

# Research on the Cultivation of Labor Literacy in Project-based Teaching in Higher Vocational Schools

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**Abstract:** Labor education is a topic of the times, and the high-quality development of higher vocational education is a statutory duty. It is of great significance to effectively implement the cultivation of labor literacy in the widely implemented project-based teaching work. Starting from the analysis of the lack of attention and the expected state of the current project-based teaching on labor literacy, this paper elaborates the connotation of labor literacy cultivation in higher vocational schools, and explore the cultivation methods in terms of time arrangement, content connection, examination and assessment, so as to provide references for the enhancement of the effectiveness of the cultivation of labor literacy and the continuous optimization of project-based teaching.

## 1. Introduction

High-quality economic and social development urgently needs to be supported by all kinds of talents with all-round development of morality, intelligence, physique, aesthetics and labor skills. Higher vocational schools undertake the mission of fostering virtue through education and cultivating high-quality workers and technical and skilled talents who meet the needs of social development, and they should follow the basic principle of holistic education, pay attention to the topic of labor education of the times and implement it well, so as to explore feasible solutions for the high-quality development of higher vocational education and contribute to vocational education for the advancement of the Chinese-style modernization.

## 2. Question Raising

### 2.1. Responding to the contemporary issue of labor education

It is the basic viewpoint of Marxist concept of labor that labor creates man and education should be combined with productive labor. Since the establishment of the People's Republic of China, depending on the situation, the policies and deployments of the Party and the state regarding labor in colleges and universities has evolved, but the emphasis on labor education has always been consistent. In particular, in 2020, in view of the weakening, dilution and softening of labor education in social life, the *Guideline on Strengthening Education on the Hard-working Spirit Among Students in Universities*,

*Secondary and Primary Schools in the New Era* was issued, and the integrated deployment of labor education in all phases of study was implemented. Labor education, as a subject of the times, must be given full attention in the field of education.

However, the status quo of labor education in higher vocational schools is worrisome, which is mainly manifested as follows: most of the colleges and universities have not effectively taken up the primary responsibility of labor education, and labor education is scattered, fragmented and sporty with salient short-term effects; the phenomenon of labor without education exists to varying degrees and lacks coordinated design; some colleges and universities unilaterally emphasize the cultivation of technical skills and emphasize the cultivation of human being as a tool, resulting in varying degrees of alienation and simplification in labor education. Chen Yexiu and other researchers pointed out that “the virtualization of labor practice, the weakening of labor courses, and the softening of labor behaviors in higher vocational personnel training programs are the source of education's alienation from labor life.”<sup>[1]</sup> Take the Labor Week that many colleges and universities are offering as an example. Most of the contents focus on the arrangement of daily life service guarantees, the changes in labor form do not reflect the times and complexity, and the time selection is random, lacking continuity and professionalism, which is not conducive to helping students form a correct understanding of labor and labor capacity to adapt to social development.

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## **2.2. Responding to the mission, tasks and types of construction and deployment of vocational education.**

Vocational education is the education that is most closely connected with social life and productive labor. The latest revised *Vocational Education Law* defines the objectives and status of vocational education, clearly stating that vocational education should "cultivate the spirit of model worker, labor spirit, and craftsmanship ..... cultivate technical skills and provide vocational guidance." In response to this, in recent years, documents and policies in the field of vocational education has been issued one after another, reform measures have been continuously introduced, and support has continuously increased. It has become a topic of the times for vocational education to highlight types and features, and undertake the mission of fostering virtue through education.

To sum up, labor education is not only a policy regulation and a statutory duty, but also an important means to highlight the type features. Higher vocational schools, as the key core force of vocational education, should especially respond to the concerns of the times and the concerns of education, assume the primary responsibility of labor education, and explore unique and efficient mode of labor education in the new era.

From the perspective of practical work in higher vocational schools, majors are the leading force in the development of higher vocational schools, and the implementation of specialized course teaching can best highlight the characteristics and effectiveness of talent cultivation. As a result, by seizing the critical point of professional teaching, integrating labor education with specialized course teaching, and strengthening labor literacy in the reform of project-based teaching, we can make labor education have professional support, project support, enterprise participation, and characteristics of the times, so as to drive the overall enhancement of labor education, help students to establish the concept of labor, enhance their ability to work, and form the spirit of labor, so as to highlight the characteristics of vocational education, and to take on the mission and task of "cultivating diversified talents, inheriting technical skills, and promoting employment and entrepreneurship" as entrusted by the Vocational Education Law.

