

# *Research and Exploration on the Effective Integration of Labor Education and Chemical Engineering Education*

Yaqing Zeng, Shuli Zheng

*Southwest Petroleum University, Chengdu 610500, Sichuan, China*

**Keywords:** Labor education, Major in chemical engineering, Integration of industry and education

**Abstract:** In the new era, college labor education should not only focus on the cultivation of labor spirit, labor ability and the improvement of labor scientific literacy, but also strengthen labor orientation in professional education, adhere to the organic combination of cultivating labor spirit, cultivating labor ability and deepening labor practice. We should combine the characteristics of chemical engineering specialty, take labor science education as the basis, take the integration of industry and education as the fundamental path, improve the management mechanism, and create a new pattern of labor education of chemical engineering specialty in colleges and universities. This paper analyzes how to realize the effective combination of chemical engineering education and labor education in colleges and universities, and explores the path of effective practice.

## 1. Introduction

### 1.1 Overview of Labor Education and Chemical Engineering Education

#### 1.1.1 Labor Education

In the process of human historical development, productive labor is the basis for human survival and the most basic practical activity of mankind. Labor education is an important part of cultivating the all-round development of students' morality, intelligence, physique, beauty and labor. Its purpose is to educate students through productive labor or public welfare labor in order to fit students' actual life and cognitive behavior level, and guide students to establish correct labor concept, improve students' labor skills, let students clarify the value of labor and correctly understand "labor is the most glorious". It is not only a slogan, but also the fundamental guarantee for building a socialist modern country, so as to make students love and respect labor, deepen their feelings for the working people, form correct, healthy and positive excellent quality, life attitude, behavior habits and values, and contribute to the construction of a socialist harmonious society. [1]

#### 1.1.2 Chemical Engineering Education

Chemistry is an important basic natural discipline, which is combined with physics, biology, geography and mathematics, and deeply affects people's life. *The National Standard for Teaching Quality of Undergraduate Majors in Colleges and Universities* · National Standard for Teaching

*Quality of Chemistry* clearly puts forward that the training goal of chemistry majors is “To cultivate talents who have a high sense of social responsibility, good scientific and cultural literacy, better grasp the basic knowledge, basic theories and basic skills of chemistry, have innovative consciousness and practical ability, and can engage in scientific research, technology development, education and teaching in the fields of chemistry and related disciplines.” [2]

## **1.2 The Relationship between Labor Education and Chemical Engineering Education**

Labor education is the carrier of chemical engineering education, and chemical engineering education is the practice of further developing labor education. Labor education is an important part of people's all-round development. Chemical engineering education is the core and key to promote chemical engineering students to master professional skills. The efficient integration of them can effectively improve the quality of training socialist builders and successors. They have the same practical attribute consistent training objectives and the same educational concept make it not only necessary but also possible for labor education to integrate into chemical engineering education. Based on the current situation of labor education in colleges and universities, colleges should explore a variety of integration methods, strive to achieve the same direction of labor education and chemical engineering education, and jointly promote the realization of educational objectives in colleges and universities. [3]

## **2. Development Status of Labor Education and Chemical Engineering Education in the New Era**

### **2.1 Not Correctly Understanding the Practical Value of Labor Education in Chemical Engineering Specialty**

Under the background of new chemical engineering, the professional core abilities of chemical engineering students include: engineering thinking and engineering practice ability, innovative thinking and innovative practice ability, autonomous learning and lifelong learning ability. The content of labor education in colleges and universities includes three dimensions - labor ideological education, labor ability education and labor practice training. However, in the process of integrating labor education into practice training, innovation and entrepreneurship education, career education and employment guidance of chemical engineering specialty in colleges and universities, there are still few practical courses for the integration of labor education and chemical engineering specialty, or it is a mere formality. Due to imperfect infrastructure construction and lack of funds for on-campus training base and off-campus practical activities, the practical development of labor education in chemical engineering specialty in colleges and universities has stagnated. [4]

### **2.2 Separation of Labor Education from Chemical Education**

Labor education is an important part of the comprehensive moral, intellectual, physical, artistic and labor training system in colleges and universities. However, at present, labor education in colleges and universities is generally separated from professional education, resulting in the disadvantages of single form of labor education and lack of teachers. There is a high correlation between professional education and labor education under the background of new chemical industry, which provides the possibility and necessity for the deep integration of them. In practice, we can strengthen the cultivation of practical ability and build a practical training system for practical engineering scenes according to industrial needs, strengthen the cooperation between schools and enterprises and build a collaborative training platform for labor education and professional

education, and build a teaching practice platform to deeply integrate college labor education and professional education.

