor was a combination of personal development and social development, promote the integration and innovation of labor education and ideological education from the aspects of scientific and technological progress and social and cultural development, and play an important role in college education. The ideological system of labor and spiritual education were shown in Fig. 1.

*a) Coordination of educational objectives.* Labor education in colleges was an important part of the talent training system. Through the training of theoretical knowledge and labor skills, we could cultivate labor values, help college students establish a sense of social responsibility, and promote the realization of life values. Colleges should guide students to realize that labor education and ideological education are important contents of contemporary college education, and strive to explore the path of their integration, so as to cultivate more talents suitable for social development. Carry forward the spirit of labor in school education, let students experience the glory of labor, and then work creatively to become leaders of comprehensive development. The essence of the formation of labor values is the effective combination of labor and ideological education to form a situation of mutual support and cooperation.

*b) Realize collaborative education.* Labor education has become the basis of ideological education curriculum, and labor and ideological education have become an



**Fig. 1.** Diagram of the model of labor and spiritual education

important way of cultivating personnel in colleges and universities. After fully integrating resources, it will help to interpret Marxist labor concept, encourage labor to become rich, and help to form correct values. Marx's labor theory created the value theory and explained the significance of labor to human society. As a special topic, it helps to understand that labor is the fundamental driving force of society. At the same time, we should carry forward the spirit of labor in the new era and the traditional virtue of diligence and courage of the Chinese nation.

*c) Promote labor creativity.* Integrate labor into thoughtful practical activities. Establish a labor education practice base, create labor practice opportunities for students, regularly organize students to carry out labor practice, and let students understand the labor spirit in practice. Penetrate labor and ideological education into professional disciplines, highlight the concept of labor responsibility, integrate various practical teaching resources, and expand practice teaching forms, and carry out corresponding labor practice activities relying on campus clubs and volunteers.

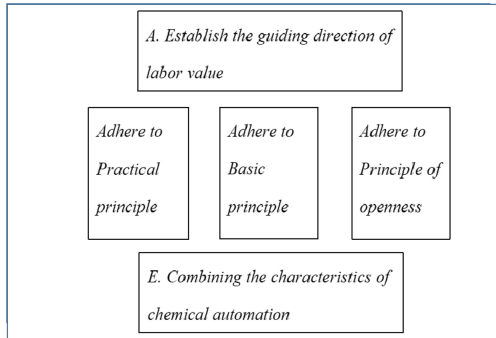
## 2 Principle of Combining Labor Education with Ideological Education

The combination of labor education and spiritual education must adhere to some principles. The summarized principles are shown in Fig. 2.

### 2.1 Establish the Guiding Direction of Labor Value

The values of youth groups determine the direction of future social evolution. The combination of labor education and ideological education must adhere to the value concept system of combining ideological education, practical labor and labor value.

Adhere to the view of supporting the basic strength of labor education, deeply excavate Marxist classics, study the status of labor in the Marxist theoretical system, and promote the integration and innovation of labor education and ideological education from the aspects of scientific and technological progress and social and cultural development.



**Fig. 2.** Diagram of working principles

## 2.2 Adhere to Practical Principle

Practicality is the basic feature of labor technology course. Students' personal participation in labor operation practice is the main form and basic method of labor technology class. Practice is an essential part of the labor technology course. Innovation quality can only be developed in the process of solving practical problems. The school should combine the reality, create enough time and space, and make every effort to create conditions for students to work, so that students can master the knowledge and skills in practice. Schools and teachers should do a good job of guidance and management to improve the teaching effect of labor technology courses. We should also combine with family and society.

## 2.3 Adhere to Basic Principles

Labor technology is a basic course to cultivate students' labor skill quality. Students should be equipped with basic technical processing ability to adapt to future professional life, family life and social life. In the labor technology course, through the study of some labor technology projects, students can master relevant labor knowledge, improve their hands-on operation ability and thinking ability of using tools to process, and lay a solid foundation for future development and growth.

## 2.4 Adhere to Principle of Openness

The teaching content should not be limited to the teaching materials, and should be mutually supportive inside and outside the education system. This will change the situation of the school's labor technology education with a single form and demanding unity, and gradually build a labor technology education system that is coordinated and mutually complementary between school, society and family. It can provide a new idea for students with special interests and hobbies in labor technology to give full play to their talents, talents and creativity.