## **3. Project-based Teaching Work**

### **3.1. Current project-based teaching work**

Project-based teaching is not uncommon in higher vocational schools as an attempt of teaching reform combined with working process and production practice. With the theme of "Project-based teaching in higher vocational schools", a total of 3,331 related literatures were retrieved from China National Knowledge Infrastructure (CNKI). The first research began in 2004, and it increased rapidly from 37 in 2008 to 366 in 2015, with a slow decline thereafter. Such teaching reform is widely found in higher vocational schools, and most of

the explorations focus on breaking the traditional classroom teaching mode, mobilizing students' motivation, integrating schools and enterprises, and improving learning effectiveness, with relatively little attention paid to labor literacy. For example, Du Meng pointed out that the problems in implementing project-based teaching in vocational schools mainly include unreasonable project design, unsound support system, and incomplete evaluation mechanism.<sup>[2]</sup> Through comprehensive college work inspection and literature review, it was found that the project mainly focuses on simulation, with strong randomness, and lacks continuity and connection; The coverage is relatively small and belongs to the embellishment in teaching; The evaluation methods such as homework reviews and paper reports are basically similar to traditional classroom teaching, without linking the completion of the project itself to students' technical skills and labor attitudes.

### **3.2. Expected state of project-based teaching work**

Focusing on majors, serving majors, and upgrading majors, we should fully pay attention to the cultivation of labor literacy, taking project-based teaching as the entry point of labor education, realizing the daily use by teachers and students without realizing it, and achieving the integration and improvement of professional knowledge, technical skills, and labor literacy during project promotion, so as to cultivate morality, intelligence, physique, aesthetics through labor should be the direction of improving the project-based teaching of work in higher vocational schools.

To develop core competencies in corresponding majors or professional groups, we should introduce enterprise resources, systematically build and flexibly set up projects, build a project library covering simulated and real projects, establish practical projects including preparatory labor and real post labor, maintain project hierarchy connection, and ensure openness and scalability. Establish a team of school enterprise mentors, with two-way selection between projects and students. Reorganize professional course teaching into project training content, with progressive levels, a combination of learning and practice in a positive cycle. Give consideration to both process evaluation and result assessment, establish the withdrawal mechanism of project members, realize the credit exchange between the project and the corresponding core courses, and accept the market test based on project output to ensure the sustainable and verifiable learning effect of the project. With professional and vocational training as the link, teachers and students of the project complete the whole labor process together, gain a panoramic understanding of labor, establish professional self-confidence, get creative inspiration, enhance the sense of identity and sense of mission of creating a better future with labor, and form positive labor values.

## 4. Labor Literacy and Cultivation

### 4.1. Three levels of labor literacy

1. Basic level: labor knowledge and skills. "It is the knowledge, technology and skills that an individual must possess to engage in certain labor and the ability to comprehensively apply these knowledge, technologies and skills." [3] The cultivation of labor skills, especially key labor skills, is the core content of vocational education [4] The Guidance points out that vocational schools should focus on combining the characteristics of their majors, improving the level of vocational labor skills, and enhancing their creative materialization abilities. This level solves the problem of 'being able to work'.

2. Advanced level: labor habits. "It is a stable pattern of behavior formed by individuals during long-term training in labor practices" . The *Guidelines for Labor Education in Universities, Secondary and Primary Schools (Trial)* make it clear that vocational schools should further strengthen the awareness of product quality in professional labor, and cultivate the work habits of being serious, responsible, hardworking, rigorous and meticulous, and striving for perfection. It aims to gradually solve the problem of "normalization of labor" on the basis of honest and lawful continuous labor.

3. Core level: labor values. "It is the ideological understanding and fundamental view of workers on labor, which directly determines their value judgments, emotional orientations, and behavioral choices." [5] Respecting labor, having a passion for labor and consciously carrying out creative labor fall in this level, which are the decisive factors of workers' labor literacy, strengthening the driving force of labor and solving the problem of continuous improvement of labor.

The three levels of integration and interaction should be systematically arranged, divided into semesters, and progressively enhanced.

### 4.2. Cultivation methods

Focusing on the goal of talent cultivation, it is suggested to promote the whole process of labor education, the two-way docking of literacy enhancement, and give consideration to both process and achievements in assessment, so as to promote students' moral cultivation, intellectual development, physical fitness and aesthetic pursuit in immersion practice, and to cultivate workers who are professional, dedicated, and happy in their work.