### **3. Integration Path of Labor Education and Chemical Industry Education**

#### **3.1 To Correctly Understand the Value of Labor Education in the Practice of Chemical Engineering Specialty**

Labor education is the inherent meaning of the Marxist concept of labor. It is not only an important part of the goal of moral, intellectual, physical, aesthetic and labor national education, but also an important practical carrier of the fundamental task of moral education and talent education in colleges and universities. The essence of labor education in chemical engineering specialty is to cultivate college students' labor education values in professional learning, which is “craftsman spirit” in practical value. To promote the integration of labor education into the cultivation of college students majoring in chemical engineering, we need to run through the whole process of college students' talent cultivation, give full play to the creativity of college students' main labor education, and form a joint force of school, family and society in collaborative labor and education.

#### **3.2 To Empower Labor Education and Create A New Pattern Of Labor Education For Chemical Engineering Majors In Colleges And Universities**

To strengthen labor education in colleges and universities, we should first fully understand the necessity of strengthening labor education in colleges and universities in the new era and find the focus. Secondly, we should closely combine the development of the times, highlight the labor orientation of university professional education, and realize the organic combination of labor education and professional education. Thirdly, we should closely combine the characteristics of higher education, based on the reality of talent training in colleges and universities, give play to the guiding role of public opinion as the main body of social model demonstration, establish the value orientation and standard of labor glory among teachers and students, widely carry out the activities of model workers, industry skill masters, famous teachers and craftsmen in the new era, and organize a series of activities such as learning, sharing feelings and physical practice, and reshape the labor values of teachers and students. At the same time, we should integrate labor education into all aspects of building morality and cultivating people in colleges and universities, promote the organic combination of labor education with professional education, practice and training, ideological and political education, innovation and entrepreneurship education and social practice, combine labor education with the cultivation of students' ideals and sentiments, and combine labor education with the cultivation of “craftsman spirit”, so as to truly give full play to the function of labor education. [5]

#### **3.3 Labor Education and Practical Education in Colleges and Universities in the New Era: Connotation Coupling and Practical Path**

Strengthening labor education is the new requirement of the Party for education in the new period. Both labor education and practical education have distinct practicality and professionalism. They are interlinked in carrier needs and consistent in purpose. In order to improve the effect and level of labor education, colleges and universities should strengthen the top-level design, take ideological and political education as the guide, rely on professional skill training, take student associations as the platform, take social practice activities as the carrier, take innovation and entrepreneurship projects as the starting point, and take campus cultural activities as the driving

force, so as to form a joint force of education and promote the integration of labor education into the practical education system, and give full play to the important role of labor education in talent training. Colleges can use the network platform of the information age, collect opinions on the current mode of labor education and education on the network forum, strive to expand and improve the integration activities of labor education and discipline and professional education, and build a university campus with “three complete education” as the core idea, from labor education to classroom teaching. Taking the practical teaching inside and outside the class as the platform, colleges should truly achieve full staff education, whole process education and all-round education when cultivating chemical professionals.

The effective development of labor education for chemical engineering majors in colleges and universities combined with their own factors can effectively cultivate college students' labor emotion and labor values, improve their labor cognition level, and effectively enhance students' mastery of professional skills. Exploring the effective integration of labor education and chemical engineering education can make the development of labor education more directional and targeted, broaden the effective path of chemical engineering education in colleges and universities, and promote the implementation of the important mission of building morality and cultivating people in colleges and universities.

## Acknowledgment

Fund Project: It's supported by the “*Labor Education*” *College Students' Cultural Quality Improvement Project* of School of chemistry and chemical engineering, Southwest Petroleum University (Project No.: HGY-004)

## References

- [1] Xue Ruiying, Chen Lei. *Exploration on the path of collaborative education between labor education and Higher Vocational Ideological and political teaching under the background of the new era* [J]. *Educational Science Forum*, 2021 (24): 19-23
- [2] Yang Haihua, Yan Jianhui, Li Hua. *Discussion on collaborative education of chemistry and chemical engineering specialty education and moral education* [J]. *Guangdong Chemical Industry*, 2020 (16): 180-181
- [3] Li Yibo. *Educational value and implementation strategy of labor education in Colleges and Universities under the new situation* [J]. *Journal of Jiamusi Vocational College*, 2021 (05): 109-110
- [4] Liu Ze, Yang Jie. *Labor education in the new era and practical education in colleges and universities: connotation coupling and practical path* [J]. *College Counselors*, 2021 (02): 67-70
- [5] Yi Ning. *The value implication of Xi Jinping's labor outlook from the perspective of labor education in the new era* [J]. *Journal of Inner Mongolia Agricultural University (SOCIAL SCIENCE EDITION)*, 2021 (02): 18-22