## 2.5 Combining the Characteristics of Chemical Automation

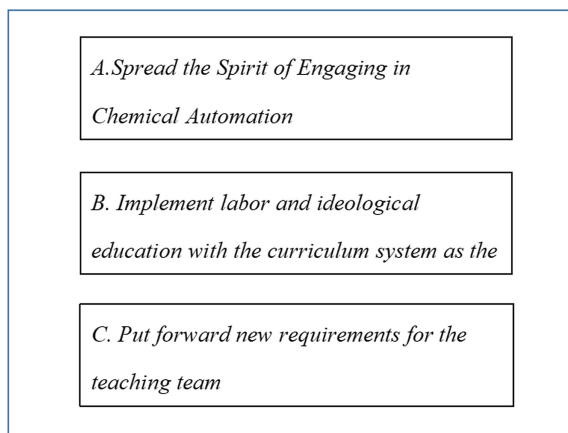
The characteristics of the chemical industry are high and easy, that is, the parameters are high temperature and high pressure, harmful and toxic, and there are flammable and explosive hazards. The typical professional courses required by chemical enterprises for the training of professionals in fine chemical industry, applied chemical industry, analysis and detection have obvious chemical characteristics. The chemical automation and management specialty we met this time involves equipment automatic control, personnel automation, pursuit of production safety and enterprise information management. In combination with the practice links of integration of industry and education, school enterprise cooperation and in-depth interaction with the curriculum, in the process of implementing the project to complete the task, we emphasize the combination and balance of professional labor and ideological education, and actively expand innovative education.

## 3 Implementation Methods

In the practice of training cases in three grades, the implemented relevant methods mainly included the implementation methods. That was expressed in Fig. 3.

### 3.1 Spread the Spirit of Chemical Automation Experts Focusing on Technology

Strengthen publicity and create an atmosphere. Propagandize the importance of labor education through various forms, guide and understand the role of labor in cultivating personal excellent quality and good behavior habits. In the field of automatic control in the chemical industry, there are many scientists who have made outstanding contributions to industrial technology research. By understanding their activities, we learned from the patriotism, dedication, application of knowledge and strict self-discipline of older generation scientists, which not only won the high academic prestige, but also demonstrated



**Fig. 3.** Diagram of Implementation methods

the noble personality. We draw spiritual strength from the older generation of scientists and carry forward their determination and confidence. We make unremitting efforts to strive for knowledge and technological progress in labor practice, and have goals, support and motivation in our study and work. On the other hand, modern chemical instrument control automation technology is introduced to promote chemical modernization and cultivate the idea of pursuing technological progress and innovative application.

### **3.2 Implement Labor and Ideological Education with the Curriculum System as the Carrier**

*a) Curriculum integration and penetration.* Integrate and effectively infiltrate the curriculum at all levels of the school, and use favorable resources to enrich the content of labor education. Through the course of chemical engineering automation, train labor skills and master labor skills.

*b) Use multiple ways and carriers.* Through the various activities carried out, we can carry out positive guidance, carry out different forms of campus community activities, and strengthen the cultivation of labor habits. Labor education permeates all aspects of education, not just limited to specific courses. This is to play the role of the carrier of various courses. We dig deeply into the labor elements of various disciplines and timely propose the purpose of realizing labor education. In the basic courses, we should fully tap the ideological and labor education elements contained therein, integrate the Marxist labor concept, guide students to develop good labor habits in professional learning and social life, apply the learned knowledge to social practice, unremittingly expand the communication channels of ideological education and labor education, and strive to achieve the unity of knowledge discussion and value guidance in the basic courses. In professional courses, we should give consideration to professional ideal and moral education, make a good connection between labor and ideological education, refine the ideological value and spiritual connotation of professional knowledge, cultivate the labor spirit, help students form the professional behavior of hard struggle and innovation, infiltrate labor and ideological education into professional disciplines, highlight the concept of labor responsibility, and achieve professional education goals.

### **3.3 Put Forward New Requirements for the Teaching Team**

Actively organize relevant teachers to participate in all kinds of labor education training at all levels, actively carry out teaching research activities, and promote the improvement of teachers' professional teaching ability through activities.

## **4 Summary**

On the basis of attaching importance to labor and spiritual education, we carry out research on labor training, grasp the necessary principles, and summarize specific strategies in practice. Carry out practical activities in three grades, excavate various relevant resources in teaching, implement relevant methods, enable students to form correct values and beliefs, improve comprehensive quality, and cultivate talents meeting social needs.

**Acknowledgements.** The research work was supported by the Science and Technology Innovation Program of Jiujiang (S2021ZDYFN0046), Teaching Reform Research Provincial Project of Jiangxi (JXJG21-17-4).

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