#### 4.2.1. In terms of scheduling, labor education shall run through the entire process and be promoted in semesters.

According to neuroscience research, the neural mechanism of skill formation is the establishment and finalization of temporary neural connections in the cerebral cortex, and the 10,000 Hour Rule is widely recognized, as evidenced by the cases of skill maturity in

traditional literature such as *Dismember an Ox as Skillfully as a Butcher* and *Oil Vending Old Man*. Labor education requires continuous efforts to run through the entire process of university, and form a lifestyle that is accompanied by labor education and labor practice.

In the first semester of the freshman year, by leading students to visit the production line, inviting engineers from industry enterprises to give presentations, and introducing the list of project-based teaching plans by professional teachers, we help students establish professional knowledge, form professional expectations, and reserve for joining the project.

From the second semester of the freshman year to the whole year of the sophomore year, work projects are launched and a team of school-enterprise dual tutors will be established, with students choosing to join the projects independently. Tutors lead students to understand the project requirements as a whole, learn project courses and complete project assignments, from simulated projects to real projects, from simulated exercises to teamwork to undertake actual projects, so as to realize the delivery of results and promote the advancement of professional labor education.

In the first semester of the junior year, relying on the project follow-up practice, we expand the scope of project training, carry out the whole job process cognitive practice, assist the project mentor to complete mentoring for junior students, to ensure the sustainability of the work project. In the next semester, students will work as interns, complete graduation design, integrate into the enterprise environment, optimize project practice, and achieve advanced labor capabilities.

During the winter and summer vacations, in conjunction with the process of professional learning, we will carry out industrial enterprise research, volunteer service, innovation and entrepreneurship practice, expand the professional qualities, and enhance understanding of labor and workers by integrating into social life.

#### 4.2.2. Carrying out two dockings from literacy improvement.

(1) Docking the labor education courses and other labors, realizing the corroboration and echoing with project-based teaching, helping students to establish labor confidence based on labor cognition, forming labor habits, confirming labor concepts, and reaching the communication needs and labor expectations in the labor process.

Docking labor education courses. Teaching the knowledge of labor science through the labor education course system, so that students can form a complete understanding of labor and its significance, the relationship between labor and law, ethics and economy, and labor and future social development. Project-based teaching should be consciously used as a practical part of the labor education curriculum, and the content of the curriculum should be translated into project practice. Taking the product marketing project as an example, on the one hand, students engage in project-based learning and doing, study products and markets, choose marketing

strategies, plan and implement marketing plans, receive feedback and make real-time improvements, accumulate knowledge and training skills. At the same time, the project instructor combines the knowledge of the labor education curriculum and integrates the education and training about labor itself into the project process, such as integrity marketing based on product effectiveness, teamwork and excellence in strategy selection and program optimization, and building a holistic understanding of labor based on professional labor practices.

Docking various labor inside and outside the campus. With the promotion of project-based teaching practice, the education shall guide students to do daily self-service work such as hygiene and cleaning, daily care, and actively participate in public welfare work such as volunteer service, social practice, and innovation and entrepreneurship practice, radiate the sense of diligence and cooperation in project promotion to other labor practices, and promote the combination of project practice with vocational skills competitions and innovation and entrepreneurship competitions. Project teaching, labor courses, and various types of labor are mutually confirmed, and the perceptual experience gained from various labor practices materializes the curriculum theory, and the rational condensation of project teaching and curriculum theory leads the labor practice, thereby promoting the cyclic validation and mutual enhancement of labor education from practical operation to rational cognition.

(2) Docking career scenarios, highlighting professional hardcore, stimulating labor enthusiasm, innovation and creativity awareness by challenging, and cultivating craftsmanship with professionalism.

Highlighting the functional position of vocational education through professional labor. According to the law of improving cognition and skill practice, with a focus on cultivating core professional abilities, the specialized courses are decomposed into continuous projects, such as post-editing of movies and TV programs and digital creative product design courses for digital media art design majors, into visual effects editing and production, digital illustration, digital human and other projects; we collaborate with enterprises to build studios for training, starting from serving digital image development, short video production, and logo design on campus and surrounding areas, gradually undertake outsourcing services such as creative design and video production. With the application of new knowledge and skills and the latest technological means, students constantly challenge themselves in the process of project advancement and difficulty improvement, realize the materialization and productization of creative design, and gradually realize the transformation of simulation work to real product delivery. Professional and technical labor helps students confirm their professional identity and inspires professional self-esteem and confidence.

Cultivating craftsmanship with professionalism and activate the spirit of creativity. It is necessary to stimulate students' initiative to join the project with the spiritual resources such as scientific spirit, great craftsman spirit

and the quality of innovation contained in professional courses, create a working scene and atmosphere for team members to work together, give play to the role of project instructors, and form a teacher-student community to learn from each other and promote project implementation. It is necessary to summarize the cases of teamwork and overcoming difficulties that emerge in the course of the project in a timely manner, tolerate failures in exploration, and encourage whimsy in the process of project implementation. It is necessary to form external constraints on the members of the project team with the integrity, timeliness and quality requirements of the project work. Endogenous motivation and external requirements work synergistically to activate innovation and creativity and help students develop a craftsmanship spirit of excellence.

Tracking the new forms of labor and endowing labor education with the spirit of keeping up with the times. Taking on-the-job practice and enterprise internship training as an extension of project-based teaching, students can fully integrate into the vocational environment in an all-round way, personally perceive the new features and trends of contemporary production labor, adapt to the digital and intelligent labor forms, and form an objective understanding of the complexity of labor, collaborative requirements, and rapid iteration of new technologies, and experience the sense of value of laborers and masters in their roles, as well as the happiness and sense of achievement brought by labor creation to stimulate the motivation for creativity, and strengthen the concept of love of labor and glory in job practice, so that we can open up the "last mile" from students to employees, school to the workplace.

***4.2.3. In terms of examination and evaluation, both process and result are taken into account, and product delivery is the final verification of the effectiveness of labor education.***

Watts Lynelle believes that reflective practice and critical reflection are considered crucial to learning and practising social work.<sup>[6]</sup> Zhu Chunyan and other researchers believe that the evaluation system for the effectiveness of labor education should be designed from the students' sense of professional identity and mission.<sup>[7]</sup> Labor education in vocational schools in the form of project-based teaching requires assessment in a timely and serious manner.

It is essential to establish a process record system to integrate labor spirit, labor quality and innovation consciousness into labor evaluation. The implementation of "a handbook for a student" process records, truthfully record the whole process of students' participation in the project, as a basis for evaluating students' labor attitude, cooperation spirit and labor effectiveness, and draw a portrait of students' growth, so that students can learn with goals and catch up with directions. Establishing a competitive mechanism to strengthen professional self-confidence and professional identity, "labor education is to realize the most objective knowledge, understanding and empathy of individuals for themselves,

society and the world by means of evaluating spontaneity.”<sup>[8]</sup> Implementation of the system of homework and works display, and promote works display and exchange in the simulation stage, such as digital illustration, creative design and traditional painting projects of visual communication design, which are printed into books, and commended by means of college collection, exhibition and sending to parents; the digital twin scene construction project will be promoted by means of online platform display. Preferred project works will be exhibited and exchanged both on and off campus, and the selection will be used as a basis for evaluating the effectiveness of the project. Establishment of a warning and withdrawal mechanism to warn those who are not suitable for the work of the project, improve or remove their names within a time limit.

Evaluation of implementation results. It is required to incorporate the study and practice of participating in labor education courses into students' comprehensive quality files, fully respect the role of enterprise tutors in the project, take product delivery as the evaluation basis in real project links, encourage students to strive for perfection, materialize creative design into specific project schemes, products and services, meet enterprise needs on schedule, accept market tests, promote the unification of professional practice and social needs while realizing economic and social benefits, and achieve the goal of cultivating high-quality technical talents.

## 5. Conclusion

Glorious labor, valuable skills, and great creation are the profound condensation of the labor spirit in the new era. Higher vocational schools must bear in mind their mission and respond to the call of the times with creative labor education practices to cultivate high-quality technical and skilled talents with all-round development.

Relying on professional project-based teaching, teachers and students work together on projects to break free from the constraints and barriers of labor education where one party issues instructions and the other party implements them. Teachers and students form a community of shared destiny in the project, realizing the integrated training of the body and mind, and labor education realizes the integration and docking with social life in the project-based teaching, which links students' current growth with their future development.

At the same time, it should also be noted that labor education, as a systematic project, involves multiple fields and links, and requires the construction of an interactive, interconnected, and collaborative ecosystem.<sup>[9] [10]</sup> It is by no means an independent task of vocational schools, and requires coordinated implementation of policies. Influenced by factors such as the depth of industry-education integration, teachers' project-based teaching ability, etc., project-based teaching needs to be improved, and there is still a lot of room to improve students' labor literacy by relying on project-based teaching. In the field of vocational education, we should keep perseverance, hard work and exploration, and long-term achievements.